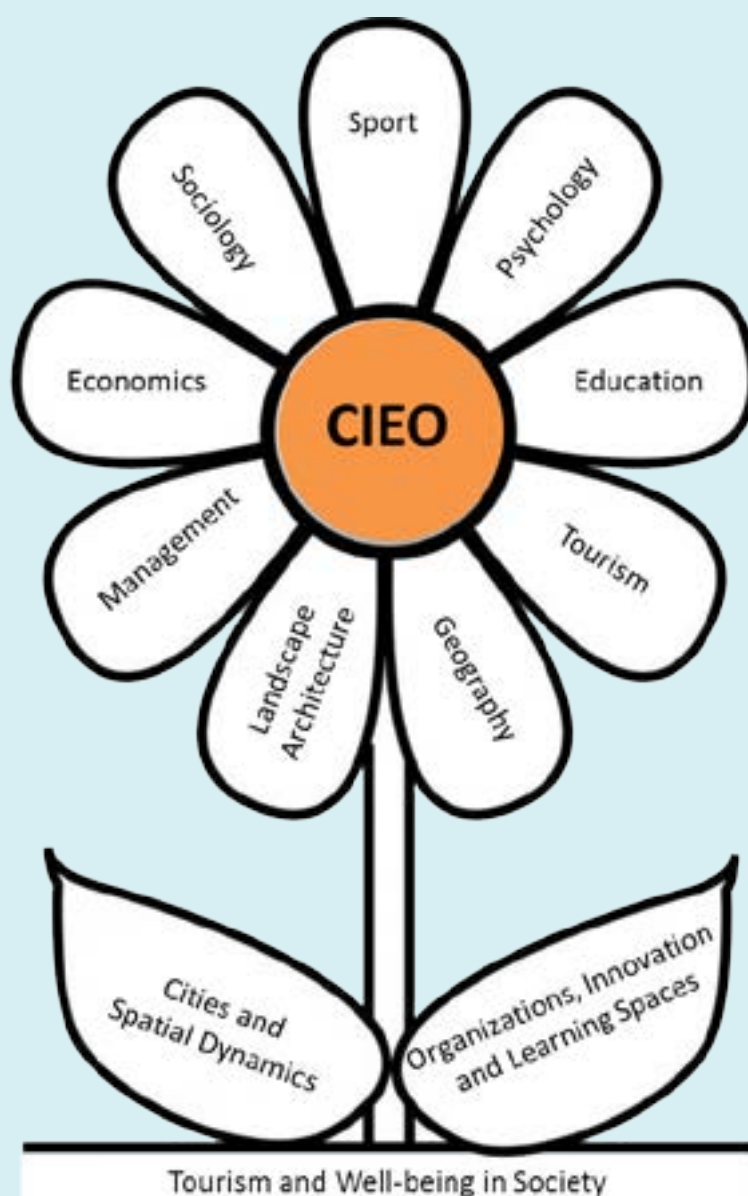


# Proceedings of the International Congress on Interdisciplinarity in Social and Human Sciences

5th - 6th May 2016



Research Centre for Spatial and Organizational Dynamics  
University of Algarve  
Faro, Portugal

## TECHNICAL INFORMATION

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## INTRODUCTION

Interdisciplinarity is the main topic and the main goal of this conference.

Since the sixteen century with the creation of the first Academy of Sciences, in Naples (Italy) (1568), and before that with the creation of the Fine Arts Academies, the world of science and arts began to work independently, on the contrary of the Academy of Plato, in Classical Antiquity, where science, art and sport went interconnected. Over time, specific sciences began to be independent, and the specificity of sciences caused an increased difficulty in mutual understanding.

The same trend has affected the Human and Social Sciences. Each of the specific sciences gave rise to a wide range of particular fields. This has the advantage of allowing the deepening of specialised knowledge, but it means that there is often only a piecemeal approach of the research object, not taking into account the its overall complexity. So, it is important to work for a better understanding of the scientific phenomena with the complementarity of the different sciences, in an interdisciplinary perspective.

With this growing specialisation of sciences, Interdisciplinarity acquired more relevance for scientists to find more encompassing and useful answers for their research questions.

CIEO (Research Centre for Spatial and Organizational Dynamics) is the research centre organising this conference. As a research center in Social Sciences, CIEO has Interdisciplinarity as an important issue.

This research centre concentrates on the social sciences and it is funded by the Foundation for Science and Technology. The FCT rated CIEO as a “Very Good” research centre, and one of the main reasons for this good evaluation was surely our potential for Interdisciplinarity.

CIEO has researchers from various scientific fields, and one of its main features is to develop knowledge from the interactions between complementary scientific areas of interest.

This conference was an excellent opportunity for strengthening and enriching our interdisciplinary systematic approach, not only for the CIEO members, but also for all the delegates researching in different scientific fields.

It also can be an opportunity to show innovative research in social and human sciences, and to improve the networks between researchers from different scientific disciplines.

Themes of this conference included research topics from the following scientific fields: Economics, Management, Sociology, Psychology, Education, Sport, Tourism, Landscape Architecture, Geography, and Political Sciences, just to mention a few.

As the CIEO is structured along three research areas, we have tried to organize the communications in parallel sessions corresponding to these three areas: 1) Cities and Spatial Dynamics; 2) Organizations, Innovation and Learning Spaces; 3) Tourism and Well-being in Society. There was also a significant number of communications included in the category of “Other topics”.

In this conference we had more than 250 communications presented in symposiums, parallel sessions, conferences, and posters.

The diversity of papers and communications submitted enabled us to compile a scientific program which builds a bridge between theory and application. With its multidisciplinary focus, the scientific program covered a large number of topics, which we hope will provide many opportunities for stimulating exchange between participants in an interdisciplinary perspective.

Participants came from several countries, namely from Spain, Brazil and Portugal, and so, although the official language of the congress was English, presentations were permitted in Portuguese and Spanish.

At the same way, in this “Book of Proceedings” papers could be written in English, Portuguese and Spanish.

62 of the communications presented at the conference are published here. They are organized in six parallel sessions and posters, corresponding to the structure of the conference program.

We believe this book can be an important contribution to establish the state of the art in the field of Interdisciplinarity in Social and Human Sciences.

The editors  
Saul Neves de Jesus  
Patrícia Pinto

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# PARALLEL SESSION I

# EXPERIENCING INEQUALITIES IN HIGHER EDUCATION AND THE LABOUR MARKET: STORIES OF NON-TRADITIONAL STUDENTS

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## ABSTRACT

Over the past decades social, economic and political changes have led to the expansion of European higher education while at the same time there has been a policy push for lifelong learning and widening participation. As a result universities are now characterised by a more diverse student population by class, gender, ethnicity and age. While doors have opened, studying at university remains a 'risky business' (Reay et al, 2009). Cultural differences, particularly for working class students, means that some are like, in Bourdieu's term, 'fish out of water' and a place where inequalities are reproduced. Universities, however, also offer a transitional space for the development of the self and identity.

This paper focuses on UK data taken from two European research projects: one on access and retention of non-traditional students and the other on the employability of non-traditional students. Methodologically both employed biographical narrative research methods so that student voices were central to the research. Theoretically both drew on the work of Bourdieu (habitus, cultural and social capitals) and the critical theorist Honneth (recognition, respect and self-esteem). Both projects used a critical lens to highlight inequalities in HE and the labour market.

Keywords: Inequalities, Higher Education, Non-Traditional Students, Biographies.

## 1. INTRODUCTION

The expansion of the European higher education system has resulted in the undergraduate student population becoming more diverse by age, class, gender and ethnicity. As Trow (1973) asserts universities are now mass-based yet the culture of many institutions remains middle class and elite. In the UK university doors opened to eighteen year old working class students following the Robbins Report (1963) which led to the building of new universities. During the 1990s the introduction of access and widening participation policies enabled adult students to enter. However, the UK university system is hierarchical. Widening participation has occurred but as David et al (2009) highlight access to university is not equal as most non-traditional students study in the post 1992 universities and overall the student population is overwhelmingly middle class with only one third being working class (HESA, 2009). Widening access and participation has not had a levelling effect as inequalities are perpetuated and reproduced within the system. Education is perceived to be a pathway to social mobility by policy-makers in the UK and while some from the working classes have benefitted since the 1960s it still remains limited. More recently the policy push for lifelong learning and access to higher education is part of a strategy for social inclusion but in reality it is mostly about economic factors and developing human capital.

As a result studying at university remains a risky business (Reay, 2003; Barnett, 2007) for non-traditional students, particularly those from the working class and some are, in Bourdieu's term, like 'fish out of water'. Yet for some non-traditional students a university education can be a powerful biographical experience as it opens up a new way of looking at the world and the self (Alheit & Dausien, 2002; West, 1996). However, there is an assumption that once a non-traditional student has accessed and entered university inequalities disappear and there is a level playing field. Research indicates that this is not the case (Finnegan & Merrill, 2015; Reay, 2003) and this is particularly the case in relation to employability (Tomlinson, 2008; Brown & Scase, 1994) as non-traditional students find it harder to obtain graduate jobs. Employability has become a central policy concern for the EU, national governments and higher education institutions. It is also a goal of the Bologna process (The European Higher Education, 2012 Bologna Implementation Report). This is linked to a concern about knowledge and skills shortage at a time when European countries are increasingly faced by economic competition in the global world. External economic and social changes have led to a transformation in the purpose of the university from the social good to a neo-liberal marketised stance. This has impacted upon the perspectives and expectations which students bring with them to their undergraduate



studies. Today studying for a degree is not just about learning for learning's sake and following a discipline in depth but rather as Tomlinson (2012) asserts as 'it now appears no longer enough just to be a graduate, but instead an employable graduate' (2012: 26).

Using biographical narrative approaches from two European (EU) research projects this paper focuses on issues of class and gender and their intersections in looking at how non-traditional students (both younger and adult) negotiate and experience university and onwards into the graduate labour market. The first project is entitled *Access and Retention: Experiences of Non-traditional Learners in Higher Education* (RANLHE) and the second *Enhancing the employability of non-traditional students in Higher Education* (EMPLOY). The former involved partners from Germany, Ireland, Poland, Scotland, Spain, Sweden and the UK (2) while the latter includes partners from Ireland, Poland, Portugal, Spain, Sweden and the UK. We defined non-traditional students as including those from low-income families, under-represented ethnic and socio-economic groups, mature students, first generation into higher education and people with disabilities.

Both projects focus on issues of inequality in European higher education and also in both the voices of non-traditional students are central for understanding these processes. The RANLHE project focused on why some students complete their undergraduate degree and why others from a similar socioeconomic background do not complete their studies. The research was undertaken at a time when there was increasing policy concern across Europe about retention rates in universities as withdrawal reflects both the efficiency of a university and also has an impact on the national system of HE. Institutions and governments perceive drop-out negatively as it comes with an economic cost and is also viewed as being an individual failure. Our project critically challenged these assertions as the stories told by many students indicated that leaving university marked a positive new biographical transition. They did not see themselves as failures and felt that they had benefitted from their studies even though they did not complete. It thus questions what is meant by a 'successful student'. The EMPLOY project is looking critically at the concept and practice of employability in universities. The traditional perspective of employability is framed within a neo-liberal, marketised and individualised view of higher education and the labour market. While previously the involvement of employers in universities and the curriculum was at a minimum and even opposed by some academics the concern with employability has increasingly led to employers having a voice within the academy. University-employer links are now seen as a 'good thing' for the employability of graduate students and for the needs of the labour market. In doing so the social purpose of the university is being lost. Our research, like that of Tomlinson, Brown and Scase and Brown, Hesketh and Williams, is critical of this economic perspective. As outlined below not all graduates have equal access to the graduate labour market and the top jobs as it depends on your class, gender and ethnic background.

The stories of non-traditional students illuminate how structured inequalities and constraints impact on their studies and labour market opportunities. The student voices in this paper are from those studying in an elite university. Bourdieu's work on habitus and cultural and social capitals is useful for illuminating an understanding of these processes. While such students are classed, gendered, raced and aged they are not 'cultural dopes' (Garfinkel, 1967) as their stories reveal resilience and the ability to be agentic. Both research projects, therefore, used a critical lens to highlight inequalities in higher education and the labour market.

## 2. USING BIOGRAPHICAL NARRATIVE APPROACHES

Biographical narrative approaches are a popular research method within European adult education research (West et al, 2007) and reflects more broadly a 'biographical turn' within the social sciences (Chamberlayne et al, 2000). Its popularity lies in its adoption of humanistic and subjective approaches and placing participants central to the research process. In the UK biographical research has been influenced by two theoretical perspectives: symbolic interactionism and feminism. Biographical narrative research methods were employed in both research projects as they 'offer rich insights into the dynamic interplay of individuals and history, inner and outer worlds' (Merrill & West, 2009: 1).

Feminists contributed to this method by advocating for a democratic relationship between researcher and researched (Reinharz, 1992). Oakley (1981) emphasises that the interview should be like a conversation, whereby the researchers' self is also brought into the story. Importantly biographical research has highlighted the everyday lives of the marginalised and oppressed and this has been particularly important for feminist researchers. For Jane Thompson, a radical adult education feminist, telling stories are:

a way of exercising critical consciousness and of producing knowledge from the inside about gender, class and education, deriving from personal, particular and shared experience. Not in the pursuit of ultimate truth but in the search for greater, more nuanced, understanding (2000: 6).

Feminist biographical approaches also highlight the interaction between the personal and political and the public and private lives. Individual biographies reveal that personal experiences at the micro level are often shared ones of gender, class and ethnicity at the macro level. This echoes the work of C.W. Mills who reminds us: 'the personal

troubles of milieu' are linked to 'the public issues of social structure' (1973: 14). So although a life history is at first sight an individual story it is always located within a social, historical and political context (Bertaux, 1981). In doing so a biography reveals the collectivities of life such as class, gender and race and the interaction between structure and agency (Plummer, 2001, Merrill, 2007). Biographical narratives are helpful in illuminating transitions and learning trajectories of non-traditional students (Biesta et al, 2011). They also illustrate how past lives affect the present and the future. As Alheit and Dausien (2002) stress a person's biography is inextricably linked with learning – a process which they call 'biographicity' or biographical learning emphasising that 'without biography there can be no learning, without learning there is no biography' (Alheit and Dausien, 2002: 15).

Both research studies involved interviewing different cohorts of students. In the RANLHE study we interviewed non-traditional students in their final year of study, those who left but later returned and those who dropped out. Another cohort were followed through from first to final year of study. The EMPLOY project is ongoing but again a cohort will be followed through from their final year at university and re-interviewed a year later to track their trajectory.

### 3. CLASS, GENDER AND INTERSECTIONALITY

Social class is integral to UK society as it is deeply rooted in the culture, structure and everyday lives and the education system is one area where it is clearly visible and persistent. Class inequalities continue to be reproduced within education and higher education is no exception. Within the academic world social class was central in sociological research in the 1960s and 1970s until postmodernism emerged and became fashionable along with the 'cultural turn' (Abbott, 2001). Postmodernists launched an attack on 'grand narratives' theory, dismissing the work of Marx, for example, and notions of class. Sociologists advocated that class had become an out-of-date concept and as Pahl (1989) argued it was no longer useful in categorising people's lives. Quantitative research, however, indicated that class differences had not disappeared and that wealth inequalities were increasing between the rich and the poor (Breen, 2004, Erikson & Goldthorpe, 1992). In recent years other sociologists have begun to re-engage with research on class and re-assert that class is still central and important in UK society albeit in a different way to earlier UK sociological research (Sayer, 2015; Devine et al, 2005; Savage, 2000; Skeggs, 1997; Kuhn, 1995). For as Beverly Skeggs poignantly asserts: 'To abandon class as a theoretical tool does not mean that it does not exist any more; only that some theorists do not value it' (1997: 6-7). Kuhn (1995) stresses that class encompasses a person's whole life – not only in terms of material conditions but also in relation to the psyche. Similarly Sayer reminds us that class 'affects how others value us and respond to us, which in turn affects our sense of self -worth' (2005: 1). Class, therefore, 'shapes embodied experience and practical sense' (Finnegan & Merrill, 2015: 3) as well as revealing power relations and inequalities in a society.

But gender was also important in the lives of the female non-traditional students we interviewed as they would describe themselves as working class women and that was important to them. As Skeggs asserts 'The women never see themselves as just women, it is always read through class' (1997: 91). Being female makes their class experiences different to that of working class men as their lives are both gendered and classed (Thompson, 2000; Skeggs, 1997). For example, the women adult students are expected to assume domestic roles within the home as well as have the main caring responsibilities for children while studying. Male working class students in contrast are not as tied to domesticity while studying (Merrill, 1996). The lives of working class women illuminate the notion that social class cannot be looked at in isolation as Anthias asserts:

Within societies and nations, within so-called communities, there are divisions and conflicts around class, around ethnicity and racialisation, and around gender as well as other social categories and positions. (2005: 24).

As a result the intersectionality of inequalities means that 'classes are always gendered and racialised and gender is always classed and racialised and so on' (Anthias, 2005: 33). The concept of intersectionality emerged in the 1980s and has its origins in feminist theory and anti-racist theory and has since gained in popularity. The term was first coined by Kimberlé Crenshaw (1989) and although originally related to race and gender it has been extended to other forms of inequality such as class. For Crenshaw intersectionality 'is a tool particularly adept at capturing and theorising the simultaneity of race and gender as social processes' (1992: 403). The focus of much research has, therefore, moved away from just looking at one form of inequality to recognising that people experience multiple forms of inequality in society. Intersectionality addresses the inequalities, disadvantaged position and oppression of particular groups so this has relevance for adult education and adult students. Intersectionality also places the concepts of identity, changing identities and power central to understanding people's lives. Identity is also something which has concerned adult education researchers in researching how working class women and men and working class black women perceive their identity in middle class educational institutions such as universities. Issues of identity around class, gender and being a student will be discussed further in the section looking at empirical data.

#### 4. MOVING TO THE THEORETICAL APPROACHES

In both the RANLHE and EMPLOY projects we have utilised sensitising concepts by drawing on the work of Pierre Bourdieu and the critical theorist Axel Honneth. (The RANLHE project also took into account the work of Winnicott and psychosocial approaches). Bourdieu was useful to us, as with other researchers such as Skeggs, 1997 and Reay et al, 2005) because of his work on the social reproduction of class and identity, habitus, field and social and cultural capitals as well as his study on universities – *Homo Academicus* 1988).. The concept of habitus allowed us to explore how the social and cultural capitals of working class students copes and adjusts or not to the symbolic and intellectual capitals of the university. Middle class students because of their particular cultural and social capitals as Bourdieu elicits, are more likely to be ‘fish in water’ while working class students may find themselves as ‘fish out of water’. A person’s habitus is a culture which shapes how they view the world, their behaviour, language and lifestyle. Habitus is linked to disposition whereby through socialisation in the family and school, for example, a person learns how to present themselves within a particular habitus in everyday life. As other researchers in the RANLHE project explain:

Bourdieu’s ideas about forms of capital and the ways they operate in specific fields offer a tool for understanding the enduring impact of social inequality in students’ lives. Stories are clearly formed by lived experiences of social power (West, Fleming & Finnegan, 2013: 122).

Habitus and the levels of social and cultural capitals locates a person’s position or ‘a sense of one’s place’ (Bourdieu, 1990: 131) in relation to others and the social structure. While habitus reproduces and determines an individual’s class and social trajectory Bourdieu did acknowledge that it is not necessarily static and can be transformed through the use of agency:

Habitus is not the fate that some people read into it. Being the product of history, it is an open system of dispositions that is constantly subjected to experiences and therefore constantly affected by at interview, in a way that either reinforces or modifies its structures (Bourdieu & Wacquant, 1992: 133).

Bourdieu’s work on habitus is also being employed in our current EMPLOY project as it powerfully illuminates social inequalities which are experienced by non-traditional students when entering the graduate labour market. Graduate employability is a problem across Europe (Edvardsson et al, 2010, Tomlinson, 2008) . Research indicates that non-traditional students are more affected in terms of graduateness than other students (Brown & Hesketh, 2004; Reay et al, 2006).Such students

experience a longer transition period to gain employment and when they do it may not be at graduate level. Linking to Bourdieu, Brown and Scase (1994) point out that those from a privileged class background have higher levels of social and cultural capital which puts them at an advantage in the labour market or what is termed in the UK as ‘the old boys network’. Overwhelmingly those who have been to public schools (private schools) and then graduate from Oxford or Cambridge (Oxbridge) secure the top jobs. Middle class students are also more likely to possess extensive social capital and networks which gives them an advantage in obtaining jobs. For Brown and Scase:

The idea of cultural capital has been helpful in understanding how individuals and families from middle class backgrounds are able to ‘capitalise’ on their cultural assets in ways that those from disadvantaged backgrounds are not...When employers reject candidates as unsuitable it could be argued that they are being rejected for lacking ‘cultural’ capital. There is absolutely no doubt that this happens when people are seen to have the wrong accent, dress inappropriately, or do not know the rules of the game when candidates are invited to a formal dinner to meet company employees (1994: 28).

A recent study by the Social Mobility and Child Poverty Commission (2015) also reinforces the role of habitus and cultural and social capital in the graduate labour market by concluding that recruitment to top jobs is now favouring ‘poshness’.

Honneth’s (1995) psychosocial theory on recognition makes some connection to the ideas of Bourdieu as his work takes into account structure, agency and identity. Although part of the Frankfurt School his critical theory turns away from Marxism and draws to some extent on Habermas but also from the world of psychoanalysis and in particular the work of Winnicott on self-confidence and recognition while still connecting with sociological theory As Fleming and Gonzales-Monteagudo explain:

Honneth’s recent work amounts to an ambitious project to reconfigure and reanimate critical theory. He argues that the purpose of critical philosophy is to investigate social problems in their historical context with emancipatory intent. He asserts that the project of emancipatory philosophy has to be entirely reimagined (2014: 20).

He introduces a theory of intersubjectivity in relation to identity formation so that ‘only by being recognised can we achieve an identity and become conscious of our own uniqueness’ (West et al, 2013: 125). Recognition by others is essential for a person’s personal and social development. As Honneth asserts:

...the reproduction of social life is governed by the imperative of recognition because one can develop a practical relation-to-self only when one has learned to view oneself from the normative perspective of one’s partners in interaction, as their social addressee (Honneth, 1995: 92).

Being given recognition leads to self-confidence and feeling valued. Another related strand to Honneth’s work is the notion of self-respect ‘when a person in a community of rights is given recognition as a morally and legally mature person’ (Fleming & Finnegan, 2014: 55). Having recognition and self-respect generates self-esteem. For non-traditional students in higher education being given recognition and self-respect by lecturers and other students is important if they are to feel a sense of belonging in an institution which they may feel is culturally different to their experience. Julia, an adult student, for example, on completing her studies stated that despite the constraints and difficulties ‘it was still a nice feeling...I suppose it’s a feeling of being included. I felt like I was part of something’. As Kasworm found in her study of adult students studying in an elite university ‘adults are concerned about being accepted and valued within the academic community’ (2010: 148). Self-esteem and self-confidence is, therefore, important to non-traditional students for ‘keeping on going on’ with their studies.

## 5. CLASS AND GENDER IDENTITIES

Class and gender are dominant aspects of a person’s identity of how they see their self and their self in relation to others and in society. In recent years some sociologists have argued that collective identity, which was seen as an aspect of the UK working class, has been replaced by an individual identity (Beck, 1992, Giddens, 1991). Yet others have argued that there is always a collective dimension to identity (Ferguson, 2009; Jenkins, 2000) as it is shaped by personal, social and institutional processes. Berger and Luckmann also asserted that ‘identity is a phenomenon that emerges from the dialectic between individual and society’ (1973: 195). The stories we collected, although individual, illuminated shared classed and gendered experiences which in turn shaped identities of themselves as non-traditional students. A person’s identity is linked to biography as it is shaped and constructed through past and present experiences (Ferguson, 2009). Working class students imagine a future of who they want to be and become. A university is, therefore, a transitional space between past and future lives. It is also a temporary and bounded space and place :

A transitional space, therefore, implies being in-between in terms of identity whereby an individual lets go of part or all of their old identity and changes to assume a new or modified identity. (Merrill, 2012: 28).

At the same time, while they acknowledged that studying for a degree had changed them, they always clung to their class roots and defined themselves as working class even once they had completed their studies. For some adult students family and friends held different perceptions about them. In traditional working class culture and communities education is not seen to be important and something that the middle class do. In Hoggart’s (1957) term it is viewed as betraying you class which is an isolating experience and I would argue also emotional. Studying at university distanced some of the women and men from their family and friends and in working class terms they are ‘getting above themselves’. For adult women they are perceived to be breaking their traditional gender role by not staying at home and looking after the children. Karen, a single parent, like many others experienced opposition from her family as they said to her: ‘What do you want to do that for\ / Who do you think you are? What’s the point? That’s not going to get you a job’. Karen felt that: ‘They can’t understand why I want to go to university’. Julie, also a lone parent, found that studying had distanced herself from her friends, despite continuing to live on a deprived housing estate:

I couldn’t talk about university to any other mums as I walked to school because I felt that they had snubbed me – ‘Look at you with your big briefcase’. It was really tricky to explain to people why I wanted to progress myself. I withdrew from my friends on the estate a little bit because I found it hard to explain to them why I wanted something different but I understood why they didn’t or why they were happy in the situation they were in.

Her family also could not understand why she wanted to study. Julie was interviewed after she graduated and in her second interview she acknowledged that she had changed, felt more knowledgeable, self-confident and viewed the world in a different way but subjectively she continued to see herself as working class. Although she had enjoyed the academic world she had also viewed the middle class world there and did not want to embody it. With younger working class students the story was different as their generation of parents recognised the importance of education – something which they had been denied. Angie, however, was one exception:

He's (her father) always accused me of thinking that I was better than them and that I looked down on them but I really don't think that to get a degree is to become middle class. I absolutely fight for my identity as a working class person. I revere my parents because they're real and I would never look down on them... but I do notice that I don't have conversations about the world with them and when I do I notice that they have quite biased views so I don't really engage.

Morley, an adult education researcher reflecting on her own life experiences explains: 'For working class women becoming 'educated' is a complex combination of achievement, struggle and betrayal'. (1997: 117).

The identities of non-traditional students, particularly adult students, have been shaped by class and gender, and in some cases, race experiences in the family, school and workplace. The working class adult students we interviewed talked about having to leave school at the earliest possible age (15 or 16) as they were expected to bring in a wage to the family. For girls it was also about the expectation that they would get married after a few years of earning and then have a family and therefore did not need an education. For women perceptions on class and gender were interwoven:

I started school in 1969. Girls went to school, just did it, then got married. You know had a little job and then got married. So there's no encouragement whatsoever...it was just the norm. Women just got married, had children and that was that (Susan).

One woman felt that she was denied the opportunity to continue with her school studies because of the attitudes of not only her parents but also her teachers:

...it wasn't until later that I felt quite resentful about the experience I had at school...I just felt that there was a lot of potential that I had that was totally wasted because assumptions were made about me. Too young at the time to know but I do feel it came back to my background and my family and where I lived and that influenced how they treated me and that's why college never got mentioned...I think the system could have done more (Paula).

Going to university was an opportunity to prove to themselves that they could achieve educationally, 'complete' their studies and leave behind past experiences of class and gender inequalities in relation to learning. This was very important to Sue who as a single parent wanted to obtain a better life for her and her children:

I did my degree to prove something to myself. To get my degree that I should have got when I was younger. So to prove to myself that I can get that qualification and for my children as well so that they would think it's the norm – that's what you do.

## 6. CLASS AND GENDER INEQUALITIES IN THE INSTITUTION

Working class students are in a minority at an elite university so class issues and differences are more apparent than in the post 1992 institutions. Class consciousness is raised through interaction with lecturers, middle class students, academic knowledge and institutional ethos and culture. In elite universities working class students 'stick out' more, highlighted by material, language, lifestyle and cultural differences so that many become aware that they are the 'other'. Dawn used Bourdieu's term and described herself as 'being a fish out of water' while Julia stressed that in seminars, 'I definitely felt like I was in a different class to most of the people that I was learning with – that was quite clear'.

Language and vocabulary was one area where Anne felt herself to be different to the younger middle class students:

I find it hard and I'm really sort of aware of the way how different I speak. They've got like amazing vocabularies and you just think, God you sound brilliant and then I just go red. I just can't get my words out. I just sort of lack confidence I suppose.

For Jenny seminars were also a place and space where she lacked confidence but used a strategy to try and deal with it:

I cannot do that and made worse by the fact that these young people in the class were very intimidating and I'm absolutely sure they didn't mean to be. They were upper class. I used to sit and look at them and think well you know, I've got so much experience that you haven't got.

Younger working class students also experienced similar experiences in seminars which highlighted class differences:

I found that in my history seminars other people would sort of be talking about their backgrounds. They had all gone to private schools and were from quite well-to-do areas of the country. It was slightly off putting in seminars...all sorts of things they had done over the summer – just experiences they'd had. I just sat there thinking I can't really join in this conversation. (Kate)

For the younger working class students entering university marked a different type of transition to older students

as it encompassed a process of leaving home and family and a move towards adulthood but most were resilient:

It was a bit of a culture shock cause I'm the eldest and neither of my parents went to university so I didn't really know what to expect but it was okay. I think. In the first couple of weeks I settled in very quickly but obviously had a few wobbles.

Younger students spend one or two years living in halls of residence on campus and this revealed other aspects of class differences and wealth inequalities:

Well just the sort of thing people were talking about and the sort of things they wanted to do for a social life. Lots of people were prepared to pay for a taxi to Birmingham but I don't have £40 to spend on one night out and their parents giving them allowances every week. In the freezer in the halls there is a disparity between the foods. You get some people buying the finest food or eating out every night and everyone else living on a budget of beans and bread (Kerry).

For Ajay, a young Asian male student, halls of residences signified class differences in a different way by segregating classes. The University has recently built new halls of residences with ensuite rooms. Ajay noted that the wealthy students opted for the new residences but these were not available to him or his friends as they are too expensive.

Keeping going on with studies can sometimes be problematic particularly for adult students who also often experience external problems. Mary, for example, took temporary withdrawal as she explains:

Last year I deferred for a year due to ill health. At first I was thinking 'well maybe I won't be able to continue at all'. But as soon as I started to feel in any way better I really missed the process. It's like somebody took this bit of your life away and you don't know what to fill it with.

Others chose to leave without completing their degree. Some of the younger working class students transferred to a post 1992 university in their home town as they felt more comfortable in a university where working class students are in a majority. Angela, an adult student, was not a confident learner and had failed several of her exams every year. Her dislike of exams, feeling pressurised by deadlines and other factors made her take the decision to leave shortly before her final exams in her final year. However, she did not see this as a negative act and stated that:

I changed prior to coming here because of that trauma in my life. It's given me some of my confidence back...I can look at things in a different way. I can give an opinion on something in more depth and detail.

She had used her agency to overcome personal problems and move on to a new phase of her life.

In thinking about the future and employability the adult working class students were less instrumental than the younger working class students as they were interested in learning for learning's sake. They are also tied geographically to the area because of families which limits choice on the labour market. Kerry's attitude was typical of many younger students: 'I want to do well. I want a good job and a degree is what you need these days'. Several, like Ajay, had deliberately chosen to go to an elite university as he was aware that employers target graduates at such institutions. He compared his situation with that of his brother who had chosen to go to a 'traditional' university but not an elite one. Both were studying engineering but Ajay explained that the top companies hold careers fairs at elite universities like Warwick but they did not go to his brother's university. This was confirmed by an employer interviewed for the EMPLOY project. Ajay did not feel that class would be a barrier as he felt that he talks in a neutral way.

## 7. SUMMARY

The stories told by younger and older working class students illustrate that class and gender dominates their student experience and is central to their identity and how they see others, especially in elite universities. While going to university can be a rich and transformative experience it can also be a risky one (Barnett, 2007; Reay, 2003) as they face wealth and cultural barriers:

Working class students are very often arriving at quite traditional universities and possess different cultural capital and habitus to those of middle class students and institutions. (Finnegan & Merrill, 2015: 14).

As Bourdieu (1984) states their cultural capital and habitus may not be equally valued or 'legitimate'. The stories also illuminated the commonality of classed and gendered experiences of university and an identity of 'them' and 'us' and a strong assertion of seeing themselves as working class yet at the same time being perceived by family and friends as distancing themselves and being disloyal to their class.

Universities are also a 'transitional space for reflecting on and re-working their gendered and classed selves and identities' (Merrill, 2014: 84) and also a site for using agency. Gaining academic knowledge enabled them to imagine

a different future. As Quinn states: 'Education remained the rare domain where they could make self-hood claims' (2003: 101). In Honneth's (1995) terms they encountered, on the whole, recognition, respect and self-esteem. Being at university from a working class background can also raise contradictions about identity and who one is. As a black, male student from an earlier research project expressed it:

Constantly on my shoulders there are two voices. But they are not good or bad. They are my working class response and my academic response and I constantly have to choose which I do.

Despite the fact that widening participation has led to more working class students entering universities, they remain sites where class is reproduced and where inequalities persist. For the majority of working class people university will not be a possibility. Cultural changes are needed within the academy, particularly elite universities, to make them more welcoming places for working class students if they are to move away from being a highly classed space.

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# INNOVATION AND INTERDISCIPLINARITY IN THE DEVELOPMENT OF GOOD PRACTICES IN LANGUAGE TEACHING AND RESEARCH

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## ABSTRACT

Quality and innovation policies in language learning and the promotion of lifelong programs have been major issues of our Spanish and European educational commission for years. To accomplish this aspiration, the European Commission sponsored The European Language Label (ELL), an award which encouraging local, regional and national quality initiatives in the field of language teaching, should be consistent with the current educational trends.

In the light of this context, our work, based on the NELLIP Project (Network of European Language Labelled Initiatives Project, is two-fold: first to identify a set of guidelines to design good practices in language learning and research and second, examine some of the basic notions and assumptions that underpin the guidelines and to suggest a more interdisciplinary approach.

The study provides a broad array of guidelines for engaging teachers into effective language experiences, innovative strategies which can be applied wherever they provide effective learning and encourage the process of lifelong learning through teaching projects based on ICT, CLIL, cultural immersion, etc. It also contributes to the sharing of cross-curricular models, encouraging teachers to encompass multiple areas simultaneously to disclose the subskills that constitute interdisciplinary thinking to unravel the typical student, learning environment and conditions.

Keywords: Innovation, Interdisciplinary Approach, Good Practices, ICTs.

JEL Classification: I20, I23, I29

## 1. INTRODUCTION

Learning is undertaken in a variety of settings, informal, non-formal formal, teaching proposals and challenging modes. Whatever the framework, our Spanish and European Educational Commission have promoted language training and lifelong programs based on quality and innovation policies for years. For this reason, it is particularly important to recognize and enhance new methodological approaches and establish equivalencies between learning outcomes and quality in language learning.

Since 1998, in all EU countries, a number of successful language learning initiatives have been awarded a quality label: the European Language Label (ELL). This distinction is assigned to the best projects promoting language teaching and learning by applying a set of evaluation criteria that should be taken into account by all those who are involved in the planning and implementation of new language learning proposals. According to Biggs (2003, p. 68):

*Learning is [...] a way of interacting with the world. As we learn, our conceptions of phenomena change, and we see the world differently. The acquisition of information itself does not bring about such a change, but the way we structure that information and think with it does... Education is about conceptual change, not just the acquisition of information.*

In this sense, and covering a great deal of topics and objectives throughout the years, European priorities in the field of languages include proposals such as initial and inservice language teacher training, diversification of

the languages on offer (2006/07); intercultural dialogue, languages and business (2008/09); language learning in the community, language skills as a preparation for work (2010/11); language learning based on new technologies, multilingual classrooms (2012/13); languages for social inclusion, languages and sport (2014/15) to name but a few in the last ten years.

This emerging viewpoint in education emphasizes that a thorough understanding of today's real life problems requires interdisciplinary reflection. Educators must demonstrate students how to approach issues in an interdisciplinary fashion and how to effectively integrate areas from multiple disciplines which are suitable for language learning instruction. Based on these premises, Heidi Jacobs (1989 p. 4-5) defines interdisciplinary learning as "a knowledge view and curriculum approach that consciously applied methodology and language from more than one discipline to examine a central theme, issue, problem, topic, or experience."

In view of the limited resources available in the education sector –school education, adult education, higher education, vocational education and training- in many countries and addressing these problems by adopting an interdisciplinary approach, the NELLIP Project (the Network of European Language Labelled Initiatives, funded by the European Commission in the framework of the Lifelong Learning Programme and developed from 2012 to 2014 -further explanation will be presented below) selected relevant language learning initiatives previously awarded the European Language Label and consistent with the current political priorities of the European Commission in the field of language learning. Therefore the appealing perspective of this study is not only marked by providing new material and ideas to formal/informal instruction, but also it focuses on teacher fostering new images of collaboration, involvement, and inquiry by engaging students in interdisciplinary activities and constructing knowledge rooted in their own personal experiences.

To obtain the recognition, participants must be aware of the general criteria for awarding the Label which are agreed at European level and can be summarized as follows: comprehensive approach, added value, motivation enhancement (Gardner and Lambert, 1972), innovation, European emphasis, transferability. But also, other national priorities are assigned by the label campaigns covering two years.

In this context, our objective is to provide an overview of interdisciplinary approaches for language learning by detailing requirements, objectives and outcomes established by NELLIP and national and European priorities stated by the European Commission leading to the design of high quality language proposals.

In order to understand the objectives proposed by the NELLIP project and the context, we will begin with a synopsis of it.

## **2. THE NELLIP PROJECT OVERVIEW**

The research project, NELLIP, composed by eleven contractual partners from nine European countries (Bulgaria, Finland, Ireland, Italy, Lithuania, Romania, Spain, Sweden, and UK), was designed with the aim of promoting excellence and good practices in language learning through the application of the quality criteria used to award the European Language Label. The project specific objectives are presented below:

- To promote the networking and creation of synergies among language learning initiatives having received the European Language Label with the aim to enhance their impact, transferability potential and sustainability.
- To promote the adoption of a joint methodology that will allow the effective planning and implementation of high quality language learning initiatives according to the quality criteria used for the assessment of initiatives that apply to be awarded the European Language Label.
- To promote the information about the European Language Label initiative among language learning providers.

In the pursuit of the objectives mentioned above, the methodology implemented in the NELLIP project focuses on:

- Strategies for the exploitation and networking of language learning initiatives having received the European Language Label.
- Methodologies for an effective planning and implementation of high quality language learning initiatives that are consistent with the quality criteria for awarding the European Language Label.
- Analysis of benefits and impact of the European Language Label for language learning providers.

### **1.1. Requirements to meet a quality label**

Quality is not only related to a single aspect of a project but to all its components and factors, so if there is a weak

link in the 'quality chain' the overall quality is affected. Oakland (2004, p. 5) writes:

*"If we are to define quality in a way that is useful to its management, then we must recognize the need to include in the assessment of quality the true requirements of the 'customer' the needs and expectations. Quality then is simply meeting the customer requirements... This has wide implications. The requirements may include availability, delivery reliability, maintainability and cost-effectiveness, among many other features. The first item on the list of things to do is to find out what requirements are." (p 5, p1).*

The meaning of quality (or high quality) then varies according to the service or product in question and who the customer is. Having in mind this definition and the context in which we present a quality label, some of the main aspects we should be thoughtfully considered are:

- a) The learners who are expected to benefit from the project.
- b) The goal of the project. Heyworth (2002) points out that 'Projects are different from ordinary work. They are intended to change things'
- c) The target outcomes of the project - These need to be achievable by and useful to the learners. They also need to be measurable so that they can be properly evaluated.
- d) Financial resources. Some projects require very little extra money, while others that go beyond day-to-day institutional learning may need extra funding.
- e) The project design - This includes various key aspects related to the goal, such as the length of time, who the participants are, the methods used, the educational resources needed, the staff involved, and of course the management of the project.
- f) Evaluation of the progress and success of the project.
- g) Communications about the project - communication among those involved, both staff and students, and with anyone interested outside the institution, has to be efficient and effective.

### **3. OBJECTIVES: TOWARDS INNOVATION AND INTERDISCIPLINARITY IN THE DEVELOPMENT OF GOOD PRACTICES IN LANGUAGE LEARNING BASED ON ICT**

Our work, based on the NELLIP Project is two-fold: first to identify a set of guidelines to design good practices in language learning and research by providing a clear insight of the characteristics that make a project's quality and also contributing to the sharing of good practice and second, to analyze interdisciplinary initiatives focused on cultural immersion, CLIL, and particularly, ICT based projects awarded by our National Commission since 1999. Although ICTS have played an important role in education for the last years, it was in 2012 when they were included as a leading priority. Since technology influences many aspects of our lives, computer-assisted language learning, blended language learning, MALL, virtual and distance learning and the educational use of social networks, among others, have become very useful tools and environments to teach and learn foreign languages efficiently. Likewise, being innovative and cross-curricular in nature, ICT proposals boost the participation across boundaries, and represent a powerful means to interact, to develop students' autonomy and to promote motivation and fun at the same time.

#### **Objective 1 - Identification of guidelines to design good practices in language learning and research**

As aforementioned, during the lifetime of the NELLIP project, we created a checklist to control quality in language education projects and which give way to good practice. It is assumed that all the research has already implied a series of phases. All initiatives must identify four clear and vital sections.

1. The target groups (also called project beneficiaries) should be well-defined. Some projects are addressed to more than one educational sector.
2. The project objectives and outcomes should be clearly explained because well-defined objectives help the beneficiaries devise the appropriate tasks to be done. The project outcomes and impact should be achievable, useful and measurable.

3. Project planning, The planned activities, involving a plan for monitoring and evaluating progress, a plan for evaluating the quality of the outcomes, a clear plan for disseminating and exploiting the project results, should be well-organized. Additionally, promoters have to take into account if the necessary resources are available.
4. Project management and implementation, a management plan should be developed at the beginning of the project including, a work plan with realistic timescales for all the project activities; a well-developed budget for each of the project activities; the assignment of clear responsibilities to each partner/teacher/student/or person involved in the project; mechanisms for efficient collaboration within the partnership and effective communication among partners, teachers, etc.; an appropriate reporting system available to all partners and; time management and problem solving mechanisms or strategies. There are also procedures for assuring the quality of the project activities and outcomes. It should include an assessment of the needs of the target groups, the methodology that meets the learners' concrete needs, coherence between the project objectives and planned activities and outcomes and establishment of quality criteria for the project products/outcomes. The next steps, time management mechanisms are in place for monitoring whether short term and longer term objectives have been met, and identifying deviations from the work plan and project goals, and adjusting these as required. The project partners should also use the same reporting methods and templates to report on the activities carried out in the separate contexts, including the costs, incurred, dissemination activities, and feedback from participants and stakeholders. If target groups are involved in the testing of the project products, we should consider improving the weaknesses accordingly. Finally, recommendations are put forward by internal and external evaluators and, if necessary, changes are made.

This checklist is intended to help inexperienced promoters to be successful when designing a project. Besides, it is remarkable to point out that we took as examples different projects awarded the ELL and we interviewed their promoters through different means, online, face to face, telephone, skype, etc. From all the interviews, experiences, reports and comments we structured the common phases we found in all valuable initiatives. Nevertheless, we can demonstrate that some projects are not as good as the awarded because they don't meet all the sections included in the previous identified guidelines or even they simply do not know how to exploit them according to the needs and expectations of the 21st century teaching. Therefore, the resulting analysis has been harmonized with national priorities and are inherent in all the analyzed projects awarded good practice, and identified as the main criteria for quality language learning and research.

Once the checklist has been set up, we may focus on the second objective, analysis of interdisciplinary approaches, particularly, ICT based projects, awarded by our National Commission since 1999.

## **Objective 2 - Interdisciplinary approach to improve quality based on ICT based projects**

The second objective of this research is first to provide an insight of ICTs applied to research projects and second, to analyze three ICT based projects as examples of good teaching practices based on innovation and interdisciplinarity: *E-tridem.net. Intercultural Exchanges in Virtual Environments*, *ELLA: English Language Lab Asturias*, and *Le Tour de France en 21 unités* which will be a landmark for many promoters willing to take advantage of their knowledge, innovative ideas, and resources.

It has been long recognized that there is a need for research due to the increasing availability of computer-based applications for language learning and newer teaching environments. Developments of ICTs applied to research projects have ensured relevant research and pedagogy in a global networked world, in particular digital literacy, defined as 'knowing how to select and use tools for communication, construction, research and autonomous learning' (Warschauer, 1999). Not less important is the integration of interdisciplinary approaches, Shanmugaratnam (2002, July) states: "Our most important priority as a nation is to gear up to this future of frequent and unpredictable change, and innovation-driven growth". Based on his quotation we can draw out that the rapid integration of the aforementioned interdisciplinary cross- curricular models and its potential focused on improving teaching and learning, enable and support unpredictable changes in order to optimize learning.

But how does ICT fit in new language learning and teaching environments? Taking into account the guidelines identified to design good practices in language learning and research, we analyzed as examples the following ICT based projects that have been awarded the ELL and which were chosen in the NELLIP Database.

#### 4. DESCRIPTION OF ICT BASED-PROJECTS AND RESULTS

This section seeks to clarify the relationship between innovation and interdisciplinarity as a contribution to furthering teaching and learning through ICT based projects. So, based on the second objective of this study-analysis of ICT based projects, and having into consideration both, the sections identified in the checklist – first objective-, and quality standards, we examine the results of these projects which merged subsequently in completion of quality teaching proposals.

a) E-tridem.net. Intercultural Exchanges in Virtual Environments

This initiative was carried out during 2005-06, 2006-07 and 2007-08 academic years as part of a learning partnership Grundtvig 2 Socrates Program. Five adult education schools from Germany, Austria, United Kingdom and Spain worked on the premises outlined by [the Decision No 1934/2000/EC of the European Parliament and of the Council of 17 July 2000 on the European Year of Languages 2001 [Official Journal L 232 of 14 September 2000] the EU in 2001 - European Year of Languages - aimed at promoting foreign language learning, as well as the conclusions of the Council of Europe (Barcelona 2002) which highlighted that European citizens should be able to communicate in two foreign languages besides their own.

The main objective of the project was to design, develop and evaluate an innovative course concept for learning two foreign languages through communicative tasks on cultural issues in virtual environments. The aim is to improve the students' communicative competence in two foreign languages, empowering their communication skills in English, German and Spanish as well as their sociocultural knowledge and intercultural awareness, fostering debate on intercultural language learning, and improving the students' and teachers' use of ICT.

This project began with the creation of an online learning platform, main axis of the course, where users can find the tasks and the guidelines for participation, can get in contact with participants, learn about the latest news, etc. From the basic principle of collaboration in small trinational groups, several groups of native speakers of three different languages were created to carry out cultural tasks communicating in three languages through ICT. These are some of the activities (Figures 1, 2, 3) created for the three different target groups – German, Spanish and English students:

Figure 1. German assignment

**Tarea alemana** 

e-tridem.net – intercultural communication in virtual environments

Actividad / Tema	Formato	Fecha límite
<b>Historia 4: Freunde / Bekannte, Kultur</b> Diskutieren Sie über das Thema "Freunde und Bekannte" z.B. Was sind Freunde? Was sind Bekannte? Haben Sie diesen Unterschied auch in Ihrer Sprache? Nennen Sie noch andere Ausdrücke für das soziale Umfeld! In Language Corner: Deutsche Aufgabe – Redewort "Freundschaft" und Text "Freunde/Bekannte" (Bilder)	Forum	am Sonntag, 11.1.07, 23:59 - 21:11 Uhr
<b>Konzept? Forschung? Forschungs? Nächste Woche in Deutschland...</b> Sie bekommen von Ihrem guru eine Einladung zu einer gemeinsamen Teilnahme an einem Festungsbesuch, oder an einer Forschungsparty. Informieren Sie sich dazu in Internet! Information Corner: Deutsche Aufgabe – Internetsite	Forum	am Dienstag, 11.1.07, 22 Uhr
<b>Reagieren Sie auf die Brücke:</b> Nehmen Sie sie an und stellen Sie weitere Fragen oder lassen Sie sie zurückgeben, warum.	Forum	am Mittwoch, 14.1.07, 22 Uhr
<b>Als guru reagieren Sie heute im Forum auf Zoosper / Abfragen ihrer e-tridem-PartnerInnen.</b>	Forum	am Sonntag, 17.1.07, 22 Uhr
<b>Lust auf Urlaub?</b> Schreiben Sie mit Ihrer Gruppe eines gemeinsamen Text in WM! Gestalten Sie zusammen ein Programm "Moderne Stuttgart – 3 Tage Ausland" (z. Internetsite Corner: Deutsche Aufgabe – Internetsite) Was würden Sie sehen? Was würden Sie tun?	Wiki	openend
<b>BEWERTUNG der Aufgabe:</b> Bitte wählen Sie die englische oder die spanische Fassung im Block 5, „Deutsche Aufgabe“ und schicken Sie die ausgefüllte Evaluation umgehend an eine Ihrer TutorInnen. Danke!		

Historie 5  
Son, 18.1.07 – Sam, 23.1.07 Mid Course Round Up – Forschungsforum



Source: Own elaboration

Figure 2. Spanish assignment

**Tarea española**

*e-tridem.net*

**Comer en España**

**Introducción**

La comida es una parte importante de la vida y como sabéis las costumbres culturales y los hábitos alimentarios varían de un país a otro y de una cultura a otra. Con esta actividad pretendemos que conozcáis un poco las costumbres y las comidas típicas de nuestro país en general y de nuestra zona en particular. Asimismo queremos que reflexionéis un poco sobre el reciclaje en lo referente a este tema.

**Tareas**

Esta tarea se compone de tres partes o fases, la primera es de reflexión y comunicación, la segunda de búsqueda de información y la tercera de elaboración y en ella tendrás que diseñar dos menús, uno de verano y otro de invierno.

**Presentación**

Logos: Spain, CAPEE, Erasmus+, and a green circular logo.

Source: Own elaboration

Figure 3. English assignment

**Tarea inglesa**

English Academy 21 March 2007 - 31 March 2007

*e-tridem.net*

**GOALS**

- 1] To talk to each other about recently seen films, following the task guidelines given.
- 2] To share ideas about cultural meanings and values in films made in different countries in different languages.

For these goals you will use the Moodle platform and SKYPE. There will be one SKYPE / GIZU meeting in each week.

**OUTCOMES**

- 1] To collaborate in producing a short outline of a film in English.

This meeting will be done in Moodle, using the WGG facility which gives you a page on which everyone can write.

*Having worked with Moodle in the project, you will already know that the system will keep a record of your text messages. But in your video meetings you should keep notes if you do not record them.*

Logos: Spain, CAPEE, Erasmus+, and a green circular logo.

Source: Own elaboration

Two unique aspects of this project are to engage groups of three native speakers instead of two, and to use ICT as a strong part of the learner practice in a blended teaching situation where face to face meetings are also arranged.

Teachers not only developed a learning platform but also improved their use of ICTs by creating ICTs tools. Similarly, students answered and handled themselves with the Moodle platform. Figure 4 shows the list of ICTs tools they both used.

**Figure 4. ICTs tools**



Source: Own elaboration

b) ELLA: English Language Lab Asturias

English Language Lab Asturias (ELLA) was conceived as a response to one of the directives from the Spanish Organic Law regarding lifelong learning and was devised within a specific context and for a specific language, English. However, this idea can be transferred to other languages and different contexts. ELLA is a project that ventures out of the classroom, creating a collaborative platform on the Internet that allows all registered users to share photos, videos, links and their own creations, to name a few examples. The Wordpress 2.5 application, which is a web space designed specifically for the project in question, a resource and multimedia activity bank, was used as the project's platform. Thanks to Google tools, such as Google Docs and Google Talk, the students communicate in real time or speak using Skype. Similarly, other teachers that have registered can enter the teachers' area and download the activities, videos and other material to print it and use it in class, or download it and use it on the digital blackboard<sup>1</sup>.

The success of this project and others lie on the use of ICTs enabling learners to practice languages in an environment free from embarrassment where they can work at their own pace.

Likewise looking at the current provision of language teaching, and at the language strategy, there is a number of key roles that ICT fulfils in modern foreign languages teaching and learning:

1. Increasing motivation to learn languages.
2. Enabling language learning across institutions and outside formal educational contexts.
3. Offering opportunities for meaningful practice of language in authentic contexts and through feedback systems.
4. Providing innovative language devices which provide just-in-time support in language use.
5. Enabling information and resource shared between students and teachers.

<sup>1</sup> The ELLA project is available at the following address: <http://web.educastur.princast.es/proyectos/ella/>.



According to the first objective mentioned above, these initiatives are to be explored with a view to identifying examples of best practice in all areas that characterize quality in learning: quality of the materials and methodologies developed, dissemination and sustainability strategies, the potential for transferring and replicating results. This article presents the methodology developed by NELLIP, particularly, to identify and encourage the transfer of quality language projects, and to offer guidelines on how to plan, implement, manage, exploit and create networks of language learning quality initiatives based on maximizing best practices developed within the framework of European language labeled projects and initiatives.

### c) Le Tour de France en 21 unités

The map of the Spanish population has changed considerably due to the amount of immigrants that have arrived to the Iberian Peninsula in the last decade. Due to the lack of an immigration tradition in Spain, the government initiatives are scarce, and in general terms, it is the individual effort of the teaching community along with the country the one helping to integrate this population within the formal education. In this context, this initiative awarded in 2011 involved the students in a global and common project to learn French through sport and other related cultural backgrounds. The main goal was to create a bond between the Moroccan students' mother tongue and the Spanish Language throughout another foreign language, French. Maps were created to follow the stages of the Tour to learn about geography, monuments, cultural curiosities, traditions and food. All this was carried out through the use of ICT and The Electronic European Portfolio.

This project has provided didactic material considering the worrying lack of multicultural projects in a new multicultural society, overcoming cultural barriers between immigrant and national context. In this way, foreign students have been immersed fruitfully to promote their mother students in a formal education tongue and culture as well as the provision of creative and innovative topics to make language classes more appealing. Therefore, it fulfills two the most recent leading objectives: the promotion and the utilization of ICTs to sponsor integration and multiculturalism (2012/13) and languages for social inclusion, languages and sport (2014-2015).

The main success of this initiative lies on the multidisciplinary approach and perspectives dealt with and its consistency with the current policies because it covers language-related needs of the various linguistic groups and fosters communication. Specifically, it helps integrate the French speaking immigrant students within the Spanish speaking community via French, its culture, sports and ICTS.

Bearing in mind the second objective presented, these projects reflect the interest in learning a language by entailing the use and integration of methods from more than one academic discipline to examine a theme, issue, question or topic, offering a richer understanding of the issue under examination and opposed to acquiring isolated linguistic components, grammar rules and repetition of exercises with little emphasis in oral expression and understanding.

## **5. OPENING AND FUTURE LINES FOR IMPROVEMENTS**

Besides the description about how to implement, design and develop quality language projects, and ensure innovation and interdisciplinarity when teaching and learning a foreign language which has been proved to be prosperous, it is essential we estimate objectively the strengths and weaknesses of this research. Among the number of benefits we can signal the official European recognition of the project's quality, as it is a badge to demonstrate the value of the initiatives. Another outstanding feature is the visibility of the project and the coordinating institution and therefore the guidance they provide to other organizers of future projects. No less important is the motivation and recognition acquired by the staff involved in the development of the project and the commitment of the school which may receive more student enrollments.

It has to be noted, however, that not all the expectations were fulfilled due to some external factors which could be sorted out in the near future. The sustainability of the projects is not always carried out, most of the awarded proposals struggled to continue to exist after the end of the funding period but the lack of public funding makes them disappear or be limited to some extent.

Additionally, very limited opportunities are provided to create transnational partnerships. This is an aspect that should be taken into account considering that we are dealing with cultural immersion, CLIL, ICTs, and innovative methods within our educational sectors.

Reinforcing exploitation activities so as to disseminate more widely the awarded best practices and thus boost the attractiveness of the award. Activities to be organized could include, for example, the organization of events to exchange best practice among the coordinators of awarded projects. Also, organizing training sessions and workshops for future language learning project applicants or/and end-users as beneficiaries may be outstanding, aiming at improving language teaching and learning.

Thus, future reaching lines could focus on public funds to finance the projects after their awards and the

exploitation of these initiatives to create and increase national and transnational networks and cooperation to assist the dissemination, exploitation and sustainability of the projects themselves. All these ideas foster lifelong learning and could subsequently end with an opportunity to commercialize the project products.

## 6. CONCLUSION

The field of teaching has developed a dynamic worldwide community of language teaching professionals that seeks to improve the quality of language teaching and learning through addressing key issues that shape the design and delivery of language. The goal of the collection of a checklist in this paper is to bring together key elements shared by successful projects which will give way to good and best practices. To this light, this study reveals more opportunities for language learning in four educational sectors through a set of guidelines which comprised four areas of commitment: the project beneficiaries, the project objectives and outcomes, the project planning, and the project management and implementation. By following this methodology we offer different perspectives towards language learning and we wish to find more effective methods of learning supporting language literacy skills. Using these instructional best practices, students will engage with the rich language used in their classroom instruction, and will develop knowledge for academic success by strengthening and integrating their oral and written language skills.

Along with the identification of guidelines to design good practices, it is also outstanding the introduction of interdisciplinary approaches such as ICT as a significant and active context for learning. ICT as a medium for teaching is becoming more and more acknowledged. In this article we share some aspects of using ICT tools that have proved positive and stimulating in some projects for both students and the teacher.

During the lifetime of the project, potential promoters have been encouraged to present their work and it has been proved that new language projects have been submitted in the framework of the European Language Label. According to the data, the experience has been enriching as they have achieved positive learning outcomes as well as a high range of reports, publications, guidelines and results. We wish to compile a series of projects awarded the most innovative language learning initiatives in the following years that portray the sense of unity in diversity building bridges between peoples and cultures.

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# O CANTINHO DA LEITURA COMO FERRAMENTA ESTRATEGICA NA ALFABETIZAÇÃO

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## RESUMO

A presente pesquisa tem como objetivo refletir sobre a importância do cantinho da leitura na formação dos alunos não só nos primeiros anos, mais principalmente nele, e sobre a importância de se fazer com que as crianças criem o hábito de ler. Como são apresentados os livros para as crianças, como são ensinadas e incentivadas a ler tanto nas escolas como em suas casas. Pois convivem com a leitura antes mesmo de entrarem na escola, sem nem mesmo conhecerem as palavras, frases ou expressões. Quando seus pais leem um livro para elas na hora de dormir, ou contam um episódio, está fazendo com que desperte nas crianças o gosto pela leitura, tenham prazer de ler. Possibilita o estreitamento de laços afetivos, fundamental para a fluência da aprendizagem, alimentada pela confiança recíproca. A leitura é um instrumento necessário para a realização de novos aprendizados. Considerando a leitura como uma importante ferramenta no processo de aprendizagem, optou-se pelo tipo de pesquisa em cima de diversos textos, na parte teórica, analisou-se a parte prática, indo a escolas para poder ver como é trabalhado o cantinho da leitura.

Palavras-chave: Educação Infantil, Cantinho da Leitura, Leitura e Alfabetização.

## ABSTRACT

This research aims to reflect on the importance of reading corner in the training of students not only in the early years, most particularly in it, and the importance of making children to create the habit of reading. As the books are presented for children, as they are taught and encouraged to read both in schools and in their homes. For live with reading before entering the school, without even knowing the words, phrases or expressions. When his parents read a book to them at bedtime, or have an episode, it is causing awaken in children a love of reading, have pleasure to read. Enables closer emotional ties, critical to the flow of learning, fueled by mutual trust. Reading is a necessary tool for the realization of new learnings. Considering reading as an important tool in the learning process, we opted for the type of research on various texts, the theoretical part, analyzed the practical part, going to schools to see how the reading corner is worked.

Keywords: Childhood Education, Reading Corner, Reading and literacy.

## 1. INTRODUÇÃO

Trabalhar o tema da importância do cantinho da leitura na fase da alfabetização me fez analisar como as crianças são apresentadas aos livros, como são ensinadas e incentivadas a ler tanto nas escolas como em suas casas nos dias de hoje, onde a leitura é essencial nas nossas vidas.

O professor como um grande formador de opinião, pode a partir do início da criança na escola, implantar conceitos de leitura e práticas diárias em sala de aula. Mostrando a importância da leitura. Propiciando momentos de prazer com atividades criativas que despertem o interesse e o envolvimento das crianças pela leitura.

As crianças convivem com a leitura antes mesmo de entrar na escola, sem ao menos conhecer palavras, frases ou expressões. Quando suas mães contam histórias na hora de dormir, seus familiares contam um episódio, já esta desenvolvendo na criança o gosto pela leitura.

Segundo Jolibert (1994), "Ler é atribuir diretamente um sentido a algo escrito. "Diretamente", isto é, sem passar

pelo intermédio”. E também, “Ler é questionar algo escrito como tal a partir de uma expectativa real (necessidade-de-prazer) numa verdadeira situação real de vida”.

Solé (1998) fala que leitura é um processo de interação entre o leitor e o texto; neste processo tenta-se satisfazer [obter uma informação pertinente para] os objetivos que guiam sua leitura.

Sempre lemos alguma coisa para atingir algum objetivo ou finalidade. A leitura é um instrumento necessário para a realização de novos aprendizados. Lemos para poder às vezes preencher um momento de lazer, procurar informações, seguir instruções para realizar determinada atividade, se informar sobre determinado fato, para aplicar a informação adquirida na leitura de um texto para a realização de um trabalho, etc.

## 2. A IMPORTÂNCIA DA LEITURA

No Brasil, até os anos de 1960 do século XX, predominava o discurso da “maturidade para a alfabetização”. Acreditava-se que a criança não tinha o menor interesse de ler e escrever antes dos seis ou setes anos, que as tentativas de tentar alfabetizá-las antes dessa idade, seriam prejudicial ao seu desenvolvimento, já que as crianças não estariam maduras para esse aprendizado.

Porém nos anos de 1920 e 1930, pesquisadores já questionavam. VYGOTSKY (1984), por exemplo, dizia que as crianças podiam começar a ler aos quatro anos e meio, pois elas eram capazes de descobrir a função simbólica da escrita. O problema maior não era a idade na qual a criança seria alfabetizada, mais sim o fato da escrita ser “ensinada como uma habilidade motora, e não como uma atividade cultural complexa”. Para ele, a escrita precisava ser ensinada como algo relevante para a vida, pois somente assim ela se desenvolveria.

Para Solé (1998) a definição mais ajustada sobre aquilo que realmente seria alfabetização é a de Garton e Pratt (1991): “[...] O domínio da linguagem falada e da leitura e da escrita [...]. Uma pessoa alfabetizada tem a capacidade de falar, ler e escrever com outra pessoa e a consecução da alfabetização implica aprender a falar, ler e escrever de forma competente”.

É defendido que as crianças concluam a Educação Infantil já dominando certas associações grafo fônicas, copiando letras, palavras e pequenos textos, bem como lendo e escrevendo algumas palavras.

Leitura, no dicionário do Aurélio é: “1. O que se lê; 2. Arte ou ato de ler; 3. Conjunto de conhecimentos adquiridos com a leitura; 4. Maneira de interpretar um conjunto de informações. 5. Registro da mediação feita por um instrumento; 6. Decodificação de dados a partir de determinado suporte”.

Brandão e Rosa (2011) falam que “[...] a aquisição da leitura e escrita corresponde à aquisição de um código de transcrição do escrito para o oral e vice-versa, bastando à criança memorizar as associações som-grafia para ser alfabetizada”.

No cotidiano da vida está cheio de oportunidades de leituras, desde um livro, a placas de trânsito, um jornal, um panfleto, um cartaz, e muitas outras coisas. É lendo desde o começo, que uma pessoa se torna um leitor e não aprendendo primeiro para depois aprender a ler. Pois não se ensina uma criança a ler ela que aprende com a ajuda do professor (Jolibert, 1994).

De acordo com Souza (1992), ler é interpretar uma percepção sob as influências de um determinado contexto. Esse processo leva o indivíduo a uma compreensão particular da realidade.

Lemos para podermos alimentar e estimular o nosso imaginário, para se comunicar com o exterior, ou seja, para poder mandar uma carta, ler uma receita de bolo, para responder as necessidades de viver com os outros, na sala de aula e na escola, para ver qual será a programação do dia, quais as regras da escola, para podermos ler os recados, para podermos ler as regras de um jogo, para poder montar um brinquedo.

Pode-se ler, sentado, de pé, na escola, na rua, deitados, no corredor, no carro, em geral em qualquer lugar.

Segundo Freire (1989), a leitura do mundo precede sempre a leitura da palavra e a leitura desta implica a continuidade da leitura daquele. A leitura é associada à forma de ver o mundo. Que a leitura é um meio de conhecer.

Para Bamberger (1987), o interesse e o hábito pela leitura é um processo constante, que começa em casa, se aperfeiçoa sistematicamente na escola e continua pela vida toda.

Cardoso e Pelozo (2007) afirma que a leitura desenvolve a capacidade intelectual do indivíduo e a criatividade e deve fazer parte do cotidiano. Os primeiros contatos da criança com a leitura são muito importantes para a sua percepção futuras. Interfere na formação de um ser humano crítico, capaz de resolver problemas sofridos pela sociedade a qual ele pertence.

Constancio, Mendonça, Paiva e Price (2009), concordam que a criança que não tem muito contato com a leitura em casa tem dificuldades no processo de aprendizado, pois é muito importante a intervenção dos familiares no incentivo a leitura e das instituições de ensino a fazer com que a criança crie o hábito da leitura.

Como Kriegl (2002) afirma ninguém se torna leitor por um ato de obediência, ninguém nasce gostando de ler, mas a influência dos adultos como referência é bastante importante na medida em que são visto lendo ou escrevendo.

### 3. O CANTINHO DA LEITURA

Na busca para estimular o desenvolvimento da linguagem oral, é comum nas salas da Educação Infantil, observar atividades de conversas, contar histórias, entre outras atividades, para que as crianças ampliem suas habilidades de uso da linguagem.

De acordo com Brandão e Rosa (2011), alguns estudos mostram que as crianças que participam regularmente da roda de histórias desde a Educação Infantil desenvolve conhecimentos distintos daquelas que não tiveram essa experiência. Observa-se que elas apresentam comportamento imitativo do adulto, repetindo gestos, propondo brincadeiras com livros, ensaiando ser contadoras de histórias.

De acordo com Paiva e Oliveira (2010), “a criança é criativa e precisa de matéria-prima sadia, e com beleza, para organizar seu “mundo mágico”, seu universo possível, onde ela é dona absoluta: constrói e destrói. Constrói e cria, realizando tudo o que ela deseja. A imaginação bem motivada é uma fonte de libertação, com riqueza. É uma forma de conquista de liberdade, que produzirá bons frutos, como a terra agreste, que se aduba e enriquece, produz frutos sazonados” (Carvalho, 1989).

A organização do canto da leitura deve ser um dos primeiros projetos, pois a atividade da leitura e contar de história são um componente importante na materialização do conceito de qualidade na Educação Infantil. Deve ser um lugar diferente, agradável para a criança. Ser em um lugar separado na sala de aula, ou até mesmo em outra sala. Poderia ter um tapete, com almofadas, para as crianças poderem se acomodar melhor, ou simplesmente cadeiras e mesas do tamanho das crianças.

No cantinho da leitura deve-se ter um acervo de livros, com escritos imaginários: contos, álbuns de leitura infantil, romances curtos, coleção de livrinhos que permitem ler histórias curtas, contos de histórias regionais para as crianças, livros de receita, jornais, revistas, histórias em quadrinhos, poemas, canções, gibis, etc.

A criança deve ter acesso aos livros, poder manusear, apropriarem-se do acervo. O acervo do cantinho da leitura deve ser trocados a cada semana. E os outros livros devem ser guardados em caixas ou em armários (sem portas), ou em prateleiras, sempre ao alcance das crianças.

Martins (1989) chama a atenção para o contato sensorial com o livro, pois antes de ser um texto escrito, um livro é um objeto; tem forma, cor, textura. Esses primeiros contatos propiciam à criança a descoberta do livro, motiva para a concretização do ato de ler o texto escrito.

Nos encontros no cantinho da leitura o professor enquanto leitor mais experiente e mediador entre as crianças e os textos, não deve apenas se preocupar em escolher boas histórias, mais também em encaminhar para uma boa conversa em torno desse texto. Deve sempre apresentar um ou mais livros novos, sempre estar renovando o acervo.

O professor no cantinho da leitura pode ler o início da história, ou fazer um pequeno resumo, ou apresentar os personagens, despertando nas crianças a vontade de prosseguir a leitura.

As atividades no canto da leitura podem ser:

- Ler um livro em silêncio, e depois contar um resumo sobre a história, ou falar o que mais gostou no livro.
- A criança escolhe um livro para levar para a casa, se comprometendo a devolvê-lo no mesmo estado que foi levado, para que as crianças possam se familiarizar com o objeto-livro e se interagir com seus familiares. Quando toda a turma tiver lido o livro, fala-se coletivamente sobre o livro.
- Pode pedir para a criança fazer um desenho sobre a história do livro, ou até mesmo, fazer um teatro em cima da história lida pelas crianças.

Brandão e Rosa (2011) recomenda que a professora assuma seu papel de mediadora, criando uma situação de diálogo em que as crianças sejam realmente ouvidas, assegurando-se de que a roda de história seja, de fato, um encontro entre leitores.

É importante que o canto da leitura não seja somente um canto aonde a criança vai quando terminou a tarefa, mais que seja vivo, familiar, aproveitado e continuamente renovado.

A biblioteca da escola é um lugar muito importante na escola, é um instrumento que deve ser mais valorizado, pois geralmente as bibliotecas, são em uma sala que sobrou na escola. Não é na maioria das vezes em um lugar planejado. Deve ser um ambiente onde a criança goste de ir, e não um lugar aonde a criança vai quando esta de castigo na escola, ou quando chegou atrasado.

É importante também que os pais participem que leiam histórias para seus filhos ou folieiem alguns álbuns de literatura infantil, fazendo com que as crianças falem o que imaginam o que irá acontecer na próxima página, ou qual será o fim da história. Que seja um momento, agradável entre a criança e os pais. Pois possibilita o estreitamento de laços afetivos, fundamental para a fluência da aprendizagem, alimentada pela cumplicidade e pela confiança recíproca. Nesses encontros, os pais partilham com a criança momentos de ampliação de conhecimento que interessam a ambos.

“Compreende-se, então, que a leitura não deve ser feita de forma mecânica e descontextualizada, pois o aluno aprende a ler quando a leitura lida é significativa e produtiva, quando sente que ela está contribuindo com a sua

formação, quando percebe que o ato de ler está lhe possibilitando interpretar e participar, ativamente, do contexto social em que está inserido” (Constancio, Mendonça, Paiva e Price, 2009).

Teberoky e Colomer (2003), afirma que: ao ouvir a leitura em voz alta, “a criança pequena assiste à transformação das marcas gráficas em linguagem”.

#### **4. ALFABETIZAÇÃO E LETRAMENTO**

Em meados dos anos de 1980 se dá, simultaneamente, a invenção do letramento no Brasil, nomeando práticas sociais de leitura e de escrita mais avançadas e complexas que as práticas de ler e escrever resultantes da aprendizagem do sistema de escrita.

O conceito de letramento segundo Delmanto (2007) considera os graus de intimidade do indivíduo com usos e funções da escrita e da leitura. Quando alguém sabe ler, mais só compreende textos muito simples, essa pessoa pode estar alfabetizada, mas tem um nível de letramento muito baixo.

Afirma também que esse nível vai aumentando à medida que se aprende a lidar com vários materiais de leitura e de escrita. Quanto mais textos alguém é capaz de ler e entender, mais letrado se torna.

A alfabetização é considerada como um processo permanente, que se estenderia por toda a vida. Porém é necessário diferenciar um processo de aquisição da língua (oral e escrita) de um processo de desenvolvimento da língua (oral e escrita), que nunca se interrompe.

Alfabetização em seu sentido próprio, específico, é um processo de aquisição do código escrito, das habilidades de leitura e de escrita.

As crianças são sujeitos ativos e construtivos do próprio conhecimento, a origem da escrita é extra-escolar, muitas delas quando entram na escola já estão na fase do letramento, pois o início do conhecimento sobre a linguagem escrita não depende do manejo pessoal da escrita. As crianças delimitam a escrita no universo gráfico em geral. Tudo que não é desenhado é escrita.

Segundo Soares, nas últimas décadas, baseia-se numa concepção holística da aprendizagem da língua escrita, de que decorre o princípio de que aprender a ler e a escrever é aprender a construir sentido para e por meio de textos escritos, usando experiências e conhecimentos prévios; no quadro dessa concepção, o sistema grafofônico não é objeto de ensino direto de forma natural da interação com a língua escrita.

Não se tem como dissociar letramento e alfabetização, elas caminham juntas, são interdependentes, no quadro das atuais concepções psicológicas, linguísticas e psicolinguísticas de leitura e escrita, a entrada da criança no mundo da escrita ocorre simultaneamente por esses dois processos.

O conceito de alfabetização depende de características culturais, econômicas e tecnológicas, pois para um lavrador o processo de alfabetização tem fins bem diferentes do que para um operário de região urbana.

A alfabetização se desenvolve por meio de práticas sociais de leitura e escrita, através de atividades de letramento, e este por sua vez, só se pode desenvolver por meio da aprendizagem das relações fonema-grafema.

Não basta ensinar a ler e a escrever, é preciso desenvolver o grau de letramento das crianças, dirigindo o trabalho para práticas que visem à capacidade de utilizar a leitura e a escrita para enfrentar os desafios da vida em sociedade.

#### **5. O CANTINHO DA LEITURA NA PRÁTICA**

Depois de feito o estudo da parte teórica visitei duas escolas da cidade de Campo Grande – MS, uma da rede municipal e a outra da rede particular, para poder analisar como é trabalhado o cantinho da leitura nas escolas, e se é aplicado a teoria, ou se só fica no papel.

Na escola da rede municipal, eles têm um projeto chamado Literarte, que é feito em parceria com a funcionária responsável pela biblioteca e a professora de artes. Este é um momento extra curricular no qual as pessoas responsáveis proporcionam aos alunos diversidades nas atividades trabalhando tanto literaturas quanto cantigas, teatro, etc. Atualmente está sendo trabalhado com as crianças o tema valores, este se inicia na educação infantil e finaliza com as turmas do 9º ano. Um projeto que a escola desenvolve atingindo todos os discentes da escola, lembrando que esta pesquisa tem o objetivo de analisar o cantinho da leitura da educação infantil até o 3º ano.

Esses encontros acontecem uma vez na semana, em uma sala que não é a deles, não acontecem na biblioteca, pois a biblioteca da escola é muito pequena, não comporta todas as crianças lá. Os encontros são na sala de artes, porém a sala não é decorada, porque na parte da manhã é usada com a turma do 9º ano.

Na educação infantil o cantinho da leitura é trabalhado da seguinte forma: as crianças vão para a sala de artes, e lá elas sentam no chão, e a funcionária da biblioteca senta em uma cadeira baixa, para ficar com o livro na altura da visão das crianças.

Geralmente antes de começar a contar a história para as crianças elas cantam algumas músicas, para poder acalmar

as mesmas e esperar que todos se acomodem para poderem ouvir a história.

Feito isso a funcionária da biblioteca apresenta o livro para as crianças, pergunta se eles tem alguma ideia ou sugestões de qual será o título apenas visualizando a capa do livro, criando um ambiente para que os alunos possam dar sugestões, opiniões, despertando a imaginação, criatividade e o interesse em participar do diálogo. Ao iniciar a história, é falado o título e o autor da história.

Começa-se a contar a história para as crianças sempre fazendo com que elas se interajam com a mesma, fazendo perguntas sobre os desenhos que estão na página que será lida, pois as crianças da educação infantil ainda não tem domínio sobre a leitura.

Ao final da história a funcionária da biblioteca pede para as crianças comentarem o que eles acharam da história, ou para falarem qual a parte que elas mais gostaram. Quando damos o livro e pedimos para a criança contar a história eles na maioria das vezes começam contando, era uma vez... Eles se baseiam nas figuras dos livros para contarem a história, pois como já havia comentado as crianças ainda estão no processo de alfabetização.

Após o fim da leitura e a conversa sobre o livro, as crianças se sentam nas cadeiras e a professora de artes entrega uma folha branca grande e canetinhas para eles poderem desenhar os personagens da história ou desenhar alguma parte da história que eles mais gostaram.

Com os alunos do 3º ano é trabalhada da mesma forma, a diferença é que eles já estão saindo do processo de alfabetização. Porém às vezes a professora em vez de pedir para desenhar aos personagens pede para eles criarem uma nova história.

A professora de sala da educação infantil procura trabalhar todos os dias à leitura de livros com as crianças. No cantinho da sala ficava uma sacola de pano com livros para as crianças, mais como ela divide a sala com outra professora, não é deixada a sacola de livro na parede, pois as crianças da turma da manhã estragam os livros.

É trabalhado da mesma forma que se trabalha no projeto. Porém a professora tem uma caixa com livros que ela empresta para as crianças levarem para casa e lerem com seus familiares. Pois as crianças da educação infantil não podem pegar livros emprestados na biblioteca. Antes de ela emprestar os livros para as crianças elas mostra as regras que fica colada na parede da sala, de como se deve cuidar dos livros, cada criança escolhe um livro para ler. A criança pode ficar uma semana com os livros. Quando eles devolvem ela pede pra eles contarem alguma coisa sobre a história que eles leram com os pais.

No 3º ano os alunos já podem pegar livro emprestado na biblioteca, toda quarta-feira é o dia do empréstimo de livros da turma deles, eles ficam uma semana com o livro, só podem devolver na outra quarta. Quando eles vão pegar o livro, existe uma ficha com o nome deles, onde é anotado o livro que eles pegaram se não entregarem o livro no dia marcado, eles não podem pegar outro livro emprestado, só quando devolver o que está com eles. Eles mesmos escolhem o livro, na estante da biblioteca, assim vão aprendendo a manusear os livros e criando contato com os livros na biblioteca.

Os livros na biblioteca ficam em uma prateleira, separados por faixa etária, então tem uma prateleira que ficam os livros que eles podem pegar. Não é emprestado gibis para levar para casa, os gibis que são os que eles mais gostam de ler, eles podem pegar na hora do recreio para ler.

A professora do 3º ano trabalha o cantinho da leitura com eles geralmente na quarta feira no primeiro tempo, sempre na sala, mais procura sempre sentarem de forma diferente. Ela tem um som com microfone aonde as crianças vão para contar um pouco da história que leram. Às vezes: para contarem um resumo da história, para lerem a página do livro que eles mais gostaram e às vezes para mudarem o final da história.

Na sala de aula deles tem uma caixa que fica no armário, com livros e gibis, e no final da aula ela os deixa pegarem para ler o que eles quiserem.

Na escola da rede particular o método de trabalhar o cantinho da leitura é igual, a diferença é que as salas é só deles, a sala da educação infantil é deles nos dois períodos e do 3º ano também. Então nas salas de aula é tudo decorado e tem o cantinho da leitura com os livros colocados em uma sacola, igual a da chamada do dia, onde toda semana a professora troca os livros para as crianças não enjoarem do livro.

As leituras dos livros são realizadas na sala, na biblioteca, no corredor, no pátio, pois cada nível tem um bloco separado na escola, sempre modificando o ambiente, para não virar algo maçante. Às vezes a professora senta com as crianças em circulo, às vezes em semicírculo, não tem um jeito certo, sempre modificando.

A biblioteca da escola é bem estruturada, tem um cantinho com tapete e almofadas para as crianças sentarem para ler, e assim faz com que as crianças se adaptam ao ambiente desde pequenas.

A professora tem uma mala com livros, onde cada semana uma criança leva essa mala com livro para ler com os pais em casa. Quando elas devolvem a mala com os livros à professora pede para eles contarem sobre o livro que eles leram, sobre os personagens, o que eles mais gostaram. As crianças adoram levar a mala com os livros para casa para lerem, e realmente eles liam com os pais os livros.

É bem parecido o jeito que as escolas trabalham, pude perceber que muita coisa que estão escrito nos livros, na teoria é colocado em prática nas escolas, tanto da rede municipal como nas escolas particulares.



Existem algumas diferenças entre as escolas, pois as escolas particulares têm mais recursos, tem bibliotecas estruturadas e tem mais opções de livros para as crianças. Mas todas as escolas e professores tem o mesmo objetivo, ensinar as crianças a desenvolverem o hábito da leitura, sentindo prazer em ler, despertar a criatividade, imaginação, proporcionando aos alunos a oportunidade de aprimorar e ampliar seus conhecimentos para que futuramente possam sair do conhecimento senso comum para o conhecimento do senso científico.

## 6. CONSIDERAÇÕES FINAIS

O professor tem um grande papel na formação de leitores, a importância do hábito de leitura precisa a todo o momento ser evidenciada pelo educador em sala de aula, fazendo assim, com que seu aluno desperte para o quanto necessário se torna a leitura em seu dia-dia. É preciso dar condições para as crianças desenvolva hábitos de leitura espontânea, pelo simples prazer da leitura:

(...) o processo da alfabetização tem, no alfabetizando, o seu sujeito. O fato de ele necessitar da ajuda do educador, como ocorre em qualquer relação pedagógica, não significa dever a ajuda do educador, anular a sua criatividade e a sua responsabilidade na construção de sua linguagem escrita e na leitura desta linguagem. (Freire, 1989).

“O professor deve ser um modelo de leitor para os seus alunos, pois o docente que não pratica o ato da leitura, dificilmente conseguirá fazer com que os seus alunos se motivem às leituras e a construir hábitos leitores” (Constancio, Mendonça, Paiva e Price 2009).

A estratégia que o docente utiliza em seu plano de aula para realizar leituras: o cantinho da leitura se faz necessário. O professor lê com as crianças a história e depois de finalizada a leitura sugere para que algum aluno explique a mesma ou tente expressar com suas próprias palavras o que ele/ela conseguiram entender. Fazendo com que todas as crianças respondam e interajam com a atividade contribuindo com sua adequada compreensão da história.

Muitos dos hábitos das crianças são em decorrência dos hábitos dos adultos. Se em casa têm-se pais leitores, e na escola temos professores leitores, teremos filhos e alunos leitores também.

Aguiar e Bordine (1988) citam que “todo hábito entra na vida como um jogo que, por mobilizar emoções, inspirar prazer, exige repetição contínua e renovada”.

É obrigação das escolas proporcionar acesso ao conhecimento de leituras para as crianças, a oportunidade de ler, a disponibilidade de livros representa um papel extremamente importante no despertar do interesse da criança pela leitura.

Delmanto (2007) fala que a escola deve se preocupar cada vez mais com a formação de leitores, que a escola deve: Propor trabalhos com diferentes gêneros que circulam na sociedade, sem deixar de criar situações que permitam aos alunos desenvolverem as diferentes capacidades envolvidas no ato de ler. Além de ensinar a ler as linhas, é necessário desenvolver a capacidade de ler nas entre linhas (...).

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# TECHING ENGLISH WITH LITERARY READING: AN OPEN DOOR FOR INTERDISCIPLINARITY AND THE FORMATION OF A CRITICAL CITIZEN

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## ABSTRACT

The relationship between reading competence and academic performance is well known; besides, not being able to read means having to accept other people's readings. In this context, it was considered teaching English using literary reading, which consists basically of reading and discussing fiction texts in English as part of the class planning. This article is based on a research aimed at offering such classes in order to investigate their possibilities and pedagogical value, favoring the construction of new knowledge while bringing texts from diverse areas, thus building the desired interdisciplinarity. Considerations are presented regarding the teaching / learning of English, literature and reading. There follow fragments of an action research conducted for six months in an English language class in a town in the state of Rio de Janeiro. The *corpus* of analysis were the teacher's and the students' diaries and a filmed conversation between members of the group at the end of the project. The positive results lead to proposing Literary Reading in the English Language classes, since, creating a democratic space for discussion and reflection on a variety of themes, it may create the desirable interdisciplinarity and bridge the gap, with quality, between public and private educational institutions.

Keywords: English Language Class, Reading, Literary Reading, Interdisciplinarity.

JEL Classification: I29.

## RESUMO

Sabe-se da relação entre competência de leitura e desempenho acadêmico, e que não saber ler é precisar aceitar a leitura alheia. Nesse contexto, foi pensada a aula de inglês por meio de leitura literária, que consiste basicamente na leitura e discussão de textos de ficção em inglês como parte do planejamento da disciplina. Este artigo parte de uma pesquisa que objetivou oferecer tais aulas visando investigar suas possibilidades e seu valor pedagógico, favorecendo a construção de conhecimento novo ao trazer textos oriundos de diversos campos de conhecimento, construindo a interdisciplinaridade almejada. Apresentam-se considerações quanto ao ensino / aprendizado de língua inglesa, literatura e a linha teórica seguida quanto à leitura, seguidas de recortes de uma pesquisa-ação feita durante seis meses em uma classe de Língua Inglesa em uma cidade no Estado do Rio de Janeiro. O *corpus* da análise foram diários da professora, dos alunos e uma conversa gravada entre os membros do grupo ao término do projeto. O trabalho aponta

resultados positivos e propõe a aula de Leitura Literária em Língua Inglesa como espaço democrático de discussão e reflexão dos mais variados textos, sendo assim capaz de construir a interdisciplinaridade almejada e diminuir a distância, com ganho de qualidade, entre instituições de ensino públicas e particulares.

Palavras-chave: aula de Língua Inglesa, leitura, leitura literária, interdisciplinaridade.

## 1. INTRODUCTION

Teaching English as a foreign language —EFL— is clearly justifiable, for representing an open door to the labor market, introducing different cultures, expanding one's horizon, providing the possibility of reflecting on issues of one's life and culture outside one's language, where words can already be so laden with ideologies that it is difficult to see things from new angles. Therefore, possibilities of fostering such values must be optimized, so as students can perceive them. EFL's learning must be brought closer to learners, connected to their lives and reality.

What is understood here as “value” is anything that may clearly contribute to improve either the individual or the social welfare.

In Brazil, the National Curriculum Parameters — PCN — provide that the inclusion of an area in the curriculum should be determined by the role it plays in society. Since only a small portion of the Brazilian population actually uses foreign languages for oral communication, to consider developing oral skills as the main goal when teaching EFL means not taking into account the criterion of social relevance.

The PCN also recognize that learning to read in a foreign language can promote an overall development of students' literacy, according to Moita Lopes (2001): “Learning to read in a foreign language fosters the development of reading competence in the mother tongue, which is, as a matter of fact, the source of many problems faced by children in all school subjects.”(op.cit. p. 132)

Paiva (2000) claims properly that it would be a mistake to set a path due to existing problems, i.e., to use reading because public schools are still ill-equipped. Distortions should be treated with a serious policy to improve education, equipping public schools and hiring teachers prepared to talk, read and write in English. However, it is correct to require reading skills proficiency for entrance examinations to universities and for admission to post-graduate studies. What a doctor, a university professor, a designer or any dedicated professional, as well as higher education students, need is to read in English (or another foreign language, or other languages) to expand their access to the state of art in their specific area.

It is not the case of doing only reading in EFL. More and more people need to speak English, or other foreign language, to work in multinational firms, hotels, restaurants, taxis and airplanes; athletes who go abroad also need to communicate in English, as well as do commissions that receive foreign groups and a diversity of workers in different situations, not forgetting those who travel for leisure.

Besides, it is not possible to teach only one skill of a language. The separation in oral practice, reading, aural comprehension and writing is a teaching tool, a way to place the emphasis here or there. Language is not a point in the tissue, it is the tissue where different points are woven, so that it is possible to emphasize one or another mode of spinning, but the fabric is always composed of all mixed points.

In a reading class, it is perfectly possible to develop other skills. Systematic reading optimizes vocabulary acquisition, whose importance for oral communication is obvious. There will be ample listening opportunities — the teacher's voice, recordings and the students' voices. Besides, certain texts have rhythm, rhyme and sound qualities that facilitate memorization. Finally, the connection reading / writing seems obvious. Those who read systematically usually write well and develop sensitivity to the language norms, even if they are not able to explain why a certain word or sentence “sounds wrong”.

It is also important to optimize students' encounters with the Arts. Aesthetic enjoyment should not be reserved for an elite; it is the result of persistent work, done with emotion and sensitivity, favoring students' approaching to the object in such a way that this is an event, in the sense of something different from what has been experienced (Whitehead, apud Iser, 1999). Teachers need to be better prepared for this role.

Focusing on reading does not preclude attention to other skills, but is a way to work reading, certainly valuable in an educational project, as education implies transformation. Content is important, but one must go beyond it. Students should develop their autonomy, seeking what they need to know. It is necessary that the class provide more democratic paths, enabling students to listen to different discourses, while making their own known.

But what is said when English is being taught? This question troubles authors as Pennycook (1990), Moita Lopes (2001, 2006), Eagleton (2001), among other theorists who advocate a critical learning, justified by the context in which it takes place. It would be a teachinglearning, as Freire (2001) calls it since the concepts can never happen separately,

in which students could have access to topics that are universal and relevant for them, as individuals inserted in a particular social group, place and time; in which they realized their ability to read, listen, give opinions, discuss and diverge, allowing their training as critical and autonomous citizens, which is, as taught by Freire (op. cit.), the essence of education.

For all these reasons, this work proposes reading in the EFL class using literature; more specifically, a literary approach to reading, which will be called *literary reading*, to be treated later in this paper, for the possibilities of achieving the objectives stated above, added to benefits that go beyond language barriers, building the desired interdisciplinarity.

## 2. LITERATURE AND THE LITERARY TEXT

Literature is both the place where you can universalize and strengthen social structures and the *status quo* and where these same structures are apparent and revealed, thus being open to be discussed and questioned. Literature can therefore cause both conformism and subversion. It was not by chance that Plato did not want poets in his republic. Eagleton (2001) believes that if young people are allowed to spend a few years just reading books and talking, they will possibly question not only the values transmitted to them, but the authority behind this transmission. This questioning, he continues, is part of higher education (*ibid*, p. 276).

Gillespie (1994, p.16) points out that, in a utilitarian view so widespread, literature is criticized for not having a practical function, not bringing information that takes the reader to produce better and more efficiently. Leahy-Dios (2000) opposes to that view, pointing to another literary value, that of giving readers the benefits of knowledge and self-understanding while expanding their emotional and intellectual horizons. So it has both a social and an individual function.

It is known that it is the interpretation of experience that creates the world; Britton (1982) theorizes that this interpretation can be poorly made, causing suffering, isolation and imprisoning one in one's errors. An example is the intolerance and even phobia of the unknown, different from us, the other. Such attitudes are not changed with logical reasoning. Britton (*ibid*) considers, however, possible that an effect of the rhythm of a poem is to induce a mild type of hypnosis in the reader, so that critical aspects of the mind would be relaxed. Thus, poets can make one "feel" truths that would be refuted in logical reasoning, which could lead to the danger of misinterpretations (or perhaps it would be more accurate to say bad interpretations) mentioned above.

Without denying the importance of the role of scientists, politicians and businessmen, Britton (*op.cit.*) notes that the center of culture patterns is formed by attitudes, values, ideals and beliefs — and here is the role of the poet. While philosophers and moralists declare the values by which we live, poets and artists incorporate such values. When people read poetry, the raw material of their experience is reshaped, and the result is a new standard, an addition made to the fabric of their world. This increases the possibility of understanding that much of what is believed to be natural is cultural; therefore, things are not what they are forever, they are temporarily what they appear to be. We are so caught up in the nets of our culture — in this case, western, Christian, white, patriarchal, hegemonic — that it is very difficult to imagine different values and ways. We act according to cultural patterns through feelings and intellectual formulations. In our daily lives, an elaborate reasoning may be just too slow, then emotions guide our acts. Some preparation, some rehearsal is required to prevent errors; literature is offered as a space for rehearsing the experience, as much as are children's games of make-believe.

Literature also permits the reader's identification as member of a community. From the early childhood, stories and lullabies create a world that is not the child's only, but is shared. Even stories of monsters and fears also have a function of organizing feelings and keeping them under control.

Britton ([1971] 1982) considers that literature, as well as other forms of art, is a kind of game, or play, of imitation of life, though free to differ. There is within us an area that corresponds to our deepest needs, there is the world of shared experience around us and, finally, a third area that serves to link the other two. The author calls this area "play" because of its playful, fanciful nature. The more relationships occur between the innermost and outermost areas in the play area, to which literature, being art, belongs, the better this area fulfills its assimilative function. Thus there is a connection between art, therefore literature, and people's welfare, harmony. To provide this benefit in an EFL class is no small thing.

The great human dilemma is the conflict between the desire to live and the acceptance of death. Eco (2003, p. 21) considers that educating for fate and death is a special function of literature, because there is in the text plot a certain stability, and then that construction is there forever; it is one of few really untouchable things. Fiction has this character of permanence, it is a value that accumulates, not being replaced by new knowledge, and while the claims of science have expiration dates, it is not possible to change the end of Anna Karenina or Snow White. There lies the training for the inevitable (Fonseca, 2009, p. 30).

Moreover, regarding students, especially those from a poor socio-economic environment, Eagleton should be heard, when he reflects that it may be useful to use literature to stimulate in them [children] a sense of the linguistic

potential that has been denied to them by their social conditions (2001, p.29)

Eagleton (*op.cit.*) suggests that literature be understood as the name people give, from time to time and for different reasons, to certain types of writing or speech, and that the study should therefore focus on practices used when dealing with those texts, since *these practices have the power to transform them*. (pp. 281/282, emphasis added, *apud* Fonseca, 2003).

It would be expected to find literary texts in an EFL class, but they are hardly there,<sup>2</sup> since they are said to be difficult for both students and teachers. One must read and reread, questioning the text. But reflecting on implications is extremely important for the formation of good reader, who must leave the surface and read between the lines. Attention is a value *per se*. Observing how meanings are created will help students to become better readers, speakers and writers, improving their linguistic competence. The same can be said for the attention as to what produces pleasure.

What then is literature? Certainly there are literary characteristics, but since they are not sufficiently stable in texts called literature, which may be extremely different between themselves, what one learns with Eagleton is that the power of such texts would be linked to how they are treated, and then it is these practices that deserve attention. There is an eternal quest for a definition of literature, but this is not the scope of this work. Some of its functions were seen above. What counts in the class proposed here are the literary modes of reading, the practices which have the power to change a discourse.

### 3. THE READER AS CONSTRUCTOR OF THE TEXT MEANING

To reflect on literary practices and the right to construct meaning, or meanings, of a text demands the presence of Wolfgang Iser and the Theory of Reception (1999). His focus is not the circumstances that define a text as literary, that is, defining characteristics of the essence of the literary. He considers that any stable definition is prevented, because the matter of a literary text is a playful integration between imaginary and fictitious — as it were, an immaterial matter that cannot be well defined with concrete words.

Literary studies have traditionally turned to the author's message and the text's meaning. Iser (1999) sees the change of this paradigm as necessary if literature is to play an important role in education. Thus, the focus of investigation should be *the effect* the text produces in the reader, or how the reader *receives* it. In this case, there are three points to be investigated. First, the text should be an event, going beyond any known reference systems. (Whitehead, *apud* Iser, 1999). Also, it should be noted how free the reader is to interpret the text, and finally, the text's relation with the context of its production and with the reaction it provokes in the readers.

In the literary reading class here proposed, it is important that the reader receives the text as an event, and what the text does and means in its reception. The art of the teacher is central here.

The relation to the context of production is not particularly relevant in this class. Any ideologies within the author's intention will be present in the text; but the intentionality that existed may have lost color at its reception. Besides, literature cannot be reduced to a reflection of social processes, since the elements of the social tissue are dislocated when brought to the text, being different from what was found in the real experience. In this respect the teacher can and should help students to question the text, developing a critical attitude while assuming the role of subjects of their reading.

As for limits of interpretation, they will be determined by the group, following Fish (1998), who claims that the text, formed by the written and the unwritten, presents gaps. Readers, compelled to make sense of these spaces of negativity, place themselves in an external position so as to better observe the scenario. Thus the communicative function of literature happens, enabling readers to examine life situations from a vantage point, since otherwise they would be totally enmeshed in the problem. So there is not a single meaning for a text, and different readings will emerge depending on reader, text, time and place, allowing the text to make sense in different socio-historic contexts.

The authority in the literary reading class would depend on the existence of a certain center of meanings, and we believe in context. However, the group's shared knowledge will guide the possibilities of interpretation, offering a parameter so that a consensus can be reached, preventing total relativism which would hinder understanding.

The links between reading, literature and pedagogical practices that favor the development of autonomy and critical awareness are clear, which calls for Freire (2001), who insists that teaching is not imparting knowledge, but encouraging possibilities for knowledge to be created; besides, the possibility of acquiring knowledge of real value will be greater the more critically it is exercised, as this will lead to the development of epistemological curiosity, central to learning (Freire, *op. cit.* p. 27).

Freire (*op.cit.*) notes that, in a class where thoughts and discussions are provoked, learners (and, following the line of his own proposal, it may be added that also teachers) get tired from the effort to which their thinking is submitted,

<sup>2</sup> There was a previous research to prove this statement. See in the references, Fonseca, 2003.

but do not get bored, as happens when something is perceived as irrelevant.

Very important in Freire's view, and connected to this proposal, is knowing that there is no inexorable reality. As difficult as it may seem, change is possible (*ibid*, p. 85). The educator's role is to lead students to reflect, which is understood here as deepening their readings. To read the world is daring to "enter" the text, shape it, connect to it, participate in it. "Right thinking" is dialogic, and a condition of "good thinking" is the awareness that we are not definitely certain of our certainties (*op. cit*, p. 30). We intervene in the text; we can intervene in the world. The world changes; we can change.

Freire, as well as theorists presented above, as Pennycook (1990), Moita Lopes (2001, 2006) and Eagleton ([1985] 2001), among many others, also insists that schools ought to lead students to take a stand in a socio-cultural context, to take a stand as citizens. It is known that the school is also, and not least, a space where human relations are trained. In a literary reading class, students need to learn to listen, even if they completely disagree with what is being said; likewise, it takes courage to disagree against the majority, and eventually accept a group decision, even if that does not reflect one's thinking, since the social must necessarily take precedence over the individual. So the groups are organized.

Theorists and educators such as Iser (1999), Freire (2001) and Fish (1998), whose thinking was outlined above, allocate the interpretation of the text to the reader. In the specific case of a classroom, there is an interpretive community and a shared situation. Thus, the differences of interpretation probably serve to give more angles to observe situations, and different prisms should be, ultimately, not creators of chaos, but possibilities of enrichment.

Emphasizing the property of giving the reader this role, one should still hear Sartre (1948), who states that the existence of the literary text is only achieved with reading, otherwise what exists are only traces on paper. Moreover, he considers that no one writes to himself; the operation of writing involves reading as its dialectical counterpart, and there is art only to others. The author knows what he is going to write, so it is the reader that "rubs them, slumbering words waiting to be read." (*ibid*, p. not numbered).

#### 4. LITERARY READING CLASS

Human relations are practiced at school. One must learn to listen, even if completely disagreeing with what is being said; likewise, it takes courage to disagree, particularly against the majority; also, it is important to respect a group's decision, since the social must take precedence over the individual. This is how social groups are organized. These attitudes are central in the class proposed here.

A literary reading class does not have an exact recipe, and will change according to the context of many variables, the teacher making necessary adjustments. Beginners can participate, using dictionaries or glossaries. They can also have the text translated, total or partly. The work can be done individually or in groups.

Since there is no precise definition of literature, the difference of the present proposal is the literary way of reading; a song, a poem or even an ad can be used. The literary canon, however, has its value assured over time and space, and is strongly recommended.

Teacher and students select themes, and the teacher selects texts accordingly. Dictionaries and glossaries are an efficient tool, and will be provided by the teacher, or students can use theirs. Texts are read, first individually and quietly, then aloud. Students should volunteer for this task, otherwise the teacher can do it. At this point, it is not advisable to interrupt a student's reading to correct pronunciation, for example. The teacher might take note of errors and correct them later. Then, there is the negotiation of meaning, in pairs or small groups, following Lopes (2001) who, among others, believes interaction promotes learning. Finally, there is a general discussion, either in English or in the students' native language. Once the focus of the class is reading, speaking being not the main goal, the use of their native language is fully justified at this point.

Other skills are integrated in the proposed class: there will be opportunity to note grammar, pronunciation and listening. In fact, everything *is* integrated. It is, rather, to set the focus on reading, whose lack of proficiency is known to be the greatest impediment to students' learning.

#### 5. THE RESEARCH

After confirming the absence of the literary text in EFL classes, through an investigation of books used in most English courses and schools, an action-research was conducted in an EFL private school in a town in the state of Rio de Janeiro, Brazil. In this type of research the teacher acts as teacher and researcher, because, as Freire states, "I search to find, finding, I intervene, intervening I educate and educate myself" (*op. cit*. p. 232).

The research was of qualitative approach, since the investigated constructs cannot be generalized, but can be taken as examples, not least because everything one believes to be individual can be found in others (Demo, 2001).

The subjects were students of intermediate level who had been studying English for 4 years, on average, and with ages from fifteen to thirty-five, a typical situation of private EFL courses. The teacher-researcher had been teaching this group for about a year.

Fifteen literary texts were chosen from themes decided by the group. The topics were: *The Circle of Life: the Human Adventure* (death); *Love Makes the World Go Round* (love); *Foresee the Future, Act Now* (science fiction); *Mind your Language* (politically correct).

Note that the issues enable treating a variety of issues, bringing knowledge and discussions on technology, progress, love in all its forms, language and ideology, politeness and relationships, life and death, to mention a few. The field is fertile for interdisciplinarity, with the construction of significant and extensive knowledge, in contrast to the compartmentalized contents in school subjects that ignore each other.

Two texts from a magazine were inserted, aiming to raise awareness of literary features. The project consisted of 16 classes of 90 minutes each, corresponding to 50% of the classes of a semester; thus, it was integrated in the course syllabus.

Copied texts were provided to the students, who read them individually, then in pairs. A number of dictionaries were made available, as well as glossaries. The teacher would help when students asked for it.

Finally, an open discussions would start, and participation was encouraged. The variation in the procedure referred to reading the whole text or a section, discussing only at the end or along the reading. There was no testing.

The last ten minutes of each class were reserved for the individual writing of diaries. All students and the teacher had a notebook for it, which was kept in the classroom. Students were asked to relate what had happened, their impressions and evaluation. The diaries were not examined before the first month, to avoid the risk of hasty changes resulting from premature conclusions (Nunan, 1992). The teacher’s diary was read only after the end of the project.

At the end of the process there was a conversation, filmed by the course secretary. Thus triangulation was achieved, which consists of “the use of two or more views of the same thing, so that different data sources can be used to support, develop and bring light to the research in question” (Cohen and Manion, 1990, p. 233). However, in a qualitative research there are no absolute criteria for validity: “When qualitative researchers speak of research validity, they are usually referring to qualitative research that is plausible, credible, trustworthy, and, therefore, defensible.” (Johnson, 1997, p.282). The *corpus* consisted of the students’ diaries, teacher’s diary and filmed conversation, which were examined keeping in mind the guiding questions: did the proposal favor deepening readings, linking the class to the outside world? Did the proposal favor transformations such as changes in attitude, autonomy and critical awareness? Was the proposal approved by the subjects?

The most frequent themes and recurring aspects noted in the *corpus* analyses defined the categories in which the data were grouped (Lüdke and André, 2001, p. 43):

- Category 1: insights in reading: connection to the world outside.
- Category 2: recognized transformations, in knowledge and subjects.
- Category 3: approval of the proposal: literary reading in EFL classes.

The few records that were not felt to fit were highlighted as category zero.

Fragments of the filmed final conversation were chosen to present an outline of the research. The analysis and comments are in italics, as well as words in Portuguese felt to be particularly local; however, their meaning in the context is clear enough, and explained. The translation aimed to be faithful to the records, though the texts were reduced for their length.

### 5.1. Final Conversation

Participants: students: G, M, R, Rf, Rô, T, Z and teacher: P.

.....

R – I’ll start, I, when this, when you started the project with us, everybody, *né*, was *cru*, I was much more (*crua*) than I am now. (...)

*Here’s the first statement of positive change with the project. To be “cru/a” (raw) refers to immaturity, to not being ready. Cat. 2*  
*The student says “everybody was ‘cru’, I was much more ‘crua’ than I am now.” This suggests that she is not referring to a specific skill, but probably to a general improvement, either in language skills or in other aspects, noted in relation to the proposed approach. Cat. 3*

.....

R – See? To my reading, for me, it was great. I was talking to M, M lent me a book, it was super easy. When I picked up the book I said ‘oh, gee...’ All the time I would open the book, go to the dictionary, open the book and go



to the dictionary. (...) Now I got back to the book, now I feel more prepared to read the book. And there are words I do not know, but I have an idea of what they mean. You don't have to be looking up in the dictionary all the time. For me it was very good.

*Corroborating the above interpretation, starting with the question "See?", it appears that the student has tried to emphasize what had been said. Expressions "for me it was great, for me it was very good" indicate her attitude, motivated with the project. Cat. 3*

*When she tried to read for the first time, she thought: "ai, credo," (oh, gee.), indicating difficulty of getting the job done. The change is reinforced by the repetition of the word "now", "now I'm back again in the book, now I feel more prepared to read the book." She is probably referring to the development of linguistic abilities, strategies which allow a more fluent reading. Cat. 3.*

M - (...) it happened to me several times, I read a text, right, and I think I wanted to understand immediately what it was about and ended up misinterpreting what the author meant.

*Here the student seems to indicate that his way of reading had changed, became deeper; that he noted that the meaning is constructed by analysis, although he is still seeking the author's voice.*

*Cat. 2.*

P - Is it important to find what the author means?

R (interrupting) - What he wants to pass to us, what we got...

Rf - (...)

G - Between the truth of the text and the reader I stick to the truth of the work.

P - There is these things, the author, the reader, the work, right?

It can be seen here that students have different views about the way to read: whether they should seek «what the author means», «what we got», or «the truth of the work.» The teachers response indicates that during the project it was sought a democratic construction of knowledge, which may have facilitated the different opinions. At the beginning of the interaction, the teacher also questions the student: «It is important what the author mean?» But in the end she does not offer an answer, only confirming that there are ways: «There is these things, the author, the reader, the work, right?» («This was a great learning for the teacher: to wait and listen, let students free to give their opinions and interpretations; to give up her power.»).Cat. 2

.....

Rf- Vocabulary was also important, when the project started I knew almost nothing, now with the Project we learned many words (...)

*The student's attitude is signaled by the word "important." Change is signaled with "when the project started" and "now." The student refers to the linguistic benefit of vocabulary acquisition with the project. Cat. 3*

G- Understanding a text in English requires much more patience than understanding it in Portuguese, then it helped me a lot in my Portuguese as well.

*(the group signals understanding and agreement)*

*The student realized a link between reading in English and reading in Portuguese, that is, the EFL class knowledge reaches beyond itself. This was an important finding, recognized by experts, but rarely noted by students. Cat.1*

P - Who else, Z, T?

*(laughs - Z does not like talking)*

T - I find it very important the fact that we go deeper in the reading, as in the text *Human Is*, I thought it was cool the author using words that (...) sound like a machine, you know, I found it very interesting, I had never observed (...) Before, I read superficially and thought I had understood, now the English text, we would read a little bit and would take longer reading. We learned to read in a different way, as M said, before we would read and think we had understood, I found it very interesting, (...) I started reading much faster.

*"I find it very important" indicates the student's attitude regarding her deeper readings. She noted the important role of the words, and appreciated the author's skill. The student demonstrates sensitivity to this literary feature of integration of language. There was perception of deeper reading, as shown by the contrast "before, we read superficially, ... now the English text, we would read a little bit and would take longer reading". Cat. 2*

*"We learned to read in a different way." Here the student refers to going deeper in reading. When she says that now she reads faster, it is obvious the benefit of tackling a large amount in a shorter time, though she declares "we would read a little bit and would take longer reading", showing perception of the need to go deeper in the text for better readings. Cat.3.*

M - I found it interesting, you know, that when we take the course book, it is all ... (*signs with parallel hands raising and lowering*), whereas here, the literary text plays with words.

*The student uses body language to indicate his opinion on the textbook — something confined (between the constant space of parallel hands) and repeated (the forearms and hands raised and lowered in constant motion). In contrast, in the literary text the student notes a play area. It seems that the perception of the possibility of “playing with words” is a knowledge that has been noted at least more closely”. Cat. 3.*

M - (...) it is like that ad of Diners’ credit card with that door, it catches your eye, it is advertising, not literature, but it plays with words, draws your attention to something that...

*The student noted the literary characteristic of language in the foreground. He observes that, having a communicative function — to sell—, the ad is not literature, but the focus on form calls literary attention. Cat. 2*

G- The issues ... I think ... I found two things, first that it encouraged me to come here, the class was cool, you know? And second, it began to address issues of major themes, you know, like love for example, love is something that relates to all humanity, then each one can think of their life, you know? Associate things.

*The student declared his motivation to come to class: “encouraged me to come ... class was cool.”*

*Cat. 3*

*The student’s perception of the ontological value of the themes: “Love is something that relates to all humanity”, and the relationship between himself, the themes and all mankind, feeling himself as a part of it. The student found in literary texts a metaphor of each one’s life, with the possibility of reflecting over it and making associations. Cat. 1*

.....  
Rf- (*interrupting*) – Like, you know, they have tried to improve the text book and they messed it up. They tried to put a lot of stuff that has nothing to do to try to disguise the grammar so it wouldn’t be so boring and it became even more boring (*group laughs*).

*The student contrasts what was achieved using the EFL proposed class with the classes that use mainly the text book, clearly approving the proposed class. Cat. 3.*

.....  
M - Even if you don’t know beforehand you look and say, I’ve seen it, then you go looking it up, go seeking (...)

.....  
*The student takes responsibility for his learning when he says “you go looking it up, go seeking.” It suggests gain of autonomy. Cat. 2.*

P - And you, Ro? You did not say anything.  
(*group laughter - Ro does not like talking*)

Ro - Look, my vocabulary has improved a lot after the project was started, and also it was not that boring thing, the lesson in the book, lessons where you have to follow the text book.

*The linguistic benefit of vocabulary is mentioned again, in association with the development of the project. The student indicates rejection of “that boring thing, the lesson in the book”, indicating preference to the proposed approach. Cat. 3.*

.....  
P - (*to Rf*) You liked the poems better, didn’t you, the smaller texts?

Rf - (*nodding*) After we had read and interpreted, everybody talking, it is more than a gigantic text.

P- Everyone agrees with Rf, that smaller texts are more interesting?

(*nods confirming, it can be heard “liked better,” “more interesting”*)

M - (...) the love (...) I thought that generated more discussion than those big (*texts*) four, five, six pages.

.....  
R – Yes, the one of the ring, alliance, love, gee, it had four, five lines and meant ... (*a sweeping gesture with the arm, making a semi-circle*).

*It can be noted an awareness in relation to poetry as a productive space to sprout a number of ideas and thoughts, which were discussed. The group discussion was recognized as important to get to most valuable knowledge, which is a central learning experience for the realization of citizenship. Cat. 1*

*The idea of a proportional relation between size and depth was deconstructed, which may indicate a less naïve vision of what could appear as obvious.*

**Table 1. General Representation of Categories in the 3 Different Sources**

	Cat. 0	Cat.1	Cat. 2	Cat. 3	Total
Student's diaries	03	22	43	33	101
Teacher's diaries	02	04	14	05	25
Final conversation	-	04	17	15	36
Total	05	30	74	53	162
%	4 %	18,5 %	45,6 %	32,7 %	100 %

## 6. FINAL CONSIDERATIONS

The purpose of this work is to propose a literary reading class in which students and teacher read literary texts in English, and then discuss them democratically, either in English or in their native language, practicing an attitude of respect to other views and having their own voices heard and also respected. It's not difficult to see the implications for students who do not wait passively for what teachers, texts or any symbol of authority or power have to tell them, but realize that they can, and may, make sense of the realities that surround them.

What is said when English is being taught? The answer is, following this proposal, most anything. Everything is present in literature. Interdisciplinarity will cease to be just a goal; it will be a natural product.

English teaching, undeniably important in so many ways, can always be enriched if, while learning a language, students find space for the construction of their autonomy and their position as subjects of their lives and their contexts. Learning, from a more specifically linguistic point of view, can only be favored, if not by the exposure to words and structures while reading, negotiating meanings, learning the multiplicity of possible meanings, then because students should notice other reasons, durable, strong, connected to their world, to become interested in the class.

By using the literary reading class in a reading approach to the teaching of EFL, the teachers' care should be help students to feel that they can build knowledge, helping and being helped by their peers and also by their teachers; to encourage the building of links between the text and the students' reality; to discuss all possible ideas raised, so that students see their anxieties and doubts respected and valued, and may develop values such as solidarity, justice and respect for difference. The class that offers a space where these issues gain the visibility they deserve, and where democratic discussion is effectively promoted; which thereby helps students to become aware of their right to be heard, becoming eventually responsible for their lives and their role in society; this class will certainly be appreciated. One can expect Education to happen there.

Expecting to see the proposal accepted, feedbackon suggestions and improvements are welcome from those to whom this work was dedicated: colleagues and fellow teachers.

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# BRINGING NATURAL ENVIRONMENT TO CLASSROOM: APP AS TOOL FOR DEVELOPMENT OF ENVIRONMENTAL PERCEPTION

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## ABSTRACT

Given the relevance of issues involving environmental education, and the difficulty of accessing wildlife sanctuaries, especially when it comes to young children, this study aimed to stimulate environmental awareness in students from the first grades of elementary school, developing a computational application —APP—, *Simulacron*, containing images and sounds of nature intended to simulate the natural environment in the classroom. The product was tested with students from four groups of the first grade of elementary school, who participated in a scheme of differentiated classes in which three groups had moments of sensorial-perceptive activities in a protected area of natural environment outside the school and/or simulated in the classroom, while a group had no access to these activities. In a second moment students from the four groups produced, in an art class, drawings having the environment as theme, which formed the *corpus* for the analysis conducted according to Pedrini and Reigota. Throughout the project questions on art, environment and technology were noted, with a clear interdisciplinary design, contributing to approximate teachers / specialists from different knowledge areas. The results showed the application effectiveness, since it generated outcomes in the same order as those obtained with activities *in loco* and higher than those of the class that did not participate in any action.

Keywords: Environmental Awareness, Education, Art, Multimedia App.

JEL Classification: I29.

## RESUMO

Dada a relevância dos temas que envolvem a educação ambiental, e a dificuldade de acesso aos parques e santuários ecológicos, especialmente em se tratando de crianças pequenas, o presente estudo teve como objetivo estimular a percepção ambiental em alunos das séries iniciais do ensino fundamental, desenvolvendo, para tal, um aplicativo computacional — *Simulacron* — contendo imagens e sons da natureza, destinado a simular o ambiente natural na sala de aula. O produto foi testado em uma pesquisa com alunos de quatro turmas do primeiro ano do Ensino Fundamental, que participaram de um esquema de aulas diferenciadas em que três turmas tiveram momentos de atividades lúdicas sensorio-perceptivas em ambiente natural e/ou simulada na sala de aula, e uma turma não teve acesso a qualquer ação. Em uma segunda etapa, os alunos das quatro turmas produziram, na aula de Artes, desenhos tendo como tema o Meio Ambiente, que constituíram o *corpus* para a análise, feita segundo Pedrini e Reigota. Foi notada ao longo do desenvolvimento do projeto, uma clara interdisciplinaridade entre arte, meio ambiente e tecnologia, contribuindo para aproximar professores de diferentes áreas do conhecimento. Os resultados mostraram a eficácia do aplicativo, gerando resultados na mesma ordem de grandeza daqueles obtidos com atividades *in loco* e superiores aos resultados da turma que participou apenas da aula de artes.

Palavras-chave: Percepção ambiental, ensino, arte, aplicativo computacional.

## 1. INTRODUCTION

Given the importance of issues involving environmental education and sustainability, it is imperative that children of early school age have access to these concepts so that they can be part of the formation of their character.

Volta Redonda, RJ, is recognized as an area dedicated to industrial activities. However, it also has environmental preservation areas that should be visited and explored so that environmental issues could be brought closer to the visitors, serving today as a counterpoint to the local paradigm of industry and technology.

Thus, this research aimed to articulate art and environment through sensorial-perceptive activities in an environmentally preserved area and later in the classroom, through a simulation with an multimedia app developed for this purpose, so as to investigate how these experiences could foster the development of the children's creativity and imagination, which would be investigated in the analyzes of their drawings produced in an Arts class.

We believed that there would be an interweaving of cultural and natural histories summarized in the children's drawings about what they had observed and seized, and that such activities would help the development of their environmental perception, by making them aware of the place in which they belong, which might eventually grow in them a sense of communion with nature.

The development of actions regarding environmental issues is obviously important in the subject formation, introducing concepts of ecology, responsibility and sustainability. Also, it is necessary to comply with the requirement set by the National Curriculum Parameters — PCN — on Environment (1997), that emphasize the need to help students perceive themselves as an integral part of the environment.

Therefore the use of an app that can complement, enhance or even, in certain cases, replace *in loco* classes, is very welcome, since it facilitates the development and implementation of actions in environmental education.

## 2. LITERATURE REVIEW

### 2.1 The meaning of ecology - environmental education and its applications

Only recently (a few decades) has the environmental issue been present in a more consistent way in different societies. The production system and the mechanistic science technology have boosted economic and scientific developments, giving rise to new power structures and new political, social and environmental problems, spreading a period of crisis in various sectors of today society. Morin (1996), analyzing the modernity crisis, calls "simplification paradigm" all that was the basis of technological advances and science in the last 400 years, i.e., the organizational and the production models as well as the transmission of knowledge.

Based on what it was presented, we can understand that the current environmental and global crisis is directly related to the means of production and consumption of the capitalist system, as well as to education that reproduces the model of thought that shapes world vision.

In such circumstances, it was necessary to question the relation between education and the current environmental crisis. It was from the second half of the twentieth century, with the emergence of the environmental movement, and in Brazil, in the 1970s, with the creation of the first graduate courses on ecology, that environmental education was established as a possibility to respond to environmental issues, especially with regard to the degradation of the planet's natural resources (TOZONI-REIS, 2008).

We found in the inclusion of environmental education a strategy to achieve a more environmentally responsible society. From educational activities that stimulate critical thinking, ecological imagination, awareness of interconnections between all existing things one can expect changes in the relationship between man and the environment, which could result in a better quality of life.

We find in Jacobi (2003) the importance of a holistic action where man, nature and the universe are related, bearing in mind that natural resources become depleted and the main agent of degradation is the human being. Thus, it would be possible to rescue to the discipline of education its real importance, that is how to treat the paramount question of how to live, i.e., assuming that we are part of one and indivisible community of life.

We know that what is done with pleasure is done better, therefore what it is learnt with delight is learnt better. As Gadotti (2002, p. 27) states, "one of the secrets of a 'good teacher' is to work with pleasure, enjoying what he or she does. We always do well what we like to do. One is successful only when one does what he or she likes."

So the rescue of pleasure and beauty of daily life through the aesthetic exploration of nature can be a way to bring back its intrinsic value beyond a mere contemplation. According to Tristão (2005, p. 10) , "the aesthetic senses of nature are part of art, culture, environmental education and it can be a contagion mechanism of feelings or emotions experienced in common."

Thus, a methodological proposal focused on awareness, participation and experimentation through sensorial-perceptive playful activities, combined with artistic practices, should contribute to knowledge construction as well as

to change in values and behavior, leading to the improvement of skills that we believe to be necessary conditions for stimulating the integration and harmony of the students with the social environment.

## 2.2 The ecology of the senses - the perception and the environmental perception

As Capra (1996) highlights, the word “ecology” is formed by two Greek terms: *oikos*, which means “habitation”, “home”, “family”, and *logy*, which means “read”, “announce”. So ecology does not refer directly to nature, but it refers to “habitation”, implying the sense of relationship between human beings and the environment.

In his studies on perception, Maroti (1997) explains that the word “perception” comes from the Latin word *percipere* and originally means “to catch”, “to see” and “to grasp with the mind”, i.e., it is not only related to perceiving the objects themselves, but is a way to understand, to learn and to acquire knowledge through the senses.

In relation to senses, Cornell (2008) points out that through touch, smell, taste, sight and sound we commune directly with nature, and Tuan (1980) explains that, different from with other animals, the senses operate on how the man replies, recognizes and acts in the world, pointing out that the accumulation of simultaneous information through the senses leads us to appreciate the sense of understanding space.

Thus, the environment provides stimulus which come to us and they are captured through the five senses - sight, hearing, touch, smell and taste - that are the “doorways” to the material world. Each external stimulus that we receive promotes the creation of meaning and we interpret those meanings according to our belief system. We understand by belief system all that is part of the individual background, i.e., all the cultural and social aspects of each person. The interpretation of each individual generates information that returns to the environment promoting its modification.

So we are always interacting with the environment. It is a dynamic process in which, through each interaction, we renew and we are never the same. This process involves cognition, because we receive external information all the time and through our interpretations and reactions, we change and influence the environment in different ways, i.e., there is learning.

We aim to understand with the perception study what the individual perceives, in addition to promoting awareness of the environment around. In this context, with the development of environmental awareness the individual learns to value the environment and the reflective look allows a holistic view capable of inducing behavioral changes (MARIN, 2003). Then we achieve the goal of environmental education, which is raising awareness of individuals in relation to the maintenance and conservation of natural resources.

According to Pedrini (2010, p. 166), environmental awareness has been studied “through a variety of methodological approaches which in fact, seeks to identify the cognitive awareness of environmental issues, which is expected to be essentially a reflection of the person’s daily life”. The author also explains that the concept of environmental awareness lies among the themes of Physiology, Semiotics, Social Representation, which present different views such as the sacredness, the scientific and the imaginary.

According to Vygotsky (2009), the perception of the child is not only through the sight, but also through speech which, learned spontaneously through social interactions, helps the perception of environment and later becomes a concrete representation, such as found in writing and drawing. Learning writing requires an understanding of language structure to subsequently produce it graphically. Drawing is more spontaneous, because there is no concern with the grammatical structures and the children can express themselves more naturally. The author also states that children’s thinking is related to their memories, in addition to their belief system, i.e., their social and cultural relations. The child’s memory becomes a method that combines past experience with events of the present.

In her studies about children’s drawings Mèredieu (2006, p 6) says: “real and imaginary indissoluble, the child’s magical thinking develops in the way of a game where it works as simulacrum and as truth simultaneously.”

Then the set of real and imaginary perceptions of the children can be known through their drawings, allowing one to see how they relate with the environment, their perceptions regarding environmental issues and, from there, we can develop effective strategies and actions to their environmental education.

## 2.3 The power of art – children’s drawings

We call art the manner in which man represents the world around him using colors, shapes, textures, words, rhythm and movement, combining to that his perception, imagination, creativity and cultural background. Thus, art has an indispensable function in people’s lives, since it is an essential factor of humanization. According to Coletto (2010), art is felt and experienced in different ways by adults and children. While adults appreciate its aesthetic value, the art for children is a form of communication where they can express the world around them in a playful way, doing what gives them pleasure and joy.

When we think about art and children, we think of drawing. According to Goldberg, Yunes & Freitas (2005), children’s drawings can be understood as a manner they organize and process information and experiences, as well as show their representation of the world. In addition to be part of the psychological growth, the graphic experiences

are essential to the development and training of sensitive and creative individuals, able to transform reality.

According to Mèredieu (2006), experimental psychology became interested in children's drawings from the late nineteenth century, and later this interest has diversified to applied psychology, pedagogy, sociology and esthetics, with different approaches within these fields. The author also explains that the emergence of what we now call "children's art" and its further study occurred to such an extent that it was disseminated, making it easy the access to new tools and materials. Since then there has been a profound change in children's style, because the expansion of gesture and movement was added to it, and thus the child could become aware of the space and its possibilities.

Several studies adopt both children and pre-adolescents drawings as a methodological strategy to analyze and interpret emotions and concepts related to the environment (REIGADA; TOZONI-REIS, 2004; FERREIRA, NETO, 2009; MATOS, 2009; PEDRINI; COSTA ; GHILARDI, 2010; DOUBRAWA; NOLASCO, 2010; GARRIDO; MEIRELLES, 2014). However, according to Pedrini (2010), data collecting is not trivial, because it depends on the theoretical reference chosen by the researcher. Then the perceptive phenomenon may have many interpretive possibilities.

There are also theories about the stages of children's graphic development. Luquet (1979), one of the experts on children's drawing development stage, noted five main phases: a) fortuitous realism (one year and six months to two years), in which the child basically scribbles; b) failed realism (two years), when the child is the mere reproducer of his environment, unable to direct and limit his or her graphic motions; c) symbolic realism (three to four years), when the relationship from a drawing to another and its details begin; d) intellectual realism (four to nearly twelve years), when the child expresses his or her feelings, and not just what he or she sees; e) visual realism (about twelve years), when the child begins to give perspective in his or her drawings.

Regarding the influence of the environment on children's cognitive processes, Mèredieu (2006, p. 3) states that "it will never be repeated too often: the environment in which the child develops is the adult universe and this universe acts upon him in the same way the social context does, conditioning him or alienating him."

However, Piaget (1976) places the role played by the environment in the background, which does not occur in the studies of Vygotsky (2003), who considers very important the social environment for the relationship Man x Environment. The author also considers very important the role of imagination in human development because when the individual is able to imagine, he extends his limits by assimilating historical and social experiences from others.

Therefore, we understand that children's interaction with the environment is essential for their development and we can enrich children's imagination through artistic practices, especially drawing, with daily images that are meaningful to them. This way it is possible a more sensitive contact with the environment where they live, starting from the self to the acknowledgment of the other and the environment, which can be checked through their graphic production.

### 3. METHODOLOGY

This is a qualitative / quantitative research which adopted the methodology of action research. The project was submitted and approved by the *Platforma Brasil* (Certificate of the Presentation for Ethics Assessment – (CPEA: 43342515.1.0000.5237).

The research subjects are students from four groups of the first grade of elementary school from a private school in Volta Redonda, RJ, Brazil, and their teacher-researcher. In order to have a view of the relationship between the proposed activities sequence and their environmental perception, it was thought a kind of straw drawing among the four groups to ensure impartiality of choice.

Figure 1 shows the activities schedule. Groups A, B and C had moments of sensorial-perceptive playful activities through the experience in nature (A and C), or simulation in the classroom using the *Simulacron* app (A and B), when the senses of sight, hearing, touching and smell were potentialized before the Art class, which was common to all groups. Group D participated only in the Art class, when all groups made drawings having the environment as theme.



Figure 1 – Activities schedule

JUNE / 2015					
	8	9	10	11	12
GROUP	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
A		Activitie in loco	Simulacron		Art Class
B	Simulacron	Art Class			
C		Activitie in loco			Art Class
D	Art Class				

Source: Author's elaboration

It is noteworthy that the sensorial-perceptive activities were aimed to providing the students of a feeling of increased interaction with nature, not consisting of a preparation for the Art class. The reason for the groups to have been separated was to observe possible differences in the drawings, regarding environmental perception, in students who had been exposed to each different situation.

According to Neiman (2007), perception and education should enable the expansion of consciousness through the affective involvement of people with nature and local culture. To achieve this goal the students of groups A and C were brought to an environmental preservation area where they underwent procedures involving the senses, so that different nuances of nature could be seized. To this end, a sensorial-perceptive playful activity, originally formulated by Cornell (2008), was selected and adapted to the educational reality of the group to be studied.

The following stage was the simulated class with groups A and B. We used the app developed for this purpose, a digital application called *Simulacron*, to be used on Ipad, Iphone, Tablet and Desktop. The *Simulacron* app contains selected pictures and sounds of nature to simulate the natural environment in the classroom. It was also brought a flask of pine scent to make the experience more complete.

Finally, in the Art class, where the four groups participated, each student was asked to draw a picture that should represent the environment to them. They had thirty minutes to complete the task.

### 3.1 The action research

The method proposed in this work is action research. Tripp (2005) considers the action research as any attempt to improve systematic and empirically the practice in a grounded way.

According to Thiollent (2002), the methodological guidance of action research in education allows researchers to produce information and knowledge in a more effective way, even in a pedagogical level. The objectives in this research area are of knowledge (recycle ideas and rules), practical (production of teaching materials) and production of educational techniques aimed at groups of shared interest.

According to Engel (2000), action research is a way of doing research in which the subject investigates his or her own practice, i.e., seeks to unite research to action in order to develop knowledge and understanding about his work, thus lighting his practical action.

Therefore it can be understood that action research is a valuable tool for teachers who wish to improve the

teaching-learning process in the environment in which they operate, as it provides subsidies for decision-making, even if in a provisional character.

### 3.2 The app *Simulacron*

The app presented in this paper is a digital publishing named *Simulacron* and has been developed for use in Ipad, Iphone, Tablet and Desktop.

The digital publishing is an electronic version of a printed publication, but with technology and interactivity so that it is similar to an app. In the vocabulary of informatics, an app is a software developed to suit a particular need so as to accomplish a certain task and solve a specific problem.

The *Simulacron* app contains pictures and sounds selected from nature in order to simulate the natural environment in a classroom. By receiving sensorial information (images and sounds), the students' senses of hearing and vision are reinforced with the aim of stimulating their environmental perception. The software / user's interface is extremely simple.

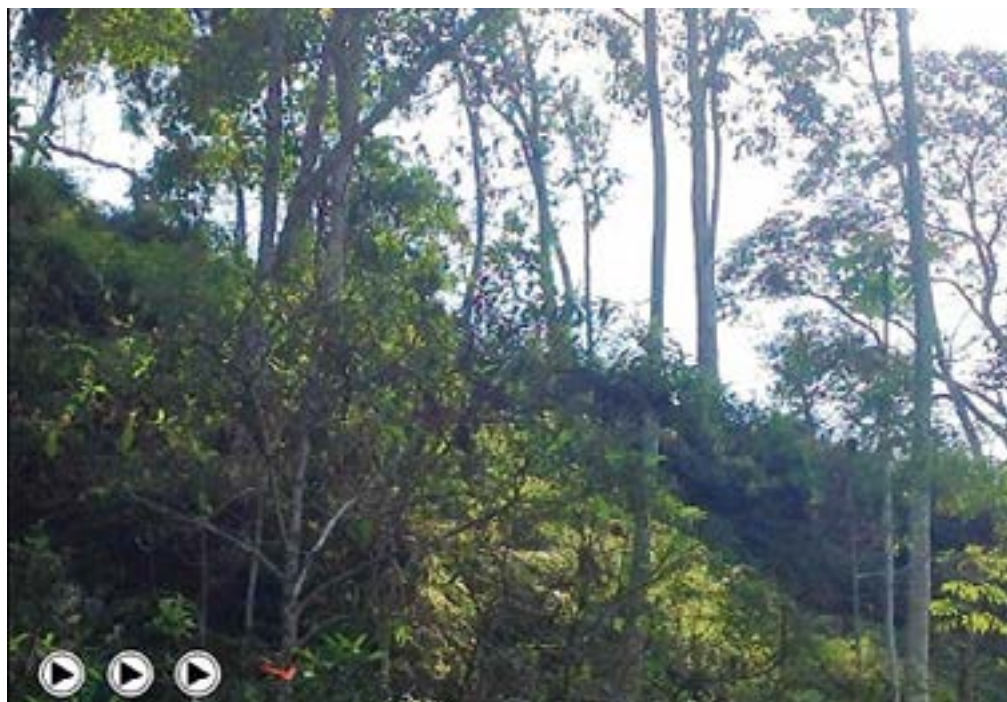
The classroom was previously prepared so that the goal could be achieved. Chairs and tables were removed and small bottles with fragrance of plants were arranged around the room. Small rugs were organized in the middle of the room so that students could sit. The classroom has a white board where the *Simulacron* app was projected. There was a concern about the ambient light, since it assisted in creating a peaceful atmosphere.

Figure 2 - The app *Simulacron* presentation with the title and authors



Source: Author's elaboration

**Figure 3 - One of the 22 natural environment images in the app with necessary information so that the goal can be achieved**



Source: Author's elaboration

The images alternate itself automatically every 6 seconds. At the bottom left it can be seen three arrows which, once activated individually, play a sequence of sounds of the local nature where the photos were taken.

### 3.3 The data treatment

The data collection and analysis occurred from June to August 2015. A total of 78 children participated in the research. All were students of the first grade of elementary school and were divided into four groups.

Technically the students of all groups have the same educational background at school as well as they are the same age, between six and seven years, which corresponds to the graphical development phase proposed by Luquet (1979) called intellectual realism, being, therefore, considered with the same potential for analysis.

The *corpus* of the research are the students drawings and for the quantitative analysis, here called Discreet Analysis, we used the methodology proposed by Pedrini (2010), which seeks to identify the presence / absence of environmental elements to check whether the subject realizes his environment and the interrelation dependence. For this analysis the following categories were established: natural concrete elements, artificial concrete elements and abstract elements.

In the category of natural concrete elements, five groups of elements were identified: human, fauna, flora, soil and atmosphere. In the category of artificial concrete elements, two groups of elements have been identified: objects and home. The elements identified in the abstract category were selected because they were decontextualized. They are: heart, character, scrawl and planet.

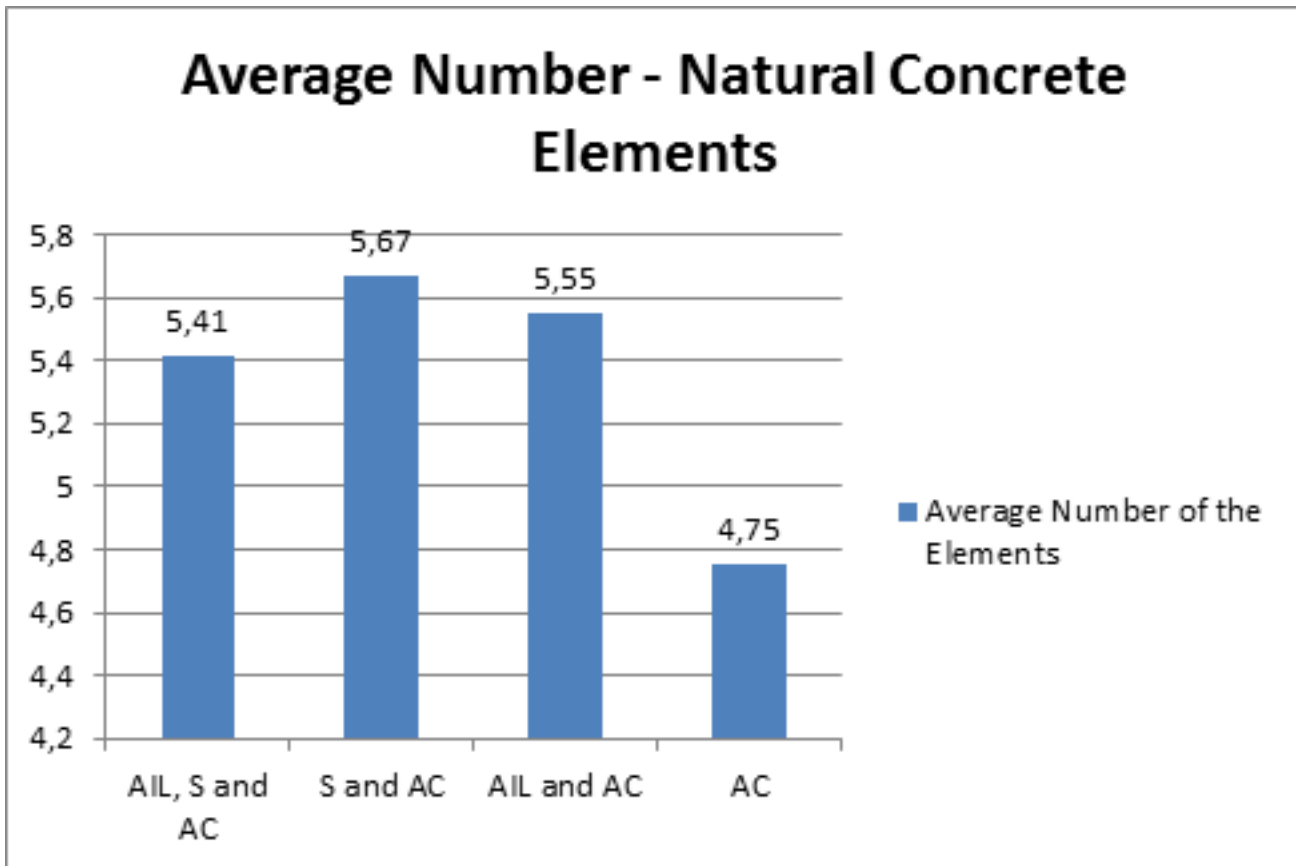
**Table 1 - General composition and quantification of the natural concrete elements category presented in drawings of the four groups**

Group	Activities	NATURAL CONCRETE ELEMENTS					total	students	average
		human	fauna	flora	atmosphere	soil			
A	AIL/S/AC	16	13	43	38	9	119	22	5,41
B	S/AC	11	9	39	33	10	102	18	5,67
C	AIL/AC	14	11	48	40	9	122	22	5,55
D	AC	4	6	26	33	7	76	16	4,75

Source: Author's elaboration

Based on the data in Table 1, we can observe in Figure 4 that the participation of A, B, C groups in the sensorial-perceptive playful activities contributed to the favorable impact on their environmental perception, as seen in their drawings.

Figura 4 - Average number of natural concrete elements



Source: Author's elaboration

Continuing the Discreet Analysis, we identify the elements present in the artificial concrete category.

Table 2 - Overall composition and quantification of the artificial concrete elements presented in the drawings of the four groups

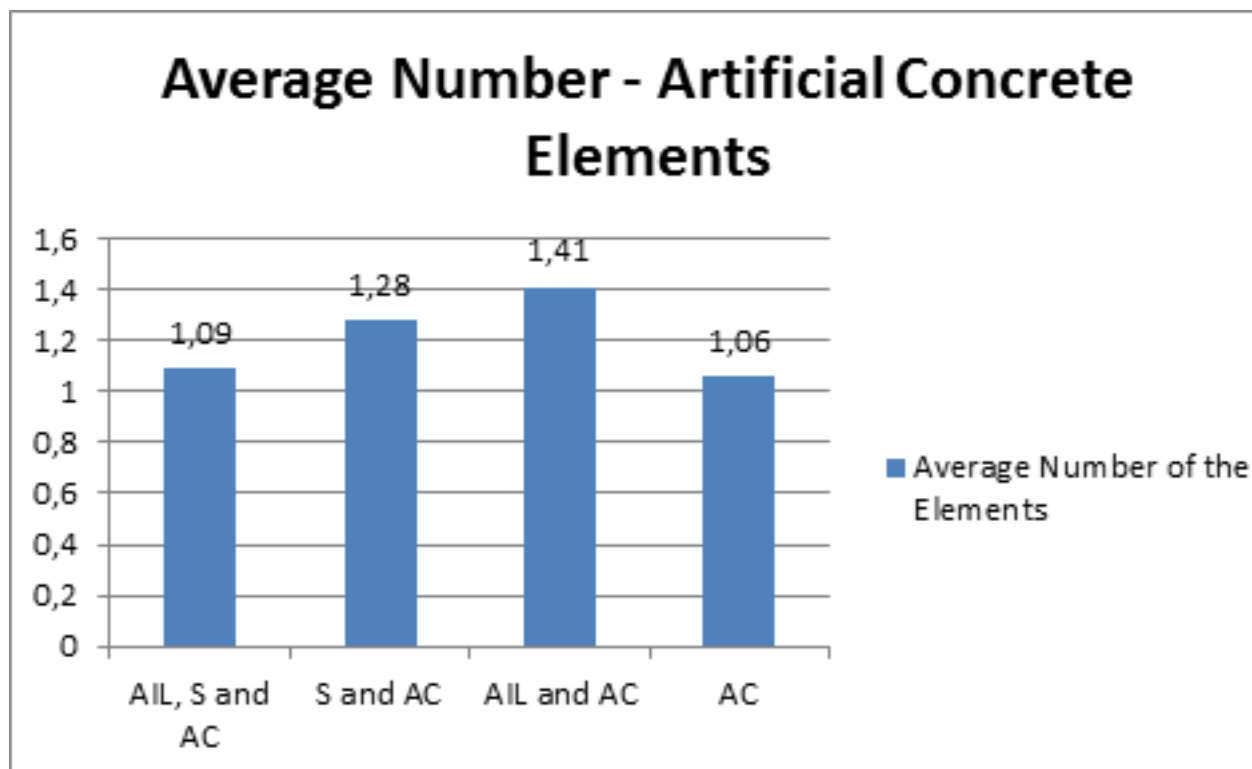
GROUP	Activities	object	ARTIFICIAL CONCRETE ELEMENTS			average
			home	total	students	
A	AIL/S/AC	20	4	24	22	1,09
B	S/AC	15	8	23	18	1,28
C	AIL/AC	18	13	31	22	1,41
D	AC	9	8	17	16	1,06

Source: Author's elaboration

In the analysis of artificial concrete category, we observe that the A, B, C groups that participated in the sensorial-perceptive activities (*Simulacron* or/and playful activities) also obtained better results in comparison to the results of the D group, that participated only in the production of drawings (Art class). In Figure 5, below, that was based on data from Table 2 we observe that the differences among the values obtained in the four groups do not have the same impact as those noted in the previous categories. Therefore, this analysis is considered only as a slight tendency.

This result is also highlighted in the works of Garrido and Meirelles (2014), Pedrini, Costa and Ghilardi (2010). Comparing the three categories, we note that the natural concrete category is more prominent in the four groups and the abstract category does not present a significant result. According to Pedrini, Costa and Ghilardi (2010) the result of the abstract category shows that the perception of the environment is more what is seen than the not seen.

Figure 5 – Average number of the artificial concrete elements



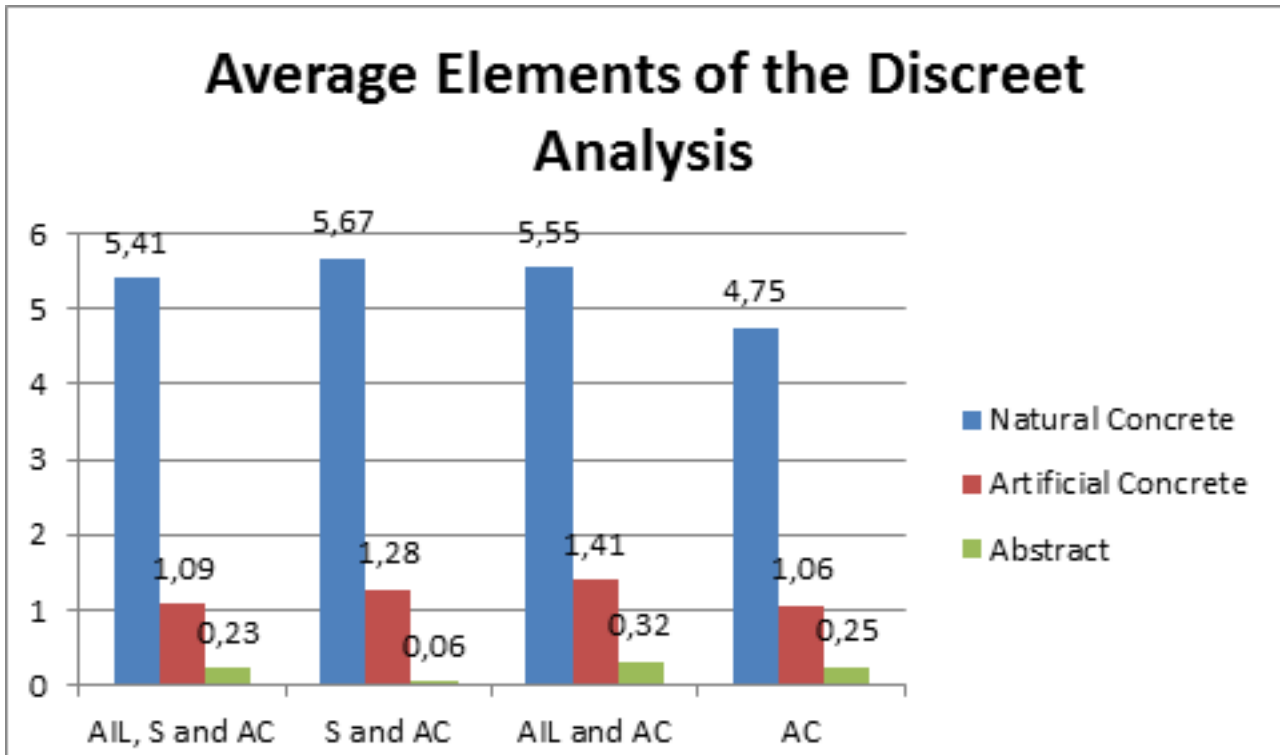
Source: Author's elaboration

For the qualitative analysis of the drawings, here called Continuum Analysis, we used the classification proposed by Reigota (2010), according to whom the concept of environment is divided into three types: **naturalist** – environment as unspoiled nature, characterized by natural aspects; **anthropocentric** - environment as resource for survival; and **globalizing** – environment integrated by nature and society. The qualitative research assumes that people act according to their beliefs, perceptions, feelings and values, and for all human behavior there is a sense, an interpretation (MINAYO, 1998). For this analysis, the drawings considered as globalizing type were those where human elements were present; it was considered as naturalist type those with the presence of fauna and flora elements and the absence of human elements; and drawings considered as anthropocentric type were those with the presence of artificial elements, flora and fauna elements and the absence of human elements. It is important to remember that the anthropocentric type means that environment is for men's use and convenience, thus men is not part of the environment: rather, he is its owner.

For Continuum Analysis we observed that the A, B, C groups, who participated in the sensorial-perceptive activities, had a high percentage of globalizing type in their drawings when compared to the D group, who participated only in the Art class.

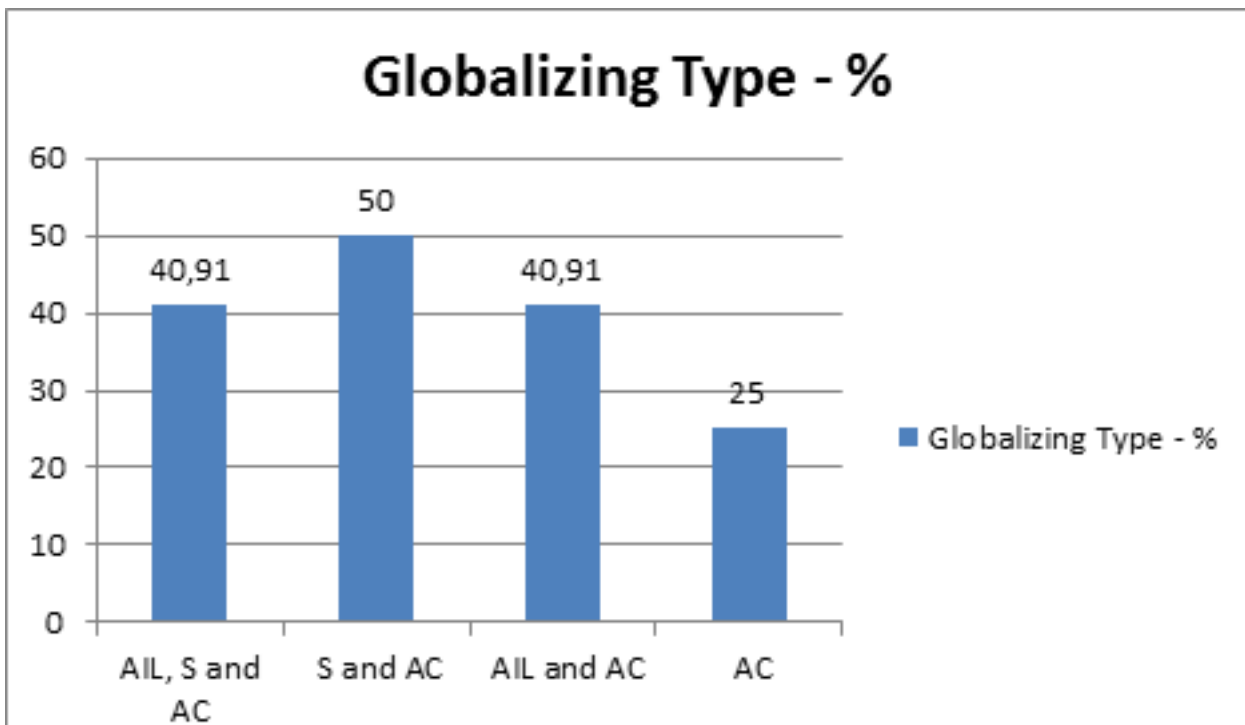
Figure 6 shows a complete graph with all categories compared among the four groups and it is highlighted the preponderance of natural concrete category over all other categories, whatever the participation or non-participation of groups in the proposed activities was.

Figure 6 –Average elements of the Discreet analysis to the four groups



Source: Author's elaboration

Figure 7 – Globalizing type percentage

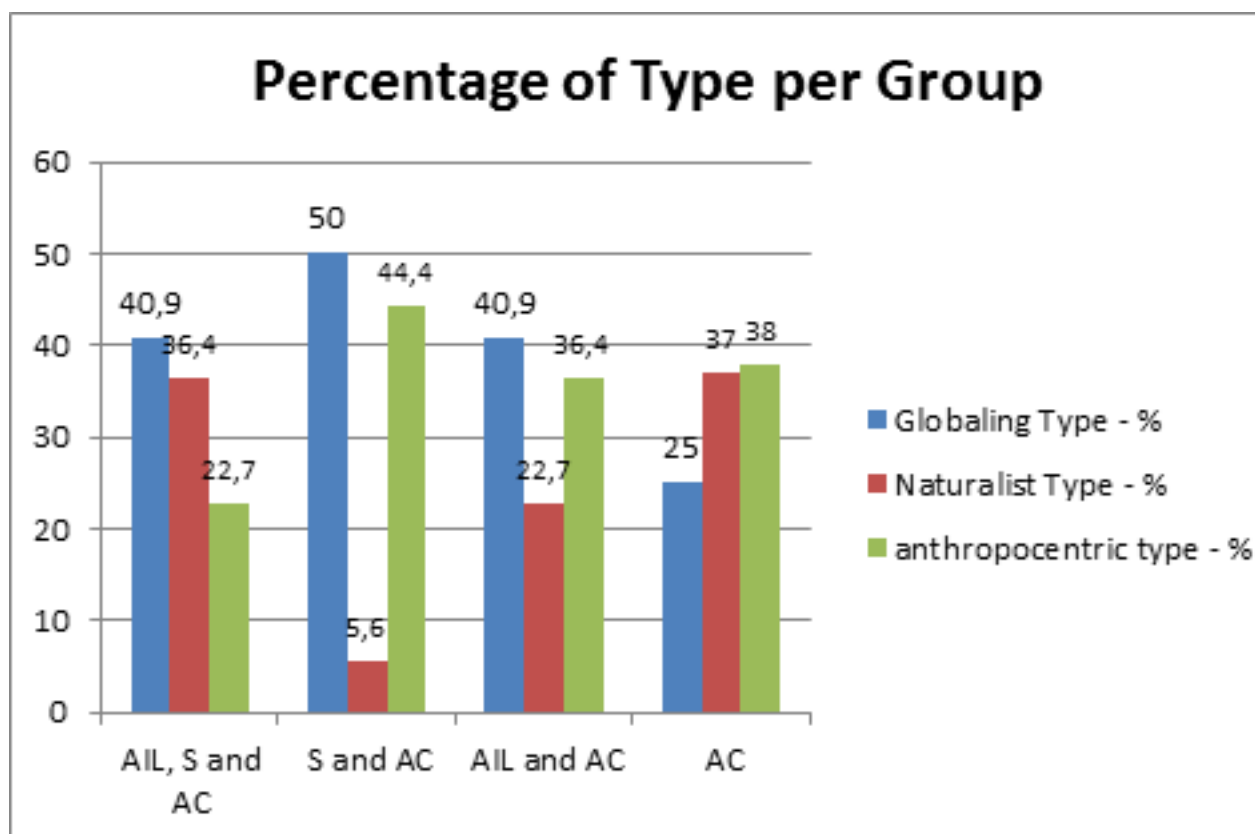


Source: Author's elaboration

Figure 7 shows a considerable percentage increase of the globalizing type drawings. From 25% for group D, which had no exposure to the natural elements, to 40.91% for group A, 40.91% for group C and 50% for group B, who had exposure to the natural elements through the sensorial-perceptive playful activities and *Simulacron* app.

Observing the data in the Figure 8, the A, B, C groups that participated in the sensorial perceptive activities have a preponderance of globalizing drawings compared to the naturalistic and anthropocentric drawings.

Figure 8 – Percentage of type per group



Source: Author's elaboration

#### 4. FINAL CONSIDERATIONS

In our quest for environmentally responsible societies, we found in environmental education a strategy to achieve this goal, and the school is an ideal place for the development of actions that stimulate dreaming about possible changes. However, the challenge is how to insert in the school the practice of environmental education through effective and engaging activities in order to foster positive feelings in the students to subsequently generate positive attitudes towards the environment in which we live.

Thus, the choice of subject for the development of this research has sprouted from the interest in knowing how the development of environmental perception in students of the initial series of basic education could help to awaken a wider environmental awareness, since one of the environmental education objectives is to make students feel as part of the environment.

The analysis of the drawings felt like diving into the students' minds, allowing us to know their real world, since for the children drawing is a form of communication and also a way to express the environment where they live. Using an adaptation of two procedures established in studies on the representation of the environment through children's drawing was adequate for the identification of students' environmental perception. Through a system of classes in which four groups had different participation in selected activities, it was possible to compare their drawings as they had had or not the full experience.

The results described here were revealing. It must be noted that the use of sensorial-perceptive activities *in loco* and in the classroom with the *Simulacron* app made the index relating to environmental values higher. The results obtained from elements of the Discrete Analysis (Figure 6) affirm the viability of the app, since it could be observed the same result levels of the group that used the *Simulacron* app as compared to the result of the group who participated in the sensorial -perceptive activities *in loco*.

The results that represent the percentage of environmental typology in the Continuum Analysis (Figure 8) demonstrate that the groups who participated in the sensorial-perceptive activities *in loco* and / or in the classroom using the *Simulacron* app presented a high percentage of globalizing type drawings when compared to the group that participated only in the Art class.

This result confirms the importance of the inclusion of environmental education in school through sensorial-perceptive activities, whether *in loco* and / or simulated in the classroom, in developing the students' perception,

making them understand the importance of each component of the environment for the planetary balance. By the results exposed, the *Simulacron* app is a great way to support actions involving environmental education at school.

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# A CULTURA DO TERERÉ SUL-MATO-GROSSENSE E O DESENVOLVIMENTO LOCAL

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## ABSTRACT

The proposal is to address the historical, economic and social aspects of tereré consumption. Brought by the Paraguayans. The tereré wheel that from generation to generation has become a cultural manifestation of South Mato Grosso people are already common in other states that have high temperatures, was absorbed by industry, the media and social networks. There in the state several monuments that mention the typical drink gives region in Campo Grande the state capital is possible on weekends see people drinking iced tea through tereré pump that is used to pump water into the mouth of those who drinks tea in the main avenue of the city especially on weekends where the population is the famous wheel tereré, a way to meet friends for a casual chat and appreciation of iced tea. The spread and popular habit propitiated the tereré becomes immaterial heritage of the state of Mato Grosso do Sul.

Keywords: Cultura, Tereré, Erva-Mate, Mato Grosso do Sul.

JEL Classification: N3, R1, Z1.

## 1. INTRODUÇÃO

A intenção desse artigo é retratar o valor histórico do tereré e seus aspectos econômicos e sociais. Da sua origem aos dias atuais, tornou-se uma identidade cultural, fazendo parte de um modo de vida, de um hábito no cotidiano dos mato-grossenses que com esse comportamento se diferencia culturalmente de outros grupos, o que levou tereré a ser tombado como patrimônio imaterial de Mato Grosso do Sul - Brasil. Objetiva discorrer sobre a trajetória da erva-mate até as prateleiras dos hipermercados e redes sociais, reafirmando a sua importância e seu valor histórico para o povo sul-mato-grossense.

## 2. HISTÓRICO

### 2.1 A origem

A cidade brasileira de Ponta Porã é situada na região da fronteira com o país do Paraguai e tem forte influência no ciclo da erva-mate no estado, abaixo podemos visualizar parte do contexto histórico da região. Conforme o site oficial da cidade, a origem de Ponta Porã começa:

[...] com a formação de um povoado denominado inicialmente Punta Porá, que surgiu dentre os campos de Erva-mate. Antes da Guerra do Paraguai, Ponta Porá era apenas uma região deserta no interior do Paraguai habitada somente por algumas tribos de índios, como os Nhandevas e os Caiuás, descendentes do povo Guarani, que viviam em harmonia com a natureza, caçavam, coletavam frutos e pescavam, além do cultivo de pequenas roças. A região era também local de parada de carreteiros que faziam o transporte de erva-mate. [...] Em 1872,

após o fim da Guerra do Paraguai, houve a fixação da região fronteira do Brasil com o Paraguai, no qual também constavam os respectivos limites com o Brasil, e que segundo Hélio Vianna, respeitava os convênios da época colonial e reivindicava ao Brasil somente as terras já ocupadas ou exploradas por portugueses e brasileiros. A partir daí, a região de Ponta Porã passa a ser possessão territorial brasileira. Em 1880 chega na região o senhor Nazareth, um militar que vem com a missão de comandante e ergue seu acampamento junto a lagoa do Paraguai, onde hoje é a cidade de Pedro Juan Caballero. Em 1882 Tomás Laranjeiras já explora e industrializa a erva-mate em Ponta Porã e exporta para Argentina.”(Porã, 2015)

De acordo com Milan e Santos (2015), a palavra tererê vem do guarani e significa mate de água fria. O costume de beber o mate foi adquirido a partir do contato do homem branco com os indígenas da região que tinham o hábito do consumo do mate e por meio dessa interação os costumes foram repassados. Há segundo os autores, uma lenda indígena sobre a erva-mate que pode ser observada no parágrafo a seguir.

Os índios Guaranis construíam aldeias, nas quais ficavam em média quatro anos. Depois migravam para outro lugar. Um velho guerreiro, sem forças para acompanhar a tribo nas constantes mudanças, decidiu ficar vivendo sozinho em uma tapera na mata. Yari, sua filha mais nova, para ficar junto do pai, abriu mão de continuar na tribo e constituir família. Um dia apareceu na velha tapera um pajé que buscava um lugar para descansar. Como foi muito bem recebido, o pajé, que na verdade era enviado do deus Tupã, concedeu um desejo ao pai. O ancião pediu que ele pudesse voltar a ter forças para que não mais atrapalhasse a vida de Yari. O pajé deu ao velho uma planta de folhas muito verdes. As folhas deveriam ser secadas ao fogo e trituradas para fazer uma infusão energizante. Yari, por ter abandonado seu futuro para cuidar do velho pai, ganhou a imortalidade. Ela foi transformada em uma frondosa árvore de erva-mate (caá-yari) que, depois de cortada, volta a brotar e a florir com o mesmo vigor. Assim, se tornou a deusa dos ervais. (Milan e Santos,2015)

Conforme Araujo (2014), a companhia Matte Laranjeira chegou a ter domínio de um território equivalente a muito países, um país dentro de um país, o Governo Imperial Brasileiro deu a concessão de 5.000.000 hectares para explorar a erva-mate nativa, após a guerra do Paraguai, pelos serviços prestados por Thomas Laranjeira, a empresa operava no território brasileiro e paraguaio. Havia porto próprio para exportar para a Argentina e a companhia chegou a ter até ferrovia própria, na época a mão de obra utilizada em grande parte era indígena, sendo principalmente as etnias guaranis e kaiwás. Houve tempo em que a empresa era tão rica que emprestou dinheiro para o Estado de Mato Grosso, porém seu declínio se deu na era do governo do então presidente de Getúlio Vargas em 1943 com o cancelamento da concessão da Matte Laranjeira.

A influência da companhia Matte Laranjeira estendia-se praticamente por toda a região sul do estado de Mato Grosso do Sul, através da Figura 1 a seguir é possível visualizar os limites da área do trabalho da empresa.

**Figura 1: Influência da Companhia Mate Laranjeira**



FONTE: Oliveira (2014)

A cultura e o cultivo atravessaram as fronteiras entre Brasil e Paraguai, já que os índios viviam além da fronteira, com influência dos brasileiros e paraguaios nas revoluções entorno da região, a mate-laranjeira se beneficiou com os ervais após a Guerra do Paraguai, conforme o mapa apresentado, mostra-se a área que a empresa influenciava na região do Mato Grosso do Sul.

## 2.2 A planta

O uso da planta segundo Souza(1969) é datado cerca de mil anos antes de cristo, e que os primeiros achados da erva-mate moída foram encontrados em ofertas funerárias em sepulturas no Peru, relata que os indígenas faziam uso da erva-mate, sabe-se que era consumida em infusão ou mascada por diversas tribos, inclusive os Guaranis, e os ameríndios Incas e Quíchuas.

Os autores ampliam esta discussão quando afirmam em sua pesquisa que em 1820, o botânico francês August de Sanint-Hilaire, deu o nome científico de *Ilex paraguariensis*, para a erva-mate quando teve contato com a planta no Paraguai, porém mais tarde descobriu-se que a maioria das plantas estava em território brasileiro em que o termo adequado seria o *Ilex brasiliensis*, retratado em um livro hoje que se encontra em Paris.

## 2.3 Monumentos ao tereré e a erva-mate

Na atualidade, o tereré tem o status de Patrimônio Imaterial do estado Mato Grosso do Sul, pois há o sentimento de pertencimento da população local quanto à sua cultura local, sentimento este que atravessou fronteiras do Paraguai para o Brasil, já que quase a metade do estado era um antigo território paraguaio antes da guerra do Paraguai. Segundo Bado (2016), o dia nacional do tereré no Paraguai é 28 de Fevereiro já que se trata de uma bebida tradicional no país.

Na maioria das cidades de Mato Grosso do Sul é possível observar a influência que a erva-mate teve para a região. Na Figura 2, temos o monumento na cidade de Ponta Porã.

Figura 2: Monumento princesinha dos ervais



FONTE: Teras (2014)

Em Dourados, a segunda maior cidade do estado, na figura 3, temos o monumento ao ervateiro que representa o trabalhador dos ervais na época em que estes movimentavam fortemente a econômica do estado de Mato Grosso do Sul.

**Figura 3: Monumento o ervateiro**

FONTE: PROGRESSO (2014)

A cidade de Porto Murtinho, também no estado do MS, demonstra na figura 4, a representação da cuia e a bomba de tereré como elementos simbólicos da cultura local do estado e também como meio econômico que influenciou a cultura da erva-mate no município.

**Figura 4: Monumento Porto Murtinho**

FONTE: Falcetti (2011)

O monumento na Figura 5 se localiza na cidade de Campo Grande que é capital do estado de Mato Grosso do Sul e também traz na representação da guampa com a bomba de tereré, a cultura do povo da cidade de sentar no final da tarde para consumir o mate gelado. Sobre o monumento, “a escultura demorou um mês para ser confeccionada e é composta de armações de ferro e resina, uma homenagem às tradições dos sul-mato-grossenses feita pelo artista plástico Anon Pereira Mendes” (Melo, 2014)

**Figura 5: Monumento em Campo Grande**



FONTE: Melo (2014)

Na cidade de Coronel Sapucaia, divisa com Capitan Bado-Paraguay existe a representação de um homem tomando a bebida típica do estado e ao lado uma cuia e uma cabaça que eram utilizadas para carregar água mantendo-a a fresca para consumo; na atualidade, temos as garrafas térmicas que propiciam melhor conserva da temperatura, mas antigamente era o que tinha disponível.

**Figura 6: Monumento representando a erva-mate em coronel Sapucaia-MS**



FONTE: Bado (2016)

A representação simbólica por meio dos monumentos encontrados de norte a sul e de leste a oeste no estado de Mato Grosso do Sul, demonstra o valor cultural para a população local do cultivo e consumo da planta, demonstrada através de diversos monumentos

## 2.4 Benefícios

Benéfica ao ser humano, as folhas da erva-mate, a *Ilex paraguariensis* contém diversas propriedades em sua composição, tais como alcaloides, ácidos fólicos e cafeico, vitaminas, sais minerais, proteínas, lipídeos, celulose, dextrina, sacarina e gomasque reduzem os efeitos antirreumático, diurético, estimulante e laxante.

Estimulante de atividades físicas e mentais, contém saponina que é um dos componentes da testosterona,

melhorando também a libido. Combate os radicais livres e a fadiga, atuando sobre os nervos e músculos. Melhora a circulação, ritmo cardíaco e exerce importante papel na regeneração celular.

A erva-mate tereré em sua composição tem a presença de cafeína, sais minerais, vitaminas A, B1, B2, C e E, lipídeos, proteínas entre outros. Podemos associar seu consumo ao estímulo da atividade física e mental, estímulo a circulação e tonifica o sistema nervoso.

Para nossa digestão, ele age como diurético (isso explica por que urinamos muito), e facilita na digestão. Há também um aumento na força muscular e da resistência do músculo à fadiga. A erva possui ações antioxidantes contribuindo para o equilíbrio metabólico e atuando contra os radicais livres. Vale lembrar também, que um adulto precisa ingerir no mínimo 2 litros de água por dia, incluindo as presente em frutas e bebidas, e o tereré auxilia fácil para refrescar nosso organismo. (TERAS, 2014)

## 2.5 Malefícios

A partir de uma referencia ao ditado popular que “tudo em excesso faz mal a saúde”, Teras (2014), afirma que o consumo de tereré em excesso faz diminuir a absorção de ferro e aumentar a pressão arterial, com isso pessoas podem ficar anêmicas e hipertensas portanto, devem ter cuidado ao consumir a bebida, bebendo com moderação. Segundo o autor o “ consumo pode implicar também na distensão das paredes gástricas produzindo ácido clorídrico no estômago e provocando leves gastrites, o que somado com limão, pode ficar um pouco mais forte devido a acidez” (TERAS, 2014) .

A máxima para explicar os malefícios é o provérbio popular que ouvimos sempre é que “tudo em excesso faz mal”. Isto não quer dizer que não se deve tomar, mas sim sempre tomando cuidado medindo a pressão periodicamente. O consumo pode implicar também na distensão das paredes gástricas produzindo ácido clorídrico no estômago e provocando leves gastrites, o que somado com limão, pode ficar um pouco mais forte devido a acidez.

## 3. ATIVIDADES ECONÔMICAS EM TORNO DO TERERÉ

A venda de produtos tem se estendido na atualidade, pelo sistema eletrônico, existem vários sites especializados na venda de produtos para o consumo do tereré. O site com mais evidência e pioneiro deste ramo nasceu na cidade de Campo Grande – MS com o nome de Tereré Shop e vem ganhando espaço no mercado nacional.

Figura 7: Site especializado em produtos de tereré



FONTE: Shop (2016)

Outro local situado na capital do estado é o mercadão municipal de Campo Grande, demonstrado na Figura 8, forte na venda de erva-mate e acessórios para o consumo de tereré, ao se visitar é possível visualizar barracas com sacos de erva de todos os tipos de sabores como menta, boldo, hortelã e até tuti-frutti. “O mercado de Campo Grande pertence ao povo. É um lugar de compras, de encontros, de referências culturais e de convívio social.” (Netto, 2013).

**Figura 8: Foto da erva mate no mercadão municipal de Campo Grande**



FONTE: Netto (2013)

Conforme dados da Economia (2013), a Argentina se tornou o principal produtor do produto, são mais de 206.000 hectares cultivados, seguidos por Brasil (85.000 hectares) e Paraguai com 35.000 hectares plantados. O Brasil produz 227.000 toneladas de erva-mate tendo 750 empresas produtoras de erva no país que cultiva este montante segundo a Embrapa – Empresa Brasileira de Pesquisa Agropecuária, representado na Figura 9.

**Figura 9: Imagem da erva-mate**



FONTE: Economia (2013)

Portanto, as atividades econômicas gerada entorno da cultura do tereré (consumido com água gelada) ou chimarrão (consumido com água quente) ajudam a movimentar a economia local, além de preservar a cultura do chá gelado tomado pela população local e que é passado de geração em geração.



#### 4. CONSIDERAÇÕES FINAIS

Assim como alimento, o tereré serve para repor as energias e estabelecer relações sociais estas estabelecidas em rodas de conversas, seja em momentos de lazer ou intervalos de serviço, comprovando-se assim o caráter social do uso do tereré e que provoca nas pessoas que fazem uso o prazer que encontram no momento de tomar tereré ou chimarrão, pois, as rodas de tereré, principalmente, proporcionam o convívio com os amigos, com a família, para uma espécie de pausa em que, se podem contar histórias, conversar e se refrescar ao mesmo tempo.

Logo, o apego histórico com a planta atravessa fronteiras, sendo consumido até os dias de hoje principalmente no Mato Grosso do Sul, Paraná e na fronteira do Paraguai com o Brasil, pelos seus habitantes, um hábito originário dos índios que foi repassado para o homem branco.

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## INTERVENÇÃO PARA A INOVAÇÃO ORGANIZACIONAL – UM ESTUDO DE CASO

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### RESUMO

O presente artigo relata uma intervenção numa PME do sector informático, tendo em vista um processo de mudança organizacional no sentido de uma maior proatividade dos colaboradores. A apresentação do caso inclui o diagnóstico, a intervenção propriamente dita e o início da execução dos projetos de inovação, baseando-se num modelo adaptado dos métodos de mudança organizacional de terceira geração, com grupos grandes.

Em complemento dos passos seguidos, foram utilizadas técnicas de análise das redes sociais, no sentido de determinar as redes de comunicação existentes, bem como de análise de conteúdo a histórias de sucesso entretanto recolhidas, para definir os pontos fortes de uma futura cultura organizacional.

Os resultados obtidos clarificaram as características desejáveis de um método de intervenção com grupos grandes, adaptado ao caso das empresas portuguesas e eficaz no desenho de projetos de inovação organizacional. A análise das histórias de sucesso contribuiu para determinar os pontos fortes de uma orientação futura desejável, enquanto a utilização de medidas relativas às redes sociais permitiu analisar a organização informal existente.

Se bem que o presente trabalho não incluía a realização dos projetos, por dificuldades entretanto surgidas na empresa, pensa-se que pode constituir uma base sólida para aplicação em intervenções futuras.

Palavras-chave: Mudança Organizacional, Diagnóstico Organizacional, Métodos com Grupos Grandes, Análise de Redes Sociais.

JEL Classification: M540.

### ABSTRACT

This article is intended to report an intervention in a SME of the IT sector, aiming at an organizational change process towards a greater proactivity of employees. The presentation of the case includes the diagnosis, intervention, and the beginning of the implementation of innovation projects, based on an adapted model of third generation large-group organizational change methods.

In addition to the steps followed, small-world analysis techniques were used, with the intention of determining the existing communication networks; also, a content analysis of collected success stories was made, in order to suggest strong points for a future organizational culture.

The results clarified the desirable characteristics of an intervention method with large groups, adapted to the case of Portuguese companies, and effective in organizational innovation project design. The analysis of the success stories helped to determine the strengths of an orientation for the future, while the use of measures of small-world networks allowed us to analyze the existing informal organization.

Although this study does not include the completion of the projects, due to difficulties in the company, it can provide a solid basis for application in future interventions.

Keywords: Organizational Change, Organizational Diagnosis, Large-Group Methods, Appreciative Inquiry, Small-World Networks.

JEL Classification: M540.

## 1. INTRODUÇÃO

Apesar de, como refere Kurt Lewin, só tentando mudar uma organização se consegue compreendê-la, os especialistas reconhecem (Burke, 2011), a mudança é demasiado complexa para se limitar aos campos da teoria das organizações, comportamento organizacional, desenvolvimento organizacional e gestão estratégica. Por isso, as intervenções com grupos grandes, maioritariamente desenvolvidas por consultores, têm vindo a absorver o ciclo completo da mudança organizacional, principalmente através da escola do Desenvolvimento Organizacional (OD). Assim é que alguns autores desta escola como, por exemplo, McLean (2006), se limitam a dissertar sobre métodos de intervenção, com a ilustração de casos práticos.

A tradição lewiniana dos anos trinta, originária da Gestalt alemã, complementada com a teoria dos sistemas, de Von Bertalanffy, e com a teoria psicanalítica, de Alfred Bion, inspiraram vários cientistas sociais, nos anos 60-70 (ex. Daniel Katz e Robert Khan, Eric Miller e Kenneth Rice, William White e Ron Lippitt, Fred Emery e Eric Trist) e institutos (ex. Tavistok Institute, National Training Laboratory, Rice Institute) que, por sua vez, contribuíram para a criação de vários métodos de intervenção em grupos grandes, nos anos 80 e 90, como, por exemplo, o *Future Search*, com Weisbord e Janoff (2010), a *Search Conference*, com Emery e Purser (1996), e a *Appreciative Inquiry*, com Cooperrider e Whitney (2005).

Estes métodos estão distribuídos entre as teorias de mudança organizacional de segunda e terceira geração, sendo o *Appreciative Inquiry* geralmente conotado com esta última (Seo, Putnam & Bartunek, 2004). Apesar de se indicar uma evolução nestas teorias, desde as de primeira geração, dos anos 40 (ex. ação-investigação, treino sensitivo, construção de equipas, sistemas sociotécnicos, e os famosos Grupos-T, de Kurt Lewin), passando pelas de segunda geração (ex. transformação organizacional e intervenções com grupos grandes) e, finalmente, as de terceira geração, nos anos 80, resumidas às organizações que aprendem, de Peter Senge, e à *Appreciative Inquiry*, vários autores concordam (Beer & Walton, 1994) que não ocorreu nenhuma evolução marcante nos métodos de intervenção, uma vez que cada corrente tem continuado o seu próprio caminho. Também, relativamente ao diagnóstico, Howard & Associates (1994) referem que ele é já uma forma de intervenção, se bem que não existam regras precisas sobre a sequência mais adequada, ou modelo a seguir, assim como sobre a avaliação dos resultados.

E foi precisamente por reconhecerem a complexidade dos sistemas e as limitações teóricas para intervir na prática, que os autores se lançaram numa tentativa de sintetizar os princípios mais importantes das várias formas de intervenção, dando a sempre primazia à gestão na condução dos vários passos e mantendo abertas as possibilidades de mudança nas abordagens, face às sensibilidades percebidas na organização. Assim, este estudo de caso não é mais do que a marcação de uma etapa no desenvolvimento de um método de intervenção com grupos grandes, complementada com as etapas inerentes de diagnóstico e avaliação dos resultados.

## 2. MÉTODOS DE INTERVENÇÃO COM GRUPOS GRANDES

A investigação sobre métodos de tomada de decisão em grupos grandes, com a intenção de trazer inovação e mudança às organizações e comunidades, através do envolvimento de muitas pessoas no processo de decisão, está bem documentada. Kurt Lewin, Douglas McGregor, Mary Parker Follet, Fred Emery, Eric Trist, são apenas alguns dos nomes considerados por Weisbord (2012) numa extensa revisão dos fundamentos teóricos dos métodos de grupos grandes, também descritos por Bunker e Alban (1997; 2006). Estas autoras selecionaram 12 métodos (*Search Conference, Future Search, Real Time Strategic Change, ICA Strategic Planning, Work Design Conference Model, Fast Cycle Full Participation Work Design, Real Time Work Design, Participative Design, Simu-Real, Work-Out, Open Space Technology* e *Large Scale Interactive Events*), descrevendo a sua evolução e aplicação.

Estes métodos destinam-se a intervenções em grupos com um número de participantes igual ou superior a 30 elementos, variando na duração (entre 1 e 3 dias), tipo de problemas adequados, forma de articulação entre a gestão e o grupo, e dimensão ideal do grupo (entre 30 e 150, sendo a dimensão ideal 70-80 pessoas, por se considerar que com esse número se consegue a diversidade suficiente). Os métodos possuem sequências próprias mas, no geral, começam por solicitar aos subgrupos (sempre grupos de oito, à volta de mesas de 1,5m de diâmetro) uma visão do futuro desejável, que é relativamente fácil de obter. Depois vem a fase do diagnóstico do presente, onde se aproveita para conhecer melhor a história da organização e para criar a tensão necessária à definição dos obstáculos que dificultam o atingir o futuro ideal. Por último, são definidas as direções estratégicas, as ações necessárias e o cronograma, assim como as sessões de seguimento.

Para além da coordenação dos passos a seguir, a qualidade da facilitação do grupo grande passa a medir-se, não pela qualidade média da facilitação dos grupos pequenos que, muitas vezes, é uma mera função rotativa entre os membros da equipa, mas sim pela agregação da informação que é feita no grupo grande. Na relação com a organização, enquanto na abordagem dos grupos pequenos, a pré-consulta com o gestor assume importância especial, aqui é a ação do grupo coordenador (*steering group*), responsável por colaborar na citada agregação da informação, que

assume essa importância principal.

Dado o envolvimento de todos os intervenientes no mesmo local e ao mesmo tempo, os métodos com grupos grandes permitem que uma mudança ocorra num ritmo muito mais rápido que o normal. Também promovem uma hierarquia plana e fornecem oportunidades para a gestão de conflitos, estabelecendo o foco no terreno comum a definir pelas várias partes consideradas, em vez de acentuarem as diferenças (Garcia, 2007).

Vejam, de modo mais aprofundado, os métodos que mais contribuíram para a abordagem criada pelos autores: *Future Search* e *Appreciative Inquiry*.

O método *Future Search* foi adotado devido à sua aptidão para a tomada de decisão em grupo, à sua extensa descrição na literatura (Weisbord & Janoff, 1995; 2007; 2010) e à experiência anterior dos autores. O método prevê a reunião de 60 a 70 participantes, durante um período de 16 horas, distribuídas ao longo de três dias. No primeiro dia, as primeiras duas horas e meia são dedicadas à definição dos marcos da história da organização. Nesta fase, os participantes reúnem-se em torno de mesas mistas, ou seja, com as pessoas provenientes de áreas e experiências diferentes. Isso porque os grupos homogêneos têm mais dificuldade em construir um quadro abrangente. Na manhã do segundo dia, os participantes trabalham em torno de mesas por *stakeholders*, ou seja, pessoas pertencentes a áreas afins, ganhando a homogeneidade necessária para a construção de cenários comuns. Nesta fase o tempo é dedicado à análise das tendências atuais e futuras. A tarde é dedicada à definição do futuro, em termos do “terreno comum”, e um plano de ação é construído na manhã do terceiro dia. Os temas mais comuns são confirmados, especificando, para cada um, as políticas, programas, procedimentos e projetos, que podem incluir planos de curto e longo prazo, bem como a identificação dos atores que irão executar estes planos nos prazos estabelecidos.

Na procura de exemplos do uso de métodos com grupos grandes, é possível encontrar uma longa lista de realizações cívicas nos EUA, relativas a organizações importantes, como a National Civic League, *Forum Phoenix Futures*, *Newark Collaboration Group*, *American Leadership Forum*, *Yuba Watershed Institute*, ou o *Baltimore United in Leadership Development*, descritas por Chrislip (2002). Este autor também descreve o uso de métodos de grupos grandes em casos importantes, como o de Silicon Valley e o de Newark. No primeiro, a crise veio em 1992, com a redução do orçamento da defesa e da perda de mercados de semicondutores a favor do Japão. Isso levou ao abandono por parte das grandes empresas e a uma redução de 50% na criação de novos negócios, com o conseqüente aumento do desemprego. Os níveis de confiança entre as empresas caíram drasticamente, com cada um culpando o outro e com uma incapacidade em chegar a um consenso sobre a forma de lidar com os problemas da região. A Câmara de Comércio do Vale de São José decidiu construir um fórum representativo de 26 elementos e de organizar 14 grupos temáticos de gestores (ex. computadores, software, semicondutores, infraestruturas, trabalho, tecnologia, política fiscal), com 40 a 70 elementos cada, a fim de desenvolver projetos de colaboração, que se mostrou bem-sucedido em apenas cinco anos. Em 1997, Silicon Valley era o exemplo vivo da colaboração de sucesso, com mais de 130.000 novos postos de trabalho criados.

O sucesso do caso de Newark é geralmente atribuído ao *Newark Collaborative Group* (NGG), criado em 1984, reunindo empresas, governo, instituições de economia social e líderes municipais, académicos e religiosos, num momento em que a região enfrentava problemas de segurança muito graves de violência e exclusão social. Através de grupos de trabalho e reuniões públicas em larga escala, foi possível produzir uma visão e um plano estratégico que levou a melhorias significativas nas áreas de habitação, educação, segurança e desenvolvimento económico. Em virtude desses resultados, Newark recebeu a mais alta distinção civil nos EUA, a *All-America City*, em 1991.

O método *Appreciative Inquiry* tem um desenho semelhante à *Future Search* mas a duração pode ir até quatro dias, não havendo limite para o número de participantes, que desenvolvem os trabalhos em quatro fases: *descoberta* (entrevistas e histórias que realcem os pontos fortes), *sonho* (construção do futuro desejado), *design* (alterações do sistema para fazer face às mudanças desejadas) e *entrega* (elaboração de planos para implementar as mudanças).

Cooperrider e Whitney (2005), criadores do método, baseiam-se no princípio de Peter Drucker, que refere que a tarefa principal da liderança organizacional é criar um alinhamento de forças tal que torne irrelevantes as fraquezas da organização. Por isso, grande parte da intervenção tem lugar à volta de entrevistas, conduzidas pelos próprios participantes, que procuram fazer emergir imagens do futuro, baseadas em histórias de sucesso do passado da organização. Assim, durante quatro dias, os participantes designados pelo comité de planeamento como representado o “sistema completo”, numa mesma sala (podem ser várias centenas de pessoas) definem a cultura organizacional através de histórias, que passam a representar a realidade da organização. Ludema, Whitney, Mohr e Griffin (2003) chamam a atenção para o facto do “sistema total” na sala provocar nos participantes o sentimento de fazerem parte de um sistema mais vasto, bem como para os inconvenientes da abordagem baseada na resolução de problemas, em vez dos exemplos de sucesso, dado que isso faz as pessoas concentrarem-se nos aspetos negativos da organização.

### 3. ADAPTAÇÃO DO MÉTODO DE RESOLUÇÃO CRIATIVA DE PROBLEMAS EM GRUPOS PEQUENOS

Sendo a duração das sessões dos métodos de grupos grandes incompatível com o escasso tempo disponível pelas empresas, em Portugal, para dedicar a intervenções globais que impliquem a paragem, ou afetem significativamente todo o trabalho, fomos buscar modelos já trabalhados em estudos anteriores, sobre procedimentos de resolução de problemas em grupos com menos de 12 elementos (Sousa, Monteiro, Walton & Pissarra, 2013) e sua aplicação no contexto do ensino superior (Sousa, Mendes & Monteiro, 2012). Estes estudos descrevem a construção de um modelo de quatro passos, compreendendo as etapas de *Definir o Objetivo*, *Definir o Problema*, *Planear a Ação*, e a *Ação* propriamente dita. A sequência de divergência (<) e convergência (>) é mantida apenas durante as etapas de Definição do Objetivo e de Definição do Problema, para que existam mais opções disponíveis para escolher. A Definição do Objetivo tem lugar durante uma “pré-consulta” com o gestor responsável, onde fica igualmente definida a composição do grupo e os detalhes logísticos. Durante a Definição do Problema, a equipa enumera todas as barreiras possíveis para alcançar o objetivo e, em seguida, o gestor seleciona a definição do problema a trabalhar. Nesta fase a concentração nos obstáculos e problemas transforma-se na concentração em desafios e pontos-fortes, por alteração da redação das frases no sentido positivo (por exemplo, o “problema” “falta de tempo”, passa a escrever-se “otimização do tempo disponível”). Durante o Planeamento da Ação, a equipa começa por listar todas as ações necessárias para resolver o problema definido e, em seguida, coloca-as por ordem de execução. Para cada tarefa, no “como fazer?”, a pergunta é definida de forma a incluir todas as ações necessárias para superar as resistências à implementação. Em coordenação com o gestor, cada tarefa é atribuída a uma subequipa, que define os prazos e a entidade responsável pela avaliação do resultado. O último passo – a Ação – tem início após a sessão de planeamento.

Ao contrário dos modelos feitos para funcionar na sociedade Norte-Americana, habituados a executarem com sucesso planeamentos apenas esboçados, este modelo centra os membros da equipa na implementação do plano, recorrendo a medidas de controlo de gestão, comunicação e tarefas relacionadas à aceitação do projeto pela organização. Esta abordagem fornece uma orientação sobre a forma de trabalho requerida para o grupo (ex. definições curtas, ausência de debate e de conversas “laterais”, redução da autocensura e do julgamento das opiniões emitidas), durante a fase divergente da Definição do Problema, seguida por uma ligação emocional entre os membros, graças à concentração de esforços na obtenção de consensos, durante a fase convergente, de modo a que o grupo possa começar a funcionar como uma equipa. Outro passo de estruturação do grupo ocorre durante o Planeamento da Ação, quando a criatividade dos membros da equipa se exprime durante o desenvolvimento do “como?” de cada tarefa do plano.

O estabelecimento de uma estrutura de comunicação eficaz dentro da equipa facilita a tomada coletiva de consciência do que cada membro da equipa está a fazer. Além disso, a publicidade feita ao projeto, dentro da organização, reduz a resistência organizacional à realização das tarefas e aumenta a pressão dos colegas para a equipa cumprir as metas e os objetivos do projeto. A designação de um coordenador da equipa, responsável perante a gestão da coordenação do grupo e da realização do projeto, também é muito importante.

Este método de resolução de problemas em grupos pequenos foi adaptado para trabalhar grupos grandes e as diferenças e semelhanças principais com os métodos *Future Search* e *Appreciative Inquiry* estão indicadas na Tabela 1, sendo os detalhes de execução descritos na Intervenção. Esta adaptação teve início com estudantes do ensino superior, encontrando-se descrita em Sousa, Monteiro, & Pellissier (2015). Em traços gerais tratou-se de levar os 62 participantes, organizados aleatoriamente em dez grupos, a resolverem o desafio que consistia na *elaboração de um trabalho único, que implicasse todos os alunos, enquanto elemento de avaliação*. Os grupos discutiram a questão durante uma hora, daí resultando uma definição de problema mais consensual: “*Quais os passos a dar para estruturar o projeto, de modo a que os constrangimentos físicos (ex. a dificuldade em encontrar-se para reunir) possam ser ultrapassados?*”. Os grupos, após algum tempo de discussão, identificaram cinco tarefas essenciais para resolver o problema: (1) definir os temas e subtemas; (2) estabelecer o processo de atribuir os subtemas aos grupos; (3) criar uma plataforma para comunicação virtual e estabelecer horários de encontro pessoal; (5) listar as competências individuais em cada um dos subtemas definidos. Em seguida pediu-se aos estudantes que se reagrupassem, agora em cinco grupos, em torno de cada uma das cinco tarefas identificadas, de acordo com as preferências pessoais, pedindo-se-lhes para estabelecerem os planos de ação, para serem executados no prazo de um mês.

No final do período estabelecido (um mês), todas as tarefas tinham sido executadas como planeado e cerca de três meses depois da sessão, exatamente no dia marcado, praticamente todos os alunos compareceram à sessão de apresentação do trabalho, durante a qual expuseram cada componente do trabalho coletivo, tal como fora previamente preparado.

**Tabela 1. Principais semelhanças e diferenças entre os métodos *Future Search* e *Appreciative Inquiry*, e o método de grupos pequenos, de quatro passos, adaptado para grupos grandes**

Procedimentos	Métodos <i>Future Search</i> e <i>Appreciative Inquiry</i>	Método de quatro passos, adaptado
Duração	18 a 24 horas	4 a 6 horas
Grupos	De 70 participantes a nº ilimitado	Máximo 150 elementos
Facilitadores dos grupos pequenos	Designados no momento	Designados no momento ou pré-designados (e treinados)
Fases	Quatro	Quatro
Ênfase	Histórias de sucesso	Problemas transformados em desafios
Recolha de histórias de sucesso	Na sessão	Antes da sessão
Tempo para partilhar as conclusões dos grupos pequenos	Sim	Sim
Pré-consulta	Comité organizador	Comité Organizador
Grupos mistos e homogêneos alternam	Sim	Sim

#### 4. REDES SOCIAIS E HISTÓRIAS DE SUCESSO

Reverendo a evolução ocorrida desde que Stanley Milgram surgiu com a designação de “pequenos mundos” e o fenómeno dos “seis graus de separação”, necessários para ligar todos os estranhos numa rede, Uzzi e Spiro (2005) definiram uma *rede social* como uma estrutura de uma rede de comunicação, densamente agrupada e com ligações curtas entre os seus membros (ou seja, o número médio de passos que leva cada ator da rede para atingir os outros). Esta rede é fundamental para a existência de inovação (Mascia, Magnusson & Björk, 2015). Como explicado por Kastle e Steen (2010), estudar essas conexões de forma empírica confere um papel central à análise de redes sociais, por meio de gráficos de simulação aleatória, ou outras técnicas estatísticas que permitam uma compreensão da relação curvilínea entre alguns dos índices das redes e a produtividade ou a inovação (demasiada comunicação consome tempo de trabalho), pelo exame de dimensões tais como a extensão do caminho de ligação (*path-length*), a densidade, a distância geodésica, a intermediação e a intermediação normalizada. Aqui a extensão do *caminho de ligação* é o número médio de passos que levam os atores da rede para se alcançarem uns aos outros; a *densidade* representa a percentagem média dos laços existentes sobre o total de conexões possíveis; a *distância geodésica* representa as distâncias entre os nodos da rede, isto é, para cada par de nodos pode ser determinado o caminho mais curto; a nível da rede, a distância geodésica refere-se ao número médio de caminhos entre os nodos; a *intermediação (betweenness)* calcula a frequência com que o ator se situa nos caminhos mais curtos (geodésicos) entre todos os outros atores da rede, ou seja, mede a posição do sujeito e da medida em que outras pessoas dependem dele para terem acesso a informações ou conectarem-se a outro; a *intermediação normalizada (nBetweenness)* é a obtida pela divisão entre a intermediação simples e o seu valor máximo, e representa a medida em que, em média, um nodo está ligado a outros nodos, que não estão ligados uns aos outros, expressa em percentagem.

A essência de uma estrutura de rede é a ligação entre clusters densos por eventuais laços, que servem de ponte e que fornecem a tensão necessária entre o agrupamento e a transição, necessários para benefícios criativos. Como Fleming e Marx (2006) explicam, o simples cluster, sozinho, pode não ser suficiente para a criatividade e pode até ser prejudicial devido à superabundância de conexões, algumas das quais podem ser redundantes e favorecer o isolamento dos grupos em relação a informação nova. No entanto, a coesão de grupos, embora prejudicial para a produção de ideias, quando a densidade de laços diretos e indiretos é muito grande, pode ajudar as fases subsequentes do desenvolvimento e difusão de inovações (Ahuja, 2000). Os *laços diretos* referem-se a uma conexão entre dois nodos; os *laços indiretos* referem-se à ligação de dois nodos através de um ou mais nodos.

Os clusters são ligados por agentes – os *guardiões (gatekeepers)*, ou *corretores (brokers)* - que, de acordo com Burt (1992; 2004), têm acesso mais cedo a uma diversidade maior de informações e são centrais para traduzir essa informação para todos os grupos. Estes corretores podem ajudar as ideias a viajar entre os *buracos estruturais* (lacunas de fluxos de informação), ou entre clusters, e a acumular valor em cada transição, através de um processo de redescoberta e adaptação das diversas restrições e requisitos que podem transformar uma ideia numa inovação importante para a organização (Ahuja, 2000).

Relativamente às histórias de sucesso, Ludema *et al.* (2003) consideram que a linguagem é um instrumento de interpretação e construção da vida social. Narrar episódios de sucesso da organização reforça a coesão e a implicação individual e coletiva dos colaboradores, traduzindo os discursos um sentido que os sujeitos pretendem dar à memória

sobre eventos de que foi e espera continuar a ser parte. O sujeito do discurso integra sempre uma forte dimensão coletiva e partilha de emoções e conhecimentos com outros. Os enunciados não dizem tudo e o sentido não está “colado” na palavra. É um elemento simbólico, não fechado nem exato e, por isso, incompleto e desafiante para captar o sentido, o significado e as interpretações potenciais do discurso dos sujeitos. Analisar a narrativas de sucesso é um exercício de reinterpretação sobre a orientação e práticas da organização.

O caso “Quidgest” foi abordado de acordo com estes diferentes elementos, que orientaram todas as etapas desde o diagnóstico à avaliação, passando pela intervenção propriamente dita, que se descrevem seguidamente.

## 5. ESTUDO DE CASO “QUIDGEST”

A recolha de elementos, correspondente à fase de diagnóstico, foi feita através de informação proporcionada pela Empresa, em termos de estudo documental, observação, entrevistas, questionários e recolha de histórias. Com efeito, a empresa proporcionou as condições possíveis e cedeu os documentos suscetíveis de ajudar ao estudo, tendo igualmente disponibilizado o tempo de gestores e demais colaboradores para entrevistas em profundidade, observação do trabalho, participação em reuniões e preenchimento de questionários.

Para além da análise documental, foram realizadas seis visitas à Empresa para entrevistar 30 pessoas, sugeridas ou sancionadas pela gestão, e a dois elementos exteriores, consubstanciando uma metodologia de construção do geral para o particular, cujo delineamento foi surgindo no decurso da investigação, sem sequência pré-determinada. Assim, após uma visão geral da organização, prosseguiu-se para a análise de pormenor sobre os desafios definidos pela gestão, procurando detetar hiatos no alinhamento de gestão, ou seja, desfasamentos entre os objetivos da gestão e os interesses e ações dos colaboradores. Desta forma, o diagnóstico foi-se concentrando progressivamente na recolha de visões contrastantes sobre aquele que viria a ser o objetivo da intervenção. Aplicaram-se medidas para análise das redes sociais e recolheram-se as histórias de sucesso, enquanto instrumentos complementares à avaliação da intervenção realizada.

### 5.1 A Empresa e o Diagnóstico

A Quidgest (“Quid” (Latim) – O quê?; “gest” – Gestão), criada em 1988, é uma empresa tecnológica portuguesa, de consultoria e desenvolvimento de sistemas de informação (*software*) de gestão. Nos últimos anos mais do que duplicou o número de colaboradores, tendo agora cerca de uma centena, com uma grande diversidade de especializações, organizados numa estrutura hierárquica reduzida (três níveis), com responsabilidades bem definidas ao nível de cada processo e de cada projeto, permitindo uma articulação do tipo neuronal, flexível e temporária. As principais áreas de atividade são a financeira e contabilística, sistemas integrados, recursos humanos, património e aprovisionamento, projetos especiais, saúde e gestão documental, que estruturam a Empresa. Conta, também, com a área transversal de I&D, e os órgãos de staff como o marketing, a qualidade e o negócio internacional.

A Quidgest foi, desde a sua criação, pioneira na informatização da Administração Pública portuguesa, orientando uma parte substancial dos seus recursos para este sector, cujo número elevado de solicitações recebidas fez surgir, desde muito cedo, a necessidade da automatização.

A Gestão de Congressos da Fundação Calouste Gulbenkian foi, em 1991, o último sistema desenvolvido pela Quidgest na forma tradicional de programação manual, ainda hoje utilizada noutras empresas do sector. De 1992 até hoje, todos os sistemas comercializados pela Quidgest recorrem à geração automática do código fonte da programação, através de um gerador de aplicações desenvolvido na empresa: o GENIO. A facilidade de incorporação de novos procedimentos solicitados pelos clientes fez com que esses sistemas rapidamente refletissem uma adequação elevada para o seu uso. Com efeito, a geração automática de código, à medida que novas funcionalidades e componentes tecnológicas eram incorporadas no GENIO, vão ficando disponíveis para as aplicações já desenvolvidas.

A tónica da “fábrica de software do futuro” pressupõe um processo de desenvolvimento de sistemas de informação automatizados, constantemente melhorados através da incorporação imediata dos resultados da I&D no processo produtivo. Para isso, o GENIO - processo automatizado de geração de software – constitui uma vantagem competitiva da Quidgest, por ser a empresa com maior grau de automatismo (98,25%), nos mercados em que está presente, permitindo a geração de, praticamente, todo o código necessário para a elaboração de software de gestão, com a conseqüente rapidez e adaptação aos requisitos do cliente, bem como a melhoria contínua dos processos, a eliminação dos erros e a gestão do conhecimento baseada em modelos.

Qualquer colaborador da Quidgest, mesmo que não familiarizado com o projeto, consegue voltar a gerar todo o código desse projeto apenas com um botão. Para tal, basta que tenha acesso às respetivas especificações funcionais (metadados), criadas em qualquer versão do GENIO. Esta qualidade assegura padrões superiores de agilidade e facilidade de manutenção e um decréscimo significativo no esforço requerido por mudanças na lógica do negócio, para além de um acréscimo na estabilidade dos sistemas desenvolvidos e o acompanhamento contínuo da evolução

tecnológica. Cada nova versão gerada incorpora automaticamente todas as melhorias introduzidas na camada tecnológica. A geração automática de código permite aumentar o leque das especializações de técnicos recrutáveis, o que amplia a escolha e diminui os custos de recrutamento – fator, aliás, determinante na competitividade da Empresa. Com efeito, o GENIO permite não só construir programas num espaço de tempo muito mais curto, como fazê-lo com equipas mais pequenas e menos especializadas.

O GENIO é, ainda, um “normalizador” da estrutura empresarial, isto é, por não exigir especialização acentuada, torna os postos de trabalho com graus de dificuldade semelhantes e limita o desenvolvimento do técnico a um período de aquisição do domínio da ferramenta, estimado em 5 anos. Por outro lado, acelera muito a aquisição de competências fundamentais na programação, tornando-se assim num fator de qualificação muito importante, que leva ao “roubo” de técnicos jovens por parte de empresas internacionais, que podem pagar melhores salários. Em todo o caso, esta limitação sobre a natural ambição de desenvolvimento dos colaboradores constitui fator importante, que dificulta a retenção de talentos.

No sentido de avaliar do cumprimento dos objetivos que constituem a política da qualidade da Quidgest, a Empresa mantém a monitorização constante dos indicadores de gestão, através do *Balanced Scorecard*. Esta ferramenta permite visualizar, em tempo real, o desempenho futuro, alinhamento, avaliação do desempenho, gestão de projetos e gestão da qualidade. O cumprimento destes objetivos é avaliado periodicamente, podendo estes ser revistos tendo em conta o nível de prossecução e as causas de eventuais desvios verificados.

### *A Gestão dos Recursos Humanos*

Tal como consta nos seus documentos internos, “A Quidgest reconhece que o fator humano é o elemento fundamental para a obtenção da qualidade total da sua organização, e que lhe deve ser dado todo o apoio necessário para perfeito entendimento deste compromisso”. Por isso procura recrutar técnicos com potencial para progredir, desenvolvendo iniciativas várias de contacto com a universidade, sendo de destacar o evento “Portas Abertas”, que todos os anos promove a ligação entre a Empresa e potenciais colaboradores, com resultados excelentes. Também promove a realização de estágios profissionais e curriculares, sempre na esperança de detetar colaboradores capazes de manter os níveis de qualidade e inovação a que a Empresa se habituou. No entanto e mesmo considerando o período experimental de 6 meses, torna-se difícil desenvolver tarefas destinadas, exclusivamente, a formar ou avaliar, uma vez que o estagiário realiza tarefas sobre projetos reais e não é possível destacar pessoal para acompanhar, em permanência, a sua formação e avaliação do potencial, razão pela qual a seleção desejada nem sempre é a possível. Embora qualquer recém-chegado seja devidamente integrado e disponha de um “survival kit”, que lhe explica todos os procedimentos, não é possível garantir o acompanhamento ideal e a socialização desejável. Talvez também por isso o *turnover* entre os recém-admitidos seja elevado, dificultando a criação de um corpo de excelência. Saliente-se que este sector é dos poucos, em Portugal, com um índice de empregabilidade elevado, levando os jovens recrutados a uma procura permanente de novas oportunidades, e a decisões muitas vezes assentes em pormenores, como ligeiras diferenças remuneratórias, o aspeto dos locais de trabalho ou a dimensão da empresa. E como a construção da ligação à Empresa requer tempo e oportunidades é difícil conhecer o grau de empenhamento dos jovens recrutados, no sentido de dosear o esforço de acompanhamento e atribuição de responsabilidades.

Para além da estrutura remuneratória existem ainda prémios e incentivos, de que se destaca o Prémio Iniciativa Quidgest (PIQ), destinado aos colaboradores internos que demonstrem inovações de que resultem melhorias efetivas nos resultados ou na produtividade global da equipa Quidgest. A este respeito, a Empresa não tem nenhum sistema de gestão de ideias, não porque não ache importante, mas porque qualquer colaborador é livre de propor uma ideia a qualquer nível que, caso viável, é prontamente adotada. Esta liberdade de criação foi uma afirmação constante de quase todos os entrevistados, sendo de salientar que os mais críticos referiram existir, por vezes, demasiada iniciativa individual e, até, demasiada transparência, ou seja, consideravam que, em alguns casos, a informação deveria ser mais restringida.

Na visão de alguns a carreira encontra-se limitada pelo tipo de especialização, na medida em que o GENIO, enquanto plataforma de domínio relativamente fácil, não permite ir muito mais longe no desenvolvimento profissional, esgotando-se as possibilidades de aprendizagem ao fim de determinado período (5 anos). Como agravante, a pouca especialização da área de RH na gestão do pessoal da Empresa gera, por exemplo, uma avaliação do desempenho menos cuidada, com alguns indicadores desadequados e que contraria um pouco o reconhecimento do verdadeiro mérito. Este fator parece ser mais acentuado no caso dos não técnicos.

Outro dos parâmetros da eficiência interna está relacionado com a mobilidade do pessoal, nomeadamente dos técnicos. A composição de cada área era relativamente estável, o que constituía fator positivo em termos da continuidade do trabalho e da coordenação das áreas, mas com inconvenientes quando a carga de trabalho existente variava em função das encomendas, não se distribuindo equitativamente por todas as áreas. Assim, à semelhança



de outras empresas do sector, que trabalham em regime de projeto, com equipas móveis, e uma vez que existem flutuações causadoras de falta e excedentes de pessoal, várias vezes se manifestaram favoravelmente à mobilidade dos técnicos, quer sob a forma de constituição de uma “bolsa de técnicos”, quer por mobilidade entre áreas.

Confrontada com o diagnóstico, a direção concordou com as indicações de que muitos colaboradores se assustavam com os obstáculos, sem conseguir transformá-los em desafios, de que era necessário um apoio inicial mais eficaz, bem como uma maior rotatividade na Empresa. Também a temática da centralização da decisão preocupa a gestão, consciente da necessidade de reforçar o esforço coletivo para melhorar a eficiência interna e para ampliar a atuação dos colaboradores, indo além das tarefas estritas inerentes ao posto de trabalho, pois considerava alguns muito passivos e com um método de trabalho muito lento, sem uma postura internacional e de monitorização das tendências do mercado

Numa visão contrastante, alguns achavam que a direção centralizava em demasia e a liberdade de ação era ilusória, pois, embora se reconhecesse o tipo de gestão de proximidade, ela também era vista como menos proactiva, por não solicitar a opinião dos colaboradores, esperando que fossem estes a dá-la por iniciativa própria, o que raramente acontecia. Ainda na visão de alguns, verificava-se a existência de algo semelhante a uma “cultura de queixa”, acentuada por alguns líderes da opinião negativa, que realçava os aspetos negativos e omitia os positivos.

### *A Comunicação*

Do conjunto das entrevistas realizadas ficou patente que não existiam sectores estanques na Empresa, não se podendo falar, assim, de limitações na circulação da informação entre departamentos, ainda que tal pudesse ser percebido por alguns colaboradores.

Um ponto consensual foi a pouca adequação de um edifício construído para habitação à utilização empresarial, apontado como razão forte do “low profile” sentido na Empresa, pese embora a sua localização privilegiada. Este sentimento de “low profile” não era percebido pelo exterior, junto de parceiros e clientes, que reconheciam o prestígio da Empresa, mesmo a nível internacional. Com efeito, a Empresa era reconhecida como inovadora e próxima do cliente, e como transmitindo essa imagem para fora. Consta no ranking das 200 melhores empresas e é notícia frequente em revistas da especialidade, como a *Semana Informática*.

No que respeita às ações de comunicação externa, para além da habitual newsletter, a Empresa sempre deu prioridade a iniciativas com significado, tais como as “Portas Abertas”, o “QuidSpark” e o “QuidBuzz”. Também atribuía todos os anos prémios temáticos a nível nacional, num evento designado QDay.

### *Diagnóstico das redes sociais existentes*

A presente análise reflete uma primeira abordagem das redes sociais existentes na Quidgest, destinada a servir de referência para outras medidas que se viessem a realizar. Estes dados foram obtidos através de um questionário, administrado por via eletrónica, a todos os elementos da Empresa, em que se pedia para colocar um X em frente aos colegas com quem trocava informações para realizar o trabalho, nos graus de POUCAS VEZES (1), ALGUMAS VEZES (2) e MUITAS VEZES (3). A taxa de resposta foi de 100% e foi construído o software necessário para transpor as respostas para uma matriz Excel, solicitada pelo programa UCINET 6.

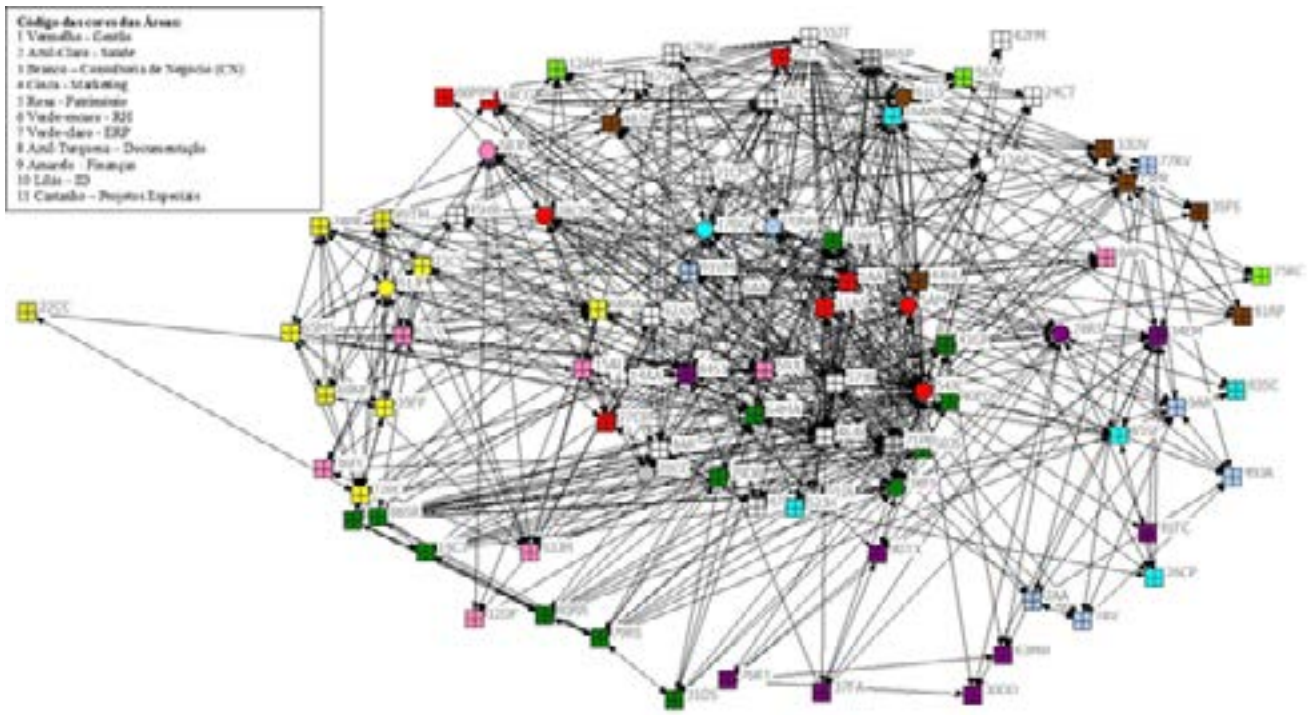


Figura 1. Densidade das ligações, simplificada, por áreas, em que os coordenadores estão assinalados por uma caixa da mesma cor

Como se pode ver na Figura 1, o único cluster consistente era na Área Financeira, sendo clusters mais dispersos os Projetos Especiais e a ID; a RH tinha 2 clusters, provavelmente porque o mais chegado ao centro se ocupava, também, das redes da Quidgest. Todas as restantes áreas estavam mais ou menos dispersas.

Quanto ao grau de *betweeness* (grau de intermediação nas ligações), o aspeto foi este:

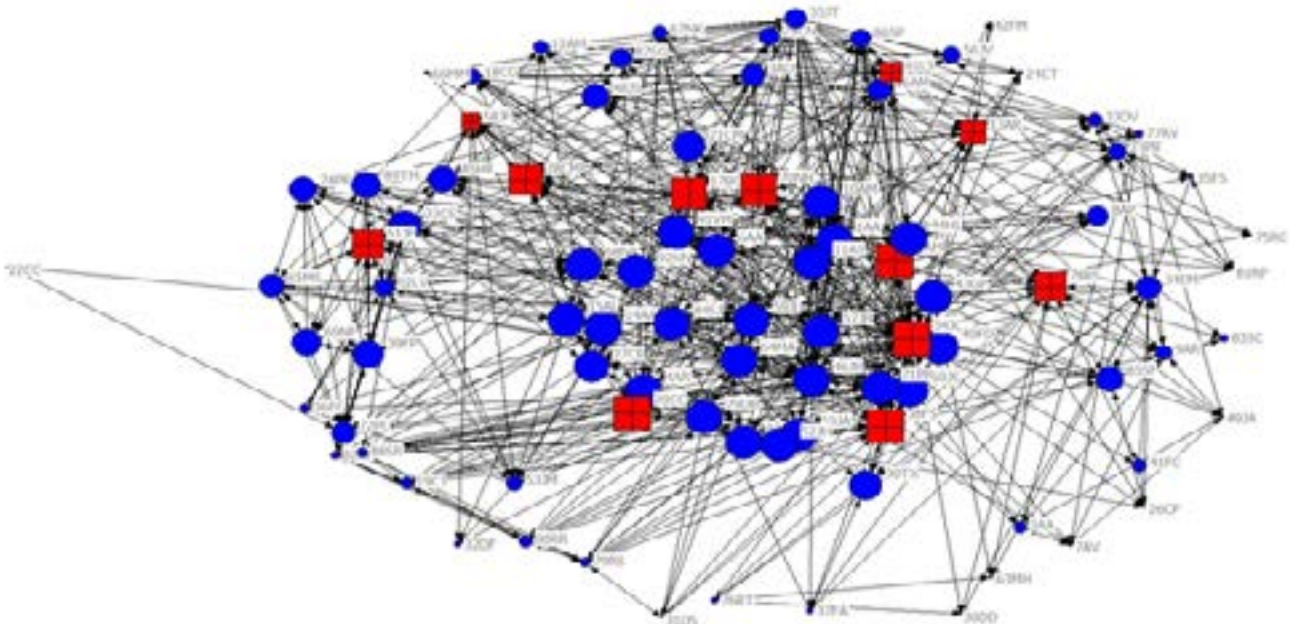


Figura 2. Dimensão gráfica individual do grau Coordenadores de área de intermediação (*Betweeness*) a vermelho; a azul os restantes colaboradores

A Tabela 2 reforça a hierarquia de *betweeness*. Vejamos os que têm um valor acima de 100, que se podem considerar corretores, isto é, pontes de comunicação da Empresa.

**Tabela 2 – Indicadores de betweenness e nbetweenness dos participantes com maior grau de intermediação**

Participante	<i>Betweenness</i>	<i>nBetweenness</i>
27CB	282.781	3.453
84SJ	238.778	2.915
54JC (Coordenador)	157.997	1.929
59JL	155.397	1.897
6AA	149.972	1.831
17BG (Coordenador)	123.703	1.510
15AL	123.045	1.502
38FS (Coordenador)	115.071	1.405
64MA	113.888	1.391
78RS (Coordenador)	113.284	1.383

Destes, só o 54JC (gestor), 17BG, 38FS e 78RS eram coordenadores. Deste conjunto, o 54JC estava ligado com todos, mas o 27CB estava mais, o que se compreende dadas as suas funções na gestão salarial; o 17BG estava no centro da Empresa, mas tinha a sua Área dispersa; o 38FS aparecia central e corretor da sua própria área, que aparecia dividida, sendo uma delas centrada no 64MA, também *broker*; o 78RS estava no centro da sua Área e tinha a ligação ao restante assegurada por 84SJ, que estava ligado às redes da Empresa.

### *Histórias de Sucesso*

Tal como é visível na Figura 3, da análise e discursos sobre 22 histórias de sucesso recebidas, emergiu uma orientação forte para o cliente, o esforço para renovar ou criar novos produtos e o orgulho de pertencer à equipa e à organização. Recorrendo ao software T-Lab, versão 8.2, os autores construíram o mapa ilustrativo da rede de palavras associadas à palavra-chave *Cliente*. As distâncias indicam o grau de frequência e proximidade com que as palavras surgiram no texto original sem qualquer categorização ou alteração da nossa parte. Essas distâncias medem a frequência com que as palavras apareceram nos textos originais, associadas ao cliente. As palavras “novo”, “forma” e “negócio” foram indicativas de preocupações em responder a desafios dos clientes.



**Figura 3. Rede associativa da palavra “cliente”**

O mapa das palavras-chave e da sua associação, ao longo das narrativas, reforça o foco no cliente e o forte comprometimento afetivo dos colaboradores nos projetos e na procura ativa de novas soluções e oportunidades de negócio.

### **Preparação, intervenção e *follow up***

Tendo em vista a execução de uma intervenção, com o objetivo de reduzir os hiatos do alinhamento de gestão resultantes da confrontação com o resultado das entrevistas, a gestão foi sucessivamente redefinindo os objetivos da intervenção até estabilizar no objetivo *Definir desafios e ações tendentes a implicar todos no combate ao “inimigo comum”*. A intervenção foi antecedida da distribuição do programa e objetivos, tendo havido o cuidado de confirmar que todos conheciam o seu conteúdo.

Na tarde do dia marcado, cerca de 80 participantes (a quase totalidade da Empresa), organizados aleatoriamente em 10 grupos, tomaram parte numa sessão de quatro horas, em que uma hora e meia foi dedicada à definição do desafio fundamental, escolhido pela gestão a partir da lista de sugestões dos grupos: *Quais os passos a seguir para responsabilizar mais as pessoas?*, bem como à sugestão de projetos de solução, categorizados, com a ajuda da gestão, durante o intervalo, em onze projetos possíveis. A seguir ao intervalo, os participantes organizaram-se em oito grupos, apenas, com efetivos oscilando entre três e 19 elementos, e dedicaram os 60 minutos restantes à definição dos planos de ação. De referir que foram os grupos (aleatórios e voluntários) que designaram os facilitadores, pelo que não houve oportunidade de efetuar qualquer treino prévio de facilitação.

No final os projetos definidos foram: (1) Estruturação organizacional – Coordenação das áreas; (2) Revisão das políticas de RH; (3) Estruturação organizacional (fora da coordenação das áreas); (4) Respeito profissional (prémios); (5) Gestão de objetivos, prazos e prioridades; (6) Métodos de trabalho; (7) Aquisição de competências para cumprimentos de objetivos; (8) Responsabilização a nível de entrega de projetos.

Foram designadas as datas de *follow up* e da apresentação final, assim como o nomeados o coordenador do projeto global e a equipa de comunicação.

Na primeira reunião de *follow up*, verificou-se que todos os grupos tinham realizado pelo menos uma reunião física, com todos os elementos, tendo apresentado os planos que se propunham cumprir. Os grupos maiores tinham sido repartidos por tarefas complementares, não tendo sido necessário fixar limites de tempo nem especificar as tarefas individuais. A equipa de comunicação criou, entretanto, uma plataforma para deposição dos trabalhos, que foi logo utilizada. No entanto, face à dimensão dos projetos e aos conhecimentos existentes, houve que negociar a sua exequibilidade. Assim, a gestão reuniu com cada coordenador, definindo aquele que seria o conteúdo final dos projetos. Contudo, dado que a distância entre os projetos imaginados e os negociados era, por vezes, muito grande, os coordenadores tiveram dificuldades em fazer os membros do grupo aceitar as alterações.

Passado pouco tempo a Empresa foi confrontada com novos e urgentes desafios, que levaram os grupos a adiar a execução dos projetos, tendo sido, até à data, difícil estabelecer novos prazos, face às emergências entretanto surgidas.

## **6. DISCUSSÃO E CONCLUSÕES**

Apesar de não se ter concluído o ciclo determinado pela intervenção, ficou claro que o modo de desenvolvimento da sessão foi eficaz na criação de projetos de inovação organizacional na Empresa. Com efeito e apesar de conter ainda vários pormenores a alterar, a intervenção constituiu uma etapa marcante no trabalho que os autores têm vindo a desenvolver e, mais importante que isso, permitiu o desenho de intervenções posteriores mais eficazes e próximas da estabilidade metodológica. Quanto às medidas obtidas verificou-se o mesmo, isto é, as relativas às redes sociais, que não puderam ter uma segunda aplicação, coincidente com o final dos projetos e que permitiria verificar a evolução da organização informal existente, foram suficientemente explícitas para entender o modo como a organização informal se encontrava estabelecida. Com efeito, esta primeira análise constituiu uma boa radiografia da Empresa e permitiu a identificação dos *brokers* na comunicação, facilitando a compreensão da forma como a aprendizagem organizacional pode ser melhorada e, tal como referem Mascia, Magnusson e Björk (2015), assim como a inovação. Relativamente às histórias de sucesso, a sua análise permitiu confirmar a orientação futura desejável e coincidente com as intenções da gestão. Finalmente e apesar dos projetos não terem sido ainda concluídos, muitos aspetos se alteraram na Empresa, decorrentes, quer do diagnóstico executado, quer, principalmente, dos projetos que tiveram origem na sessão.

Se fosse possível repetir todo o processo levado a cabo na Empresa, fariamos o diagnóstico exatamente da mesma forma, quer quanto à seleção dos entrevistados, quer quanto à orientação da entrevista em sintonia com as preocupações manifestadas pela gestão. Esta conduta (ligação permanente com a gestão) foi, aliás, o aspeto mais saliente de todo o processo, como recomendam vários autores (Howard e Associates, 2009; Beer e Walton, 2009). Esta forma de realização do diagnóstico, em que se vão obtendo visões variadas e contrastantes, sobre os objetivos definidos pela gestão, complementadas com visões externas à empresa, constitui uma síntese de informação importante para a gestão

e para a preparação e seguimento da intervenção. Quanto às medidas relativas às redes sociais e recolha de histórias de sucesso, somos de parecer que os instrumentos, formas de execução e tipo de análises foram os adequados. Com efeito, qualquer desenvolvimento que esteja para além do que pode ser percebido pela gestão e pelos colaboradores, não possui utilidade para o tipo de trabalho que pretendemos, uma vez que o princípio de base dos autores é o de realizar os desenvolvimentos estritamente necessários para satisfazer os interesses da Empresa e tornar a intervenção mais eficaz.

No entanto existem aspetos que interessa modificar, nomeadamente alguns relacionados com a sessão propriamente dita e com a preparação anterior, a saber:

- O funcionamento da comissão organizadora não foi totalmente testado, uma vez que, tendo participado a totalidade da Empresa, não foi necessário fazer uma seleção prévia dos participantes, tendo o trabalho organizativo sido feito diretamente pela gestão, que também designou a equipa responsável pela logística.
- A duração da sessão, se bem que com as etapas relativas à redução do tempo devidamente explicada em artigos anteriores (Sousa et. al., 2012; 2014; 2015), foi demasiado curta, obrigando a reuniões complementares para definir os planos de ação dos projetos. Neste caso, a reunião física, posterior, das equipas não era muito difícil de conseguir, devido à localização e tipo de atividade da Empresa mas, noutros casos, tal seria mais difícil. Assim e para efetivos iguais ou superiores, a duração deverá ser acrescentada para seis horas, por forma a permitir a construção completa dos planos de ação.
- Pesados todos os prós e os contras, somos de opinião que os facilitadores devem ser pré-nomeados e treinados para a função, obrigando a pequenas alterações na articulação da sessão. O ganho maior, pensamos nós, consiste na exequibilidade dos projetos que, desta vez, constituiu uma questão melindrosa e difícil de negociar com os grupos.
- O trabalho de seleção dos projetos não deve ficar a cargo da gestão, apenas, mas sim de uma pequena comissão designada pela gestão. Com efeito, a gestão deve decidir nos aspetos fundamentais, mas também se deve afastar o suficiente da definição dos projetos para deixar liberdade de decisão aos grupos. Por outro lado, pedir à gestão que selecione apenas um problema, da lista fornecida pelos grupos, é manifestamente insuficiente, devendo a escolha ser alargada para os problemas por ela considerados importantes e exequíveis.

Dado que os autores tiveram já a oportunidade de por em prática as alterações sugeridas, com sucesso evidente, mesmo perante efetivos próximos do máximo (150) considerado por Burke (2011), em termos do estabelecimento de redes sociais eficazes, pensa-se que a investigação futura deverá orientar-se para a melhoria da eficácia no treino dos facilitadores, bem como na capacidade de construir uma grande história da organização, com base em entrevistas de maior profundidade.

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# CULTURA DIGITAL, INTELIGÊNCIA COLECTIVA E INTERDISCIPLINARIDADE

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## RESUMO

Numa mutação onde as plataformas tecnológicas desempenham o papel principal, estamos a assistir à transição paradigmática da sociedade dos objectos e das mercadorias para a sociedade dos ícones, dos signos, sinais e símbolos. Uma das imagens de marca desta longa transição paradigmática é aquilo que aqui designamos como a “economia das aplicações (apps)” num universo digital marcado pela “internet das coisas”, a miniaturização tecnológica, as redes colaborativas e a emergência de novas formas de inteligência colectiva.

O princípio geral da “economia das apps” é simples de enunciar: na sociedade da informação e do conhecimento, a internet, as plataformas tecnológicas e as redes sociais colaborativas criam as condições favoráveis à formação de comunidades *online* de utilizadores e fornecedores de bens e serviços. Estas comunidades virtuais *online* comunicam entre si por meio da internet móvel e interagem através de programas ou aplicações informáticas (apps) com mais ou menos funcionalidades e interactividade. No final, porém, o que fica por saber é se estas comunidades virtuais têm tradução concreta, prática e efectiva em comunidades reais e se, para tanto, causam uma turbulência inusitada e entram em rota de colisão com os interesses económicos já instalados.

Interação e regulação, reputação e risco, redes sociais e inteligência colectiva. Esta é a matéria-prima do futuro, o lugar central de uma nova interdisciplinaridade e de uma nova epistemologia das ciências sociais e humanas. Falta ainda estruturar o pensamento complexo que acautele e saiba lidar com estas novas formas de inteligência colectiva.

Palavras-chave: Cultura Digital, Inteligência Colectiva, Comunidades On-Line, Interdisciplinaridade.

Classificação JEL: O33

## ABSTRACT

In the information and knowledge society the technological platforms play a central role. One of the main icons of this society is the “apps economy”, the main instrument of the the new collaborative network society. These new online communities develop a kind of collective intelligence and the big question behind them is to know how they impact on real communities, in particular, the competition on the economics interests already in place. The new terms of this network society are, interaction and regulation, reputation and risk, social networks and collective intelligence. They are the new raw material for the future of the social and human sciences and for that reason we have to rethink the old concept of interdisciplinarity.

JEL Classification: O33

## 1. INTRODUÇÃO: CULTURA DIGITAL, INTELIGÊNCIA COLECTIVA E INTERDISCIPLINARIDADE

A sociedade global e cosmopolita em que vivemos sofreu alterações profundas nas últimas décadas do século XX que deixam prenunciar mudanças sociais e civilizacionais de grande alcance durante o século XXI. Falamos dos

problemas específicos das sociedades seniores no mundo ocidental, dos efeitos perversos das alterações climáticas na gestão dos recursos naturais, do desemprego estrutural de dois dígitos nas faixas etárias mais jovem e mais velha e da desconstrução do mercado laboral tal como o conhecemos na segunda metade do século XX, dos riscos globais próprios de um mundo multipolar e da mitigação do risco moral que eles provocam. Falamos, finalmente, da emergência do “4º sector” e da recomposição de uma “economia do quaternário”, por enquanto difuso e labiríntico, associado ao universo das tecnologias da informação e comunicação e às redes sociais e, cada vez mais, no interface entre a economia pública convencional, a economia social e solidária e a economia dos bens comuns colaborativos que, à sua conta, se anuncia cada vez mais prometedora. Uma parte importante da economia da inovação e da inteligência colectiva passará por aqui: pela emergência da cultura e da sociedade colaborativa (Sociedade Co), pelo advento da (i) conomia e pela composição de uma economia do quaternário e, finalmente, na confluência destes vectores, por uma epistemologia das ciências sociais e humanas mais transdisciplinar e criativa. No texto que se segue damos o nosso contributo para uma reflexão sobre estes novos desafios.

## 2. A SOCIEDADE PÓS-INDUSTRIAL: OS SINAIS QUE SE ANUNCIAM

A sociedade capitalista do mundo ocidental vive mais uma das suas metamorfoses, mais uma das suas sete vidas. Desta vez, mais transnacional, mais informacional, mais desmaterializada, mais anónima e mais insidiosa. Estamos numa fase que já não é a sociedade capitalista industrial mas que ainda não é a sociedade pós-capitalista da era colaborativa (Rifkin, 2014a e 2014b). Ao mesmo tempo, estamos numa fase de transição em que parece que trocámos a ordem habitual dos factores: os fins pelos meios, o bem comum pelos interesses particulares, a confiança pela suspeição, o espaço pelo tempo. Na tabela seguinte procuramos elencar os sinais que se anunciam nesta sociedade em transição.

**Tabela Nº 1 - A Sociedade em Transição: Os sinais que se anunciam**

A sociedade industrial		A sociedade pós-industrial e informacional	
1.	Propriedade e posse	1.	Acesso e serviço
2.	Economia de mercado	2.	Economia das redes
3.	Bens materiais e <i>comodities</i>	3.	Serviços intangíveis e imateriais
4.	Vendedores e compradores	4.	Servidores e Utilizadores
5.	Cidadãos anónimos	5.	Cidadãos conectados
6.	Economia de recursos	6.	Economia desmaterializada
7.	Ciclos longos de produção	7.	Ciclos de vida curtos
8.	Rotinas do trabalhador produtivo	8.	Rotinas das máquinas inteligentes
9.	O princípio da produtividade	9.	O princípio da criatividade
10.	O princípio da competição	10.	O princípio da colaboração
11.	O marketing dos objectos	11.	O marketing dos clientes
12.	Os “prosumidores”	12.	A fidelidade e a customização
13.	Egoísmo e narcisismo	13.	Partilha e cooperação
14.	Ambientes físicos e presenciais	14.	Ambientes simulados e virtuais
15.	Raízes, identidades e territórios	15.	Relacionamentos e representações
<b>O capitalismo da era industrial</b>		<b>O capitalismo da era colaborativa</b>	

Fonte: Covas, A. e Covas, M. Mercês (2016), Textos de trabalho não publicados.

Nas palavras de Jeremy Rifkin (2014), estamos em transição para a sociedade pós-capitalista da era colaborativa. Eis alguns dos sinais que se anunciam: o acesso e o uso em vez da propriedade e da posse, a economia das redes e das aplicações (apps) e os serviços imateriais, servidores e utilizadores para lá de vendedores e compradores, a desmaterialização da economia, as rotinas e as máquinas inteligentes, a customização dos clientes pelo seu valor ao longo da vida (*life time value*), os ambientes de trabalho acolhedores e criativos, a colaboração, a partilha e a produção social pelos pares, o acesso livre e o financiamento participativo pelas redes, enfim, os relacionamentos e as representações no grande palco da vida são mais gratificantes do que as raízes e as identidades territorialistas.

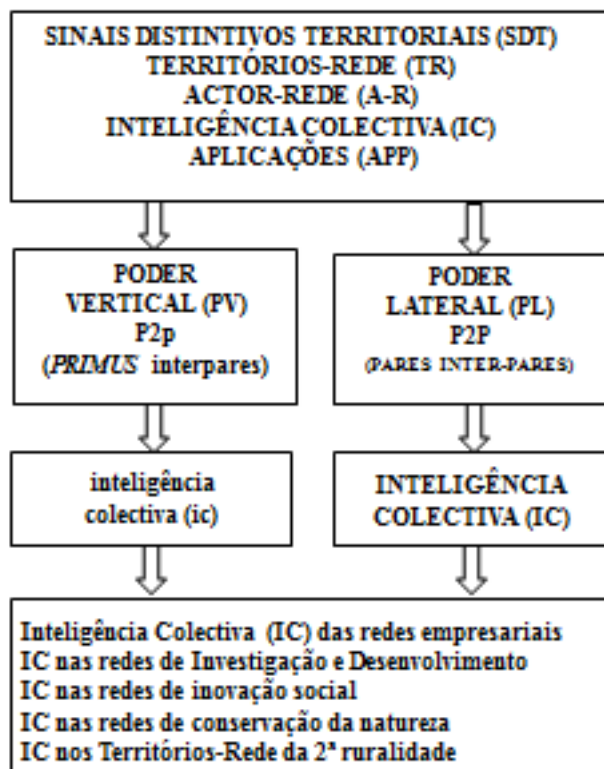
Estes sinais anunciam-nos um capitalismo “pretensamente” mais cultural, criativo e recreativo onde os cidadãos adquirem simultaneamente uma pluralidade de condições como utilizadores, clientes, colaboradores e criativos.

Estes sinais que anunciam a era da democracia participativa e colaborativa abrem-nos o caminho para novas formas de inteligência colectiva e mais “poder lateral” e, portanto, para uma outra policontextualização das ciências sociais e humanas. Desta nova epistemologia cognitiva fazem parte a sociedade colaborativa, o advento da (i) conomia, a emergência do 4º sector e muitas outras incursões culturais e criativas entre as quais se conta a transição da interdisciplinaridade para a transdisciplinaridade.

Em termos figurativos esta transição pode ser visualizada de acordo com a Figura Nº 1.



Figura Nº 1 – Inteligência Coletiva e Desenvolvimento Territorial



Fonte: Covas, A. e Covas, M. Mercês (2016), Textos de trabalho não publicados.

Ao longo da comunicação abordaremos mais extensivamente o alcance e a complexidade desta temática.

### 3. CULTURA DIGITAL E INTELIGÊNCIA COLECTIVA: VEM AÍ A SOCIEDADE COLABORATIVA

É no interior deste complexo enquadramento global e tecnológico que se anunciam e emergem novas correntes de pensamento e geografias económicas mais inteligentes e imateriais associadas à tecnologia das redes e às plataformas digitais.

#### 3.1. A cultura digital tornou possíveis migrações muito diversas para o ciberespaço

São movimentos muito recentes, quase sempre liderados pela geração Y, os nativos digitais que se movem à vontade no ecossistema tecnológico próprio dos sistemas interactivos de comunicação web 2.0 e web 3.0.

Em primeiro lugar, o movimento *Share* ligado ao consumo colaborativo e à economia da partilha (*sharing economy*) (Boltsman e Rogers, 2010) e (Gansky, 2012).

Muito próximo deste, o movimento «Acesso Livre» (*Open Source*) suporte da economia *open source* (Lessig, 1999, 2003, 2004) e da produção social entre pares, designado de *peer to peer* ou *P2P* (Vkostakis e Bauwens, 2014), e o movimento *Maker* (Anderson, 2012) mentor da nova revolução industrial.

Em terceiro lugar, as diversas versões da economia do ambiente e recursos naturais, como a economia positiva (Rouer e Gouyon, 2007), a economia circular, a economia da funcionalidade, a economia simbiótica de Isabelle Delannoy (2015).

Em quarto lugar, uma corrente mais radical ligada à economia dos recursos naturais, denominada de economia do decrescimento, de Serge Latouche (2011) até Tim Jackson (2009), autor do relatório “Prosperidade sem crescimento”.

Em quinto lugar, o renascimento e a renovação do movimento cooperativo, mutualista, social, solidário e voluntário traduzido em múltiplos empreendimentos e formatos organizacionais, por exemplo, em economias e sistemas de trocas locais e respectivas moedas sociais, solidárias e complementares.

Finalmente, e a culminar esta pluralidade de correntes do pensamento em redor de uma economia das redes e dos recursos imateriais, temos a revolução silenciosa da economia dos bens comuns colaborativos, isto é, o advento da sociedade “Co”. Se quisermos, em sentido amplo, o advento de uma economia do quaternário, não apenas no sentido

restrito que lhe dá Michele Debonneuil (2007) de “um serviço novo com um produto dentro”, mas, mais importante, de uma nova economia colaborativa em que “a tragédia dos comuns”, de má memória, dá lugar à esperança e ao “optimismo dos comuns”, uma espécie de quarto sector pós-capitalista que cresce e alastra na zona de interface entre três subsistemas: a economia pública das infra-estruturas e dos bens e serviços públicos mais convencionais, a economia social e solidária das instituições particulares de assistência social e a novel economia dos bens comuns colaborativos.

É justamente na confluência destes três subsistemas em recomposição que podemos estar no limiar de um ecossistema colaborativo socialmente muito inovador, fortemente apoiado nas TIC (Tecnologias da Informação e da Comunicação), nas redes sociais e no “poder lateral” do espírito colaborativo e cooperativo.

Nesta linha de argumentação, a sociedade “Co” é a sociedade do conhecimento, colaboração, comunicação, comunidade, comunhão, isto é, *a sociedade dos comuns* mas, também, da cooperação, confiança, contribuição, convivialidade e congratulação. O universo “Co” contempla uma gama muito variada de bens e serviços comuns:

- Os consumos colaborativos de recursos ociosos (*sharing idle resources*);
- A produção social pelos pares (*peer to peer production*);
- Os serviços partilhados pelas comunidades de utilizadores (*sharing economy*);
- O financiamento participativo (*crowdfunding*);
- Os espaços comuns de criação criativa (*coworking e makerspaces*);
- A aprendizagem e a formação colaborativas (*opensourcing*);
- As moedas locais, criativas e complementares (*local currencies e creative monney*), entre outros empreendimentos da chamada economia colaborativa e contributiva (*sharing ou collaborative ou contributive economy*).

Aqui chegados, o crescimento exponencial da economia colaborativa na última década e sobretudo após a grande crise de 2008 é um sinal evidente de que a emergência da sociedade “Co” é “um facto social total” da maior relevância societal e civilizacional que vale a pena seguir de perto e estudar com a máxima prioridade.

### 3.2 Cultura digital e inteligência colectiva: vem aí a (i)conomia

Que terão em comum autores tão diversos como Manuel Castells (1999) (a era da informação, a sociedade em rede e o poder da identidade, 1999), Yochai Benkler (2006) (a riqueza das redes ou como a produção social transforma os mercados e a liberdade, 2006), Lawrence Lessig (2004) (a cultura livre e o código versão 2.0), Vasilis Kostakis e Michel Bauwens (Kostakis e Bauwens, 2014) (a economia política da produção social pelos pares), Pierre LEVY (a inteligência colectiva e a cibercultura), Rachel Boltsman e Roo Rogers (Boltsman e Rogers, 2010), (a economia partilhada e o consumo colaborativo), Lisa Ganski (2012) (a economia *mesh*, ou seja, a economia de rede ou partilhada), Bernard Steigler (2010) (a economia contributiva), André Gorz (2003) (o trabalho imaterial), Howard Rheingold (1993, 2003) (comunidade virtual e os *smart mobs*, ou seja, os telemóveis inteligentes), Clay Shirky (2010, 2009) (o excedente cognitivo ou a criatividade e a generosidade numa era conectada), Don Tapscott e Anthony Williams (Tapscott e Williams 2008), (a *wikinomics* ou como a colaboração em massa muda tudo), Chris Anderson (2008) (a cauda longa, os *makers* e a nova revolução industrial) e Jeremy Rifkin (2014a, 2014b) (a 3ª revolução industrial e a sociedade do custo marginal zero), entre outros autores.

Qual é a substância ou estrutura comum a este movimento polissémico mas convergente? Infra-estruturas de banda larga ou auto-estradas da informação, cultura digital disseminada, *startups* (empresas tecnológicas) e plataformas tecnológicas, redes sociais e sistemas de comunicação interactivos, programação e *software opensource* (tecnologia de acesso livre) e modelos de negócio abertos.

Ao contrário das “grandes transições civilizacionais” anteriores, da oralidade para a escrita e da escrita para a imprensa, feitas sempre no universo dos átomos e moléculas, a transição da imprensa para a computação e as redes, para o mundo dos *screenagers* (geração digital), é feita dos átomos para os bits, dito de outro modo, estamos a desmaterializar a próxima grande mutação civilizacional e a eliminar em boa medida as referências espacio-temporais anteriores. É assim que os novos modelos de negócio da era e da cultura digitais exprimem cada vez mais esta mutação fundamental. Numa mutação onde as plataformas tecnológicas desempenham o papel principal pois são a placa giratória de todos os interesses em presença, estamos a assistir à transição paradigmática da sociedade dos objectos e das mercadorias para a sociedade dos ícones, dos signos, sinais e símbolos, isto é, a uma transição para a (i)conomia. Na nova sociedade da informação, da inteligência, da internet, da imaginação, da inovação, dos bens intangíveis e imateriais, assistiremos a um *trade off* (troca) permanente entre a “velha economia dos produtos industriais e materiais” e a “nova *iconomia* dos serviços imateriais”, numa “troca constante entre produto e serviço” e entre “propriedade e acesso” e na qual a *iconomia* acrescentará cada mais valor à economia convencional que se reduzirá do mesmo passo.

Face a este novo ecossistema da era digital, a economia desmaterializa-se e torna-se mais leve. A estrutura

empresarial terá de se adaptar pois os produtos ficam mais leves, os ciclos de vida mais curtos, a miniaturização faz o seu caminho, os stocks são reduzidos, o espaço disponível é também reduzido, *o leasing, o outsourcing e a terceirização* de algumas funções serão boas práticas correntes.

Uma das imagens de marca desta longa transição paradigmática para a 4ª revolução do capitalismo informacional é aquilo que aqui designamos como a “economia das aplicações (apps)” num universo digital marcado pela “internet das coisas” (Rifkin, 2014), a miniaturização tecnológica, as redes colaborativas e a emergência de novas formas de inteligência colectiva.

O princípio geral da “economia das apps” é simples de enunciar: na sociedade da informação e do conhecimento, a internet, as plataformas tecnológicas e as redes sociais colaborativas criam as condições favoráveis à formação de comunidades *online* de utilizadores e fornecedores de bens e serviços. Estas comunidades virtuais *online* comunicam entre si por meio da internet móvel e interagem através de programas ou aplicações informáticas (apps) com mais ou menos funcionalidades e interactividade.

### 3.3 É a “sociedade do custo marginal zero”, para usar o título do último livro de Jeremy Rifkin

Sabendo nós que estas comunidades virtuais de utilizadores e prestadores podem cobrir um leque muito variado de actividades económicas e sociais e que uma empresa tecnológica pode criar a aplicação para essa comunidade em modo de autogestão e auto-regulação fica a curiosidade em saber onde fica o capitalismo convencional, o capitalismo popular da economia das (apps) e, também, uma nova geração de empresas sociais inspiradas no mesmo espírito colaborativo e solidário.

Vejamos, em termos simples, o que está em causa com a criação das redes de troca da economia colaborativa em muitas áreas e actividades onde hoje imperam grupos corporativos muito poderosos que impõem ao mercado custos de transacção abusivos e absolutamente desproporcionados com o único objectivo de obter lucros elevados:

- Trocar uma intermediação de custo alto por uma intermediação de custo mais baixo;
- Trocar a aquisição de um bem definitivo pela prestação de um serviço temporário;
- Trocar a ineficiência de um recurso subutilizado por um uso mais criterioso;
- Trocar uma despesa por uma poupança e um aumento do poder aquisitivo;
- Trocar uma provisão corporativa por uma provisão local de proximidade;
- Trocar uma regulação corporativa por uma auto-regulação voluntária de proximidade;
- Trocar uma reputação formal por uma reputação mais democrática e transparente;
- Trocar poder autoritário e vertical por poder colaborativo e lateral;
- Trocar a relação de forças do mercado pela força da relação da economia das redes.

A “economia das apps” proporciona-nos múltiplas formas de inteligência colectiva de baixo custo que estamos todos a experimentar em várias áreas de actividade, do aluguer de táxis ao alojamento turístico, dos mercados de ocasião *online* ao financiamento participado, para referir apenas alguns. São não apenas novas formas de inteligência colectiva mas, também, novas modalidades de democracia participativa com reflexos sobre o espectro político-partidário e, portanto, sobre a cultura política e a governabilidade do sistema político doméstico.

No final, porém, o que fica por saber é se estas comunidades virtuais de “custo marginal zero” têm tradução concreta, prática e efectiva em comunidades reais e se, para tanto, causam uma turbulência inusitada e entram em rota de colisão com os interesses económicos já instalados, quando se sabe que esse espaço económico já está ocupado e utilizado pelo mundo corporativo do capitalismo mais convencional que, diga-se desde já, não parece morrer de amores pela concorrência do “capitalismo popular das redes colaborativas”. O exemplo da UBER, na área do transporte de passageiros, é apenas um exemplo desta nova fase do capitalismo, em que o velho modelo da (e)conomia convencional colide com o modelo novo da (i)conomia colaborativa.

### 3.4 Cultura digital, redes sociais e inteligência colectiva, de um lado, regulação, reputação e risco, de outro lado. Este é o novo modelo da (i)conomia da era colaborativa em construção acelerada

Nesta matéria, como facilmente se comprova, a política legislativa anda a reboque do princípio da realidade e o resultado imediato é a judicialização do problema em questão. De facto, o legislador fica imediatamente prisioneiro do conflito de interesses que se gera e procura ganhar tempo antes de se pronunciar sobre a solução legislativa mais conveniente. Finalmente, é importante não esquecer o lado tóxico das redes digitais e o risco de alienação que elas comportam. Com efeito, nesta fase de transição, não é demais alertar para o risco moral e o *free raider* que os novos modelos de negócio podem implicar e estar atentos, por isso, aos danos colaterais e problemas de reputação que lhe são inerentes.

## 4. CULTURA DIGITAL E INTELIGÊNCIA COLECTIVA: VEM AÍ O “QUARTO SECTOR”

Depois do primário, do secundário e do terciário, vem aí a economia do 4º sector ou economia do quaternário, pelo menos no chamado mundo ocidental dos países mais desenvolvidos. Vejamos o cenário mais provável para estas economias na conjuntura europeia que se avizinha e que é marcada por uma teimosa estagnação. Em primeiro lugar, a economia pública reduzirá a despesa pública para poder reduzir os impostos. Pelo meio reduzirá o emprego público, substituindo funcionários públicos por prestadores de serviços em *outsourcing* (serviços prestados por terceiros). Em segundo lugar, a economia social e solidária passará por uma forte racionalização e contracção na medida em que depende dos subsídios públicos. Pelo meio reduzirá o emprego social e muitas das suas funções serão externalizadas para as comunidades locais da sociedade colaborativa. Em terceiro lugar, a economia privada capitalista, devido à automatização e à concorrência feroz dos mercados globais, reduzirá ainda mais o emprego convencional e externalizará muitas tarefas que passarão a ser oferecidas pela economia *on-demand* (economia a pedido) para onde se transferirão muitos trabalhadores em regime de *freelance*.

Nesta contracção do Estado social e da economia privada, em busca da sua própria solvência financeira, a sociedade e a economia colaborativas, em sentido amplo, serão uma espécie de “casa comum”, se quisermos, uma espécie de lugar geométrico de todas as externalidades, positivas e negativas, das várias economias em presença. Nesta enorme placa giratória o mais importante é mesmo a adesão aos valores “Co”. Se essa adesão for sincera e entusiástica, a “sociedade Co” será muito provavelmente a grande casa comum para a maioria dos cidadãos e a grande protagonista da economia do quaternário.

### 4.1 Nesta sociedade colaborativa e nesta economia do quaternário circularão, para além da moeda oficial, várias moedas locais e criativas

Na sociedade colaborativa e na diversidade da economia do quaternário não seria surpreendente encontrar um “cidadão multifunções e pluriativo” empenhado na construção e funcionamento de bens comuns colaborativos e, por essa via, acumulando rendimentos, monetarizados e não-monetarizados, com diversas proveniências, por exemplo: um emprego em *part-time* num serviço público e/ou numa empresa privada, uma prestação de serviço em regime de *freelance* numa empresa *on-demand*, algumas horas num banco do tempo local em troca de um *voucher* e, finalmente, uma “inscrição” numa *start-up* colaborativa de uma parte dos seus recursos ociosos (*idle resources*) em troca de uma receita eventual.

Como facilmente se comprova, estaremos num futuro não muito longínquo, devido à quebra estrutural do emprego, condenados a uma sociedade de regimes laborais muito diversos, uns em *part-time*, outros em regime de *freelance*, outros ainda em regime contributivo e colaborativo, sob muitos formatos, condições e reputações, se quisermos, uma sociedade onde o indivíduo “se produz a si próprio” numa espécie de *corporate individualism*. Neste registo, estamos em crer que voltará o “homem dos sete ofícios” agora na era da internet e tirando partido do que ela proporciona. Senão vejamos:

- Em primeiro lugar, por que a auto-formação, oferecida em *Opensourcing* (quase sem custos) estará muito próxima do custo marginal zero.
- Em segundo lugar, por que a escassez de empregos obrigará a repartir os horários de trabalho e a oferecer um leque mais diversificado de oportunidades.
- Em terceiro lugar, porque todo o mercado de trabalho se tornará muito mais volátil e adaptativo.
- Em quarto lugar, por que se tornará absolutamente imprescindível a complementaridade de rendimentos, monetarizados ou não.
- Em quinto lugar, por que as actividades da economia colaborativa e contributiva permitirão ensaiar novas experiências, novos saberes e novas ocupações.

Quer dizer, através da economia colaborativa e contributiva, as diferentes comunidades de utilizadores e fornecedores organizarão novos formatos de prestação de serviços com suporte em plataformas tecnológicas cujas aplicações informáticas serão instaladas nos telefones móveis dos jovens e menos jovens que desejam entrar no “mercado de trabalho”. É aqui que entra, progressivamente, “o homem dos sete ofícios”. De acordo com as suas faculdades, capacidades e experiências ele irá inscrever-se em diferentes “aplicações”, geridas muito provavelmente por uma *start-up* (empresa) tecnológica recém-constituída, nas modalidades horário, tempo de trabalho, pagamento, qualidade de serviço, que a sua “presumida reputação” lhe permitir oferecer. Poderão ser sete ofícios, mais ou menos, mas dificilmente serão sete profissões. Enquanto aguarda por uma chamada, poderá continuar, em sua casa, a formação permanente num MOOC (*massive open online course* – formação em massa pela internet a custo zero).

## 5. CULTURA DIGITAL E INTELIGÊNCIA COLECTIVA: VEM AÍ A CRIATIVIDADE E A TRANSDISCIPLINARIDADE

A sociedade colaborativa, a economia das redes colaborativas e das aplicações móveis, a interacção entre comunidades *online* e comunidades *offline*, os novos mercados de trabalho de pluriactividade no 4º sector, anunciam um novo campo de forças mas também um novo campo de possibilidades para o futuro. Nesse campo de forças vamos encontrar a matéria politicamente mais sensível e que hoje faz a primeira página de toda a imprensa, a saber: inovação e regulação, reputação e risco, redes sociais e alienação pessoal, risco moral e *free raider* por parte dos mais distintos operadores. Como já dissemos, esta matéria está hoje muito mais próxima dos tribunais do que do espaço público onde defronta notórias dificuldades de informação e esclarecimento.

Esta é justamente a razão para trazer ao espaço público alguns atributos que já enunciámos na tabela 1 a propósito da transição e da metamorfose do capitalismo industrial para o capitalismo cultural e criativo que ele procura ser “para salvar a pele”.

Queremos destacar nesta incursão dois atributos principais entre outros: em primeiro lugar, o factor criatividade que é gerado pela partilha e pela colaboração no acto colectivo de “produção social pelos pares” e, em segundo lugar, o contributo que a criatividade pode dar para uma perspectiva transdisciplinar e policontextual dos problemas em apreço, na linha de um pensamento mais complexo que seja prudente e que saiba lidar com estas novas formas de inteligência colectiva, muitas delas com efeitos não-intencionais e danos colaterais inesperados.

Nas suas obras **Cibercultura** (1999) e **Inteligência Colectiva** (2007) Pierre Levy (Levy, 1999 e 2007) explica-nos os conceitos de ciberespaço, cibercultura e inteligência colectiva, de acordo com o princípio geral de que “ninguém sabe tudo, todos sabemos alguma coisa”. Ora, justamente, a infra-estrutura do ciberespaço e o universo cognitivo da cibercultura conduzem-nos a “um tipo de inteligência compartilhado que surge da colaboração de muitos indivíduos na sua diversidade, de uma inteligência distribuída por toda a parte pois todo o saber está na humanidade” (Levy, 2007, 212). É a teoria dos três capitais: a partir do capital tecnológico e da infra-estrutura das redes, e usando o capital cultural que acumulámos sob a forma de informação e conhecimento, estamos em condições de organizar comunidades virtuais e mobilizar o capital social em direcção a formas superiores de inteligência, ao mesmo tempo mais colectiva e distribuída.

A sociedade compartimentada e interdisciplinar do capitalismo industrial está limitada no seu potencial porque é uma sociedade aditiva e linear, onde prevalecem a ordem, a segurança e o progresso. Por sua vez, a sociedade compartilhada e transdisciplinar do capitalismo pós-industrial tem mais liberdade e criatividade para crescer mas é, também, mais incerta, insegura e apresenta um risco sistémico mais elevado. De um ponto de vista intergeracional, a sociedade do capitalismo industrial é a sociedade da geração dos *baby-boomers* e da geração X, enquanto a sociedade pós-industrial é a sociedade das gerações Y e Z, as gerações dos *screenagers* e da internet móvel em todas as suas variantes técnicas. De acordo com esta evolução, podemos dizer que assistimos a uma verdadeira reprogramação das mentes à medida que nos aproximamos do ciberespaço e da cibercultura.

Os cibernautas das gerações Y e Z (nascidos de 1980 para cá) são muito mais criativos e transfronteiriços, no sentido disciplinar, porque em grande medida renunciaram ao sentimento de propriedade e de posse para assumirem as noções ou categorias de acesso e serviço partilhado e colaborativo. Eles convivem e trabalham muito mais em comunidades virtuais e ambientes simulados do que em comunidades reais e ambientes físicos. Eles pertencem ao universo dos servidores e utilizadores mais do que ao universo dos vendedores e compradores. Eles são pessoas e indivíduos que trabalham em regime de *coworking*, em *crowdsourcing* e *outsourcing* e em financiamento de *crowdfunding*, isto é, eles são seres constantemente conectados, em relacionamento permanente e usando a sua criatividade para agregar valor compartilhado aos serviços imateriais e intangíveis que prestam no universo oceânico do ciberespaço.

O capitalismo pós-industrial compreendeu muito cedo esta mutação radical e transmutou-se, ele próprio, em capitalismo cultural e criativo, o denominado capitalismo cognitivo. Neste capitalismo cognitivo os ambientes simulados e virtuais onde, pretensamente, existe mais poder lateral do que vertical, são terrenos onde a produtividade do trabalho já não se mede por hierarquias, cadeias de comando e regulamentos disciplinares, mas, antes, por inteligência emocional, sentimentos partilhados e contribuições criativas para o trabalho colectivo. De certa forma, um regresso a uma ética do trabalho comunitário e a uma inteligência colectiva colaborativa na era do ciberespaço e da cibercultura, que poderíamos designar como “produção social inter pares”. Neste sentido, imagine-se, por exemplo, o potencial colaborativo e a inteligência colectiva que “habitam” as redes empresariais, as redes de investigação e desenvolvimento, as redes de inovação social, as redes amigas do ambiente ou os territórios-rede da 2ª ruralidade. Estes temas comportam um imenso potencial teórico, epistemológico e metodológico que alimentam a interdisciplinaridade e a transdisciplinaridade. Todos os cientistas estão convocados a estudar e partilhar os mesmos desafios. Situam-se nesta linha de pensamento e de investigação/acção os trabalhos de António Covas e Mercês Covas (Covas e Covas, 2015a, 2015b, 2014a, 2014b, 2013a, 2013b, 2012a, 2012b, 2011, 2010).

É um mundo novo admirável à nossa espera.

## 6. NOTA FINAL: ENTRE A INTERDISCIPLINARIDADE E A TRANSDISCIPLINARIDADE

No plano da epistemologia e da hermenêutica das ciências humanas e sociais, a matéria da inteligência colectiva das redes promete-nos uma viagem deveras interessante que nos leva da sociedade fronteiriça e disciplinar da “ciência moderna” até à sociedade global e cosmopolita do ciberespaço e da cibercultura, uma incursão teórico-epistemológica iniciada por diversos autores do capitalismo pós-industrial e pós-moderno. É, todavia, e ao mesmo tempo, uma viagem exaltante e inquietante. De um lado, sentimos que uma “economia sem peso” é uma contribuição extraordinária para resgatar o nosso planeta e que uma sociedade mais colaborativa e partilhada é uma aquisição valiosa para a humanidade inteira. Por outro lado, não temos garantias suficientes de que esta transição em direcção ao universo cosmopolita gere empatia e confiança bastantes para providenciar o capital social que é necessário para realizar a mudança.

De facto, é preciso não confundir dois planos analíticos. Em primeiro lugar, há inegáveis progressos colaborativos e inteligência colectiva variada em ambientes empresariais modificados e simulados, em espaços comuns de inovação social e em territórios-rede do mundo rural, em resultado da organização de comunidades online e redes colaborativas. Todos eles desenvolvem formas de inteligência colectiva que importa aprofundar e monitorar. Em segundo lugar, estes progressos ainda não se traduzem em melhorias estruturais de natureza colaborativa na sociedade política em geral. Ao contrário, assistimos à eclosão de algumas manifestações hostis no espaço público, seja no universo corporativo mais convencional ou no universo mais agressivo das redes sociais que podem arrastar consigo a “tribalização de comportamentos na rede” que, no limite, podem conduzir a autênticas guerras entre cibernautas e entre estes e as corporações e sindicatos mais conservadores, já para não falar da “guerra civil” com os guerreiros das identidades locais e territoriais ou mesmo de actos ligados ao cibercrime.

A cultura digital e a inteligência colectiva não só reclamam um pensamento transdisciplinar como solicitam um outro pensamento transdisciplinar, uma espécie de “fusão a frio do pensamento disciplinar”, conduzindo-nos em direcção a novos códigos de comunicação e linguagem e a um outro “agir comunicacional”. A interacção entre comunidades *online* e comunidades *offline* é uma fonte inesgotável de ensinamentos, por isso falamos, também, de comunidades cognitivas que aperfeiçoam constantemente os seus modelos de inteligência colectiva. Finalmente, é bom insistir no lado preventivo e terapêutico destas comunidades pois não podemos esquecer o lado tóxico das redes digitais e o risco de alienação que elas comportam. Nesta fase de transição, não é demais alertar para o risco moral e o *free raider* que os “novos modelos de negócio” podem implicar e estar atentos, por isso, aos efeitos não-intencionais e danos colaterais que lhe são inerentes.

Em jeito de síntese final, resumimos aqui o pensamento do filósofo social Daniel Innerarity (Innerarity, 2011, 2010, 2009) acerca das sociedades complexas, contingentes e cognitivas onde mergulha e opera a inteligência colectiva:

- A crescente virtualização da sociedade torna o tempo quase irreal.
- Por causa da velocidade é necessário prever o presente.
- A cultura da simulação debilita a realidade.
- A sociedade é um assunto interpretativo, precisa de um esforço cognitivo.
- A sociedade é um campo desestruturado mais próximo do caos que da ordem.
- É preciso suspeitar para conhecer.
- Mais do que a evidência e objectividade trata-se da plurissignificação da realidade.
- O que parece não é, a realidade também precisa de aprender.
- O mundo actual fornece tantas possibilidades aos optimistas como aos pessimistas.
- A economia das redes e os bens comuns colaborativos serão a esperança do futuro.

E assim terminamos a nossa pequena viagem pela cultura digital e a inteligência colectiva.

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# COMPORTAMENTOS DO LÍDER PROMOTOR DE BEM-ESTAR NA HOTELARIA DE CINCO ESTRELAS

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## RESUMO

Esta comunicação centra-se nas características da liderança promotora de bem-estar extraídas de um estudo conduzido na hotelaria de cinco estrelas no Algarve.

Se por um lado, a liderança é perspectivada “como um fenómeno de influência social transversal às organizações humanas particularmente sentido ao nível dos seguidores” (Messias, F.B., 2014: 89), por outro, a liderança promotora de bem-estar, enquadrando-se em comportamentos positivos e, teoricamente, em estilos de liderança democrática e orientada para os seguidores, permite facilitar o trabalho organizacional e promover o bem-estar nos colaboradores.

O bem-estar é apresentado na literatura como um constructo multidimensional (Warr, 2003, 2007), revestindo diferentes abordagens consoante as áreas de estudo abordadas (Bem-Estar Subjetivo - BES, Bem-Estar Psicológico - BEP, Bem-Estar no Trabalho - BET), relevando no presente caso, particularmente o BET, abordagem indissociavelmente ligada ao BEP e ao BES.

A relação laboral de liderança estabelecida entre chefia e colaborador influencia a qualidade das relações e afeta o bem-estar do colaborador. Daí que a percepção que os colaboradores têm das suas chefias diretas torna-se relevante ao nível organizacional. Uma percepção positiva reforça a relação laboral (Gilbreath and Benson, 2004) e uma percepção negativa deteriora a relação laboral (Kelloway, Sivanathan, Francis and Barling, 2005).

O estudo permitiu identificar os comportamentos do líder promotor de bem-estar, compreendendo a liderança promotora de bem-estar como “um processo interpessoal, de transparência relacional e influência organizacional, orientado para o desempenho organizacional focalizado no autodesenvolvimento dos colaboradores” (Messias, F.B., 2014: 270).

Palavras - Chave: Hotelaria de Cinco Estrelas, Liderança Promotora de Bem-Estar, Bem-Estar, Experiência Turística.

Classificação JEL: M00, Z32.

## ABSTRACT

This communication focuses on the characteristics of the leader which promotes well-being extracted from a study conducted in the five-star hospitality in the Algarve.

Leadership is viewed “as a phenomenon of cross social influence to human organizations particularly felt at the level of followers” (Messias, F.B., 2014: 89) and the leadership which promotes well-being, fitting in positive behaviors and, theoretically, in democratic leadership styles and oriented to followers, allows to facilitate the organizational work and to promote well-being among the employees.

The well-being is presented in the literature as a multidimensional construct (Warr, 2003, 2007), covering different approaches depending on the areas of study (Subjective Well-Being - SWB, Psychological Well-Being - PWB, Well-Being at Work - WAW), emphasizing in this case, particularly the WAW inseparably approach connected to PWB and SWB.

The employment relationship of leadership that is established between supervisor and employee at work influences the quality of their relations and affects the employee's well-being. Hence the perception that employees have from their direct supervisors becomes relevant at the organizational level. A positive perception reinforces the employment relationship (Gilbreath and Benson, 2004) and a negative perception deteriorates the employment relationship (Kelloway, Sivanathan, Francis and Barling, 2005).

The study identified the behaviors of the leader which promotes well-being, comprising leadership which promotes well-being as “an interpersonal process, of relational transparency and organizational influence, oriented to the organizational performance focused on the self-development of employees” (Messias, F.B., 2014: 270).

Keywords: Five-Star Hospitality, Leadership which Promotes Well-Being, Well-Being, Tourist Experience.

JEL Classification: M00, Z32.

## 1. INTRODUÇÃO

Tendo em conta que esta comunicação tem por objetivo descrever os comportamentos do líder promotor de bem-estar e as características da liderança promotora de bem-estar que resultaram de um estudo (tese de doutoramento) que permitiu compreender e caracterizar este tipo de liderança na hotelaria de cinco estrelas, iremos centrar a nossa atenção nesse estudo. Uma versão do estudo encontra-se disponível *online* no repositório científico da Universidade do Algarve acessível em <http://sapientia.ualg.pt/handle/10400.1/6839> pelo que quaisquer citações efetuadas se devem reportar à versão disponibilizada pela Universidade.

Feito o introito, começo por estruturar esta comunicação pela problemática do estudo, seguidamente farei um breve resumo da revisão de literatura e da metodologia utilizada, e, por fim, concluo pelos resultados do estudo qualitativo e conclusões extraídas, procurando fazê-lo da forma sintética e compreensível.

## 2. A PROBLEMÁTICA DO ESTUDO

Partindo da definição de Jafari (2003: 585) e concebendo o turismo como um campo multidisciplinar de estudo - focado no estudo dialético do homem fora do seu habitat e entre dois mundos (o do seu habitat e o destino turístico) gerador de relações complexas provenientes de uma indústria multisectorial e sistematizada, na procura da melhor experiência turística - centrar a atenção nos recursos humanos como vantagem competitiva e elemento chave da estratégia no turismo constitui uma evidência (Firmino, 2007: 318).

Conforme referi na identificação do problema e objetivos do estudo, a “constatação de que a liderança influencia a permanência do colaborador na organização determinou a prossecução do presente estudo, quer pela relevância do turismo quer pela importância que a hotelaria de cinco estrelas assume para a região algarvia, suscitando a necessidade de compreender a liderança e o bem-estar nesta tipologia de empreendimentos turísticos, constituindo o ponto de partida para a presente dissertação” (Messias, F.B., 2014: 30). De facto, pelo trabalho preparatório de revisão de literatura, constatou-se que a escolha dos “melhores” colaboradores à organização exigiria:

- compreender a influência da chefia no bem-estar dos colaboradores (Yarker, Lewis and Donaldson-Feilder, 2008);
- compreender que a qualidade das relações entre chefia e colaborador pode determinar a permanência, ou a saída, dos colaboradores da organização (Griffeth, Hom and Gaertner, 2000).

Apartir destes pressupostos, impunha-se estudar as temáticas principais do estudo (liderança e bem-estar) e rever a literatura em ambos os domínios.

## 3. REVISÃO DE LITERATURA

### 3.1 Liderança

Liderança é um fenómeno amplamente estudado (Hunter, Bedell and Mumford, 2007) que traduz o processo de influência social de um indivíduo numa organização, cuja compreensão e domínio beneficia a eficácia organizacional (Shermerhorn *et al.*, 2008; Jesuíno, 1999). A capacidade e a competência do indivíduo para influenciar os outros numa determinada direção são o cerne deste processo (Bass, 1990: 11-20). Capacidade e competência, embora termos por vezes apresentados na literatura como sinónimos (Timperley, 2011), apresentam diferenças entre si - capacidade refere-se à qualidade para executar determinada tarefa e competência ao conjunto das capacidades necessárias para desempenhar convenientemente determinada tarefa (VandenBos, 2007: 146, 204). (Figura 1)

Figura 1 - Representação em Esquema do Processo de Liderança



Adaptado de Bass, 1990: 11-20 (citado em Messias, F.B., 2014: 44)

### 3.2 Comportamentos, estilos e modelos explicativos de liderança

Jago (1982) permitiu arrumar o estudo da liderança em dois grandes critérios: o critério da universalidade (*one best way*) versus o critério da contingência, e o critério dos traços versus o critério do comportamento dos líderes (Jesuino, 1999: 20).

A investigação centrada nos traços do líder universal possibilitou observar a liderança como uma combinação de características privativas dos indivíduos que lhes permitissem influenciar o grupo numa certa direção (Stogdill, 1948, 1974). Seguidamente, a investigação focou-se nos comportamentos do líder universal (Lewin, 1935) sobre os estilos de liderança.

A investigação de Lewin (1935) consentiu compreender que os padrões de comportamentos dos seguidores eram diferentes face ao estilo de liderança autoritária, democrática e permissiva ou *laissez-faire*.

Com as Escolas das Universidades de Michigan e Ohio, nos Estados Unidos da América, os estudos do comportamento do líder e dos seguidores atingem o nível necessário à compreensão dos estilos de liderança, revelando-se o estilo democrático como o mais direcionado à eficácia do líder no desempenho dos fins organizacionais (Korman, 1966; Jesuino, 1999). Deste modo, o *one best way* (Taylor, 1911; citado por Locke, 1982) cedeu lugar à investigação posicionada nos traços do líder e situações de contingência – na qual cada um dos estilos poderá ser eficaz tendo em conta cada situação em particular, relacionando as características pessoais do líder com situações contingenciais (Fiedler and Mahar, 1979). Razões pelas quais, neste estudo, foram detalhadamente analisados os estilos de liderança carismática (Conger and Kanungo, 1987), transformacional e transacional (Bass, 1985; Burns, 1978), as características pessoais do líder, autenticidade e ética, divididas em liderança autêntica e liderança ética (incluindo a temática da ética das organizações e a responsabilidade social) (Charteris-Black, 2006), a liderança servidora (Kouzes and Posner, 2007) e a liderança integral (Küpers and Weibler, 2008). Atente-se a extensão e a relativa importância dos mesmos para a presente comunicação, prescindimos de os analisar, remetendo o leitor para a sua leitura complementar (Messias, F.B., 2014: 59-77).

### 3.3 A influência do comportamento do líder no bem-estar dos seguidores

A primazia igualitarista e altruísta, assim como a evidência positiva das características ética e autêntica na construção do processo social de liderança, permitiu, numa primeira fase, desenvolver os estudos na interação entre os interesses do líder e os interesses do grupo sugerindo como variável mediadora o compromisso (altruísta) ético (Aycan, 2004). Seguidamente, centrando-se nesse equilíbrio (altruísta) ético na promoção de ambientes organizacionais de apoio mútuo, líder-seguidores (Avolio and Gardner, 2005), alinhou a investigação em liderança à investigação em bem-estar.

A investigação da influência do comportamento do líder no bem-estar dos seguidores tem demonstrado que o comportamento dos líderes influencia, dicotómicamente, o bem-estar dos subordinados:

- a) Comportamentos positivos de liderança têm um impacto positivo no bem-estar dos seguidores (Nielsen, Randall, Yarker and Brenner, 2008). Comportamentos de liderança positivos contribuem para a melhoria do bem-estar nos subordinados, como referem Gilbreath & Benson (2004). Comportamentos de liderança de elevada qualidade estão associados ao aumento do bem-estar dos subordinados, como focam Van Dierendonck *et al.* (2004), gerando a evidência de que existe relação positiva entre liderança transformacional e bem-estar (Arnold *et al.*, 2010). De particular relevância é o entendimento pelo qual o comportamento de liderança transformacional está positivamente relacionado com a orientação para a tarefa (Sosik and Godshalk, 2000). Ao nível da liderança carismática, paralela evidência surge na literatura tendo em conta que “líderes carismáticos facilitam aos seus seguidores a criação de experiências emocionais positivas” (Bono and Ilies, 2006: 331);
- b) Comportamentos negativos de liderança têm consequências negativas no bem-estar dos seguidores (Kelloway, Sivanathan, Francis and Barling, 2005). Os comportamentos negativos do líder influenciam negativamente o seguidor. Por exemplo, uma supervisão e controlo excessivo do trabalho tende a ser negativamente correlacionada com aumento da pressão arterial sistólica (Karlin, Brondolo and Schwartz, 2003), assim como uma supervisão punitiva e injusta (Wager, Fieldman and Hussey, 2003) levando a noites mal dormidas (Greenberg, 2006), podendo, no limite, conduzir o seguidor ao consumo de substâncias ilícitas como forma de escape da pressão de supervisão no trabalho (Bamberger and Bacharach, 2006).

Os comportamentos de influência negativa no seguidor são considerados de comportamentos de liderança destrutiva (Einarsen, Aasland and Skogstad, 2007). Avolio (1999) e Bass and Avolio (1990, 1993) sugerem que os comportamentos de liderança que influenciam positivamente o bem-estar dos seguidores (considerados de comportamentos bons ou de elevada qualidade) são aqueles que, por exemplo, se enquadram no estilo da liderança transformacional. Por outro lado, Kelloway *et al.* (2005) sugerem que os conjuntos dos comportamentos de liderança considerados de pobres ou de fraca qualidade são agrupados em dois tipos: passivo e abusivo. O líder ao não adotar comportamentos positivos de liderança, ou ao recusar-se a exercer o mais básico dos comportamentos de liderança, influencia negativamente os seguidores. E esta falta de comportamentos de liderança é liderança passiva (Kelloway, Mullen and Francis, 2006). A liderança passiva compreende elementos de ambos os comportamentos *laissez-faire* e de gestão por exceção (passiva) articulados à teoria da liderança transformacional (Bass and Avolio, 1993). Líderes que usam o estilo *laissez-faire* evitam a tomada de decisão e as responsabilidades associadas à sua posição (Hater and Bass, 1988; Bass, 1985). Comportamentos de liderança em termos de gestão por exceção (passiva) envolvem um estilo de liderança em que o líder não intervém até ao ponto em que os problemas sejam levados ao seu conhecimento ou se tornem suficientemente graves para exigir uma ação (Bass, 1985).

Independentemente dos efeitos positivos ou negativos do comportamento do líder no bem-estar dos seguidores, conclui-se que o comportamento do líder influencia o bem-estar dos seguidores (LeBlanc and Kelloway, 2002; Barling, Rogers and Kelloway, 2001).

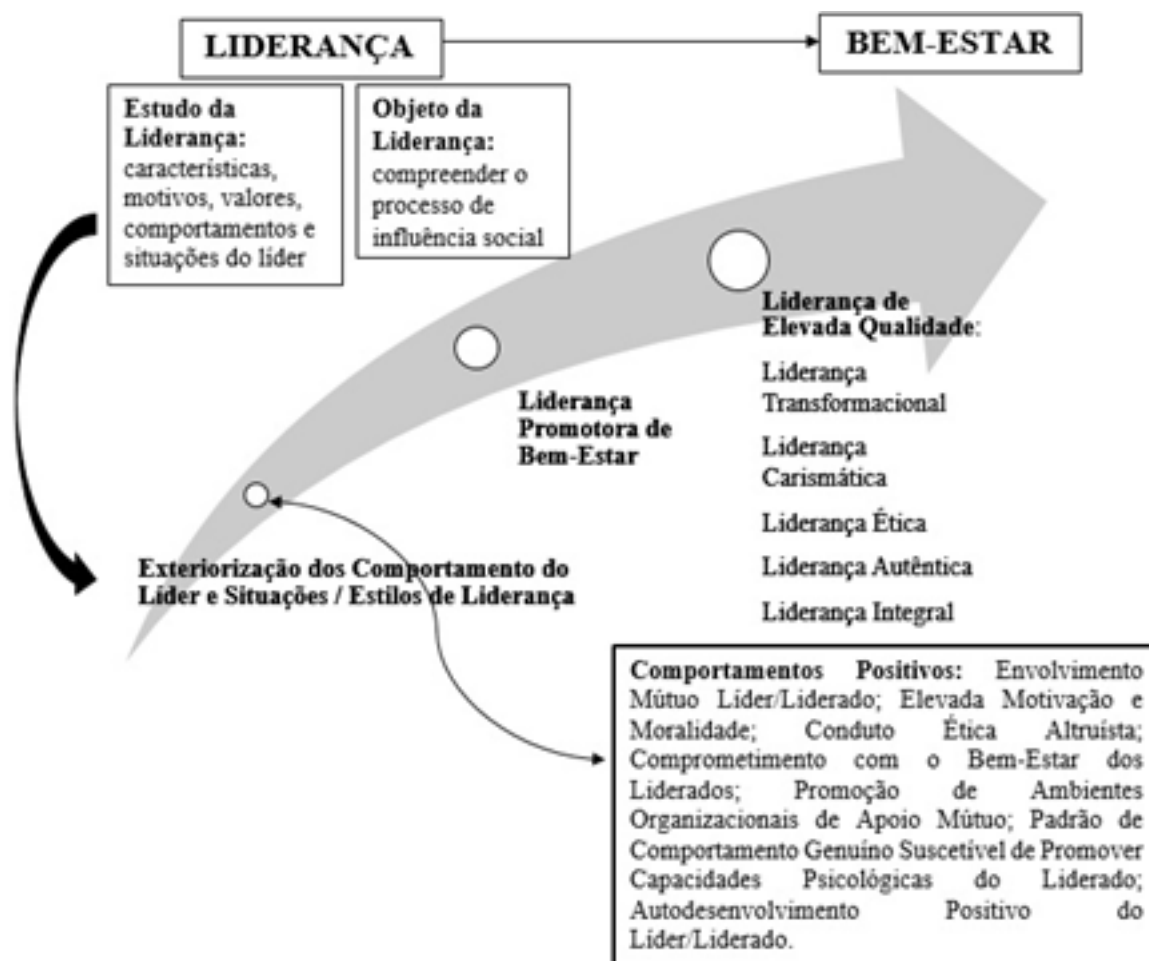
### 3.4 Liderança promotora de bem-estar

A distinção entre boa ou má liderança encontra-se na forma como os comportamentos são exteriorizados face a determinada situação contingencial (Kellerman, 2004; Fiedler and Mahar, 1979).

Razão pela qual há-que ter atenção numa abordagem dogmática aos estilos de liderança do tipo *one best way* (Taylor, 1911; citado por Locke, 1982) pois que o excesso num determinado estilo de liderança poderá levar a resultados opostos e indesejados (Butler and Reese, 1991, McColl-Kennedy and Anderson, 2002).

Teoricamente a liderança promotora de bem-estar pode ser encontrada nos padrões da liderança transformacional, carismática, ética e autêntica. Posiciona-se em comportamentos positivos e, teoricamente, em estilos de liderança democrática e orientada para os seguidores. Tal como líderes sociais e políticos inspiraram seguidores, assim o líder que promove o bem-estar encontra-se no centro do processo de liderança, atento à diferenciação de grupos e à sua complexidade, como se pode observar na figura 2 pela representação em esquema da Liderança Promotora de Bem-Estar.

Figura 2 - Representação em Esquema da Liderança Promotora de Bem-Estar



Adaptado de Küpers and Werbler, 2008; Avolio *et al.*, 2004; Gold, 2003; Sparks and Schenk, 2001; Jesuíno, 1999; Nussbaum, 1999; Bass, 1990 (citado em Messias, F.B., 2014: 86)

Teoricamente, o líder promotor de bem-estar é suscetível de agir consoante a situação e o grupo, ou como:

- transformacional - envolvendo-se mutuamente por forma a que ambos, líder e seguidores, se elevem a níveis mais elevados de motivação e moralidade compreendendo o que um tem para oferecer ao outro (Bass, 1985; Burns, 1978; Downton, 1973);
- carismático – limitando-se à atribuição unidirecional da percepção dos seguidores quase como se a liderança estivesse nos olhos de quem a vê (Arnold *et al.*, 2007, Conger and Kanungo, 1987);
- ético - alinhando por uma conduta ética orientada para o altruísmo, exigindo de si próprio alargada perspectiva moral incluindo o seu comprometimento com o bem-estar dos seguidores, promovendo ambientes organizacionais de apoio mútuo (Aycan, 2004; Avolio and Gardner, 2005);
- autêntico - adotando um padrão de comportamento genuíno capaz suscetível de promover capacidades psicológicas positivas do seguidor, fomentando o autodesenvolvimento positivo de ambos, líder e seguidores (Walumbwa *et al.*, 2008; Avolio and Gardner, 2005).

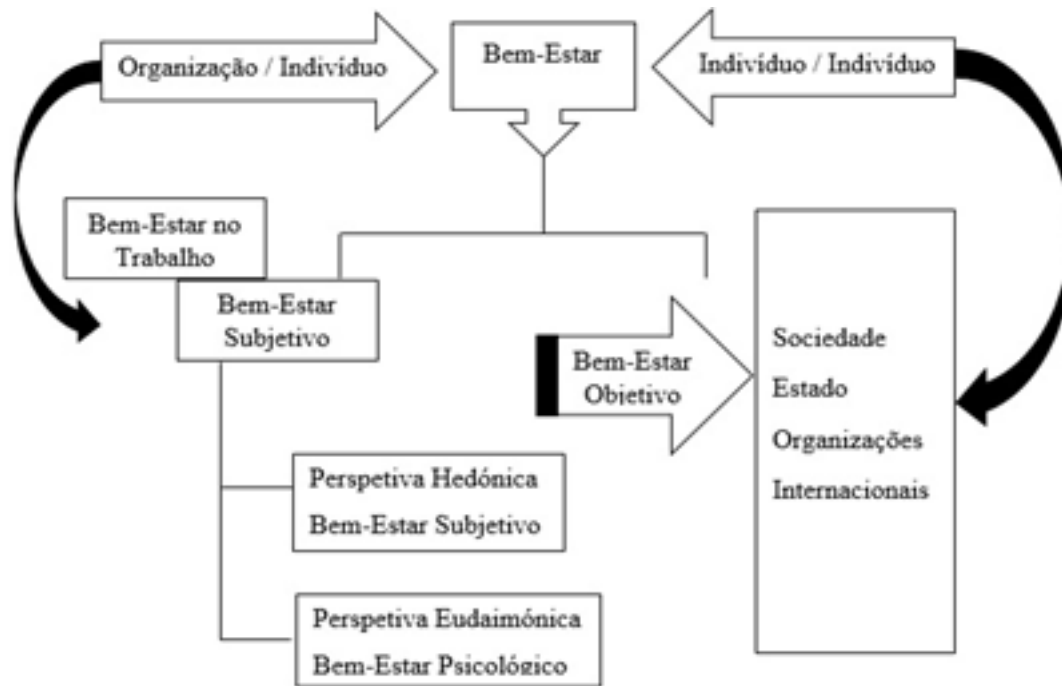
Embora a liderança autêntica seja aquela que centra a atenção no bem-estar dos seguidores (Avolio and Gardner, 2005), admitindo-se que esta tenha resultados eficazes ao nível das organizações modernas (Cooper *et al.*, 2005), a liderança transformacional apresenta maior evidência ao nível da liderança promotora de bem-estar, quer sendo a mais citada na literatura (Bass and Avolio, 1993), quer pelo seu potencial para influenciar positivamente os indivíduos ao nível do seu bem-estar (Van Dierendonck *et al.*, 2004).

### 3.5 Bem-estar (BES, BEP, BET)

O bem-estar apresenta-se como uma dimensão psicológica subjetiva, positiva e complexa da vida do indivíduo

(Kahneman, Diener and Schwarz, 1999). O bem-estar é visto quer como um propósito ou objetivo subjetivo na vida dos indivíduos, quer como uma necessidade social e cultural (Tay and Diener, 2011; Diener *et al.*, 2010; Waterman, 2007; Ryan and Deci, 2001) (Figura 3).

**Figura 3 - Conceptualização do Bem-Estar**



Adaptado de Ryan and Deci, 2001; Kahneman, Diener and Schwarz, 1999; Diener, 1984 (citado em Messias, F.B., 2014: 91)

A dimensão positiva do bem-estar surge na investigação associada à saúde e à qualidade de vida focada ao nível da Psicologia da Saúde. Para Jesus (2006) “o bem-estar revela-se um conceito-chave em Psicologia da Saúde e relaciona-se com a qualidade de vida” (Jesus, 2006: 128) (Quadro 1).

**Quadro 1 - Diferenças entre Psicologia Clínica e Psicologia da Saúde**

PSICOLOGIA CLINICA	PSICOLOGIA DA SAÚDE
Intervenção em situações de doenças Visa o sujeito Remediação Resolução de situação de mal-estar	Intervenções para promoção da saúde Pode visar grupos ou comunidades Prevenção Desenvolvimento de situações de bem-estar

Adaptado de Jesus, 2006:128 (citado em Messias, F.B., 2014: 93)

Esta nova dinâmica no estudo do bem-estar é estudada na Psicologia Positiva iniciada por Martin Seligman (Seligman and Csikszentmihalyi, 2000). O objetivo é o aperfeiçoamento da compreensão científica acerca da experiência humana (Seligman, Steen, Park and Peterson, 2005) centrando a atenção da investigação na saúde, nos contextos e nas características positivas individuais (Dewe and Cooper, 2012; Galinha, 2008).

O quadro 3 apresenta os principais pilares da Psicologia Positiva.

**Quadro 2 - O Movimento Científico da Psicologia Positiva**

Três Temáticas	Uma ciência da experiência positiva, diferenças individuais positivas e instituições positivas – todas elas encaram uma psicologia do funcionamento positivo humano (Seligman & Csikszentmihalyi, 2000: 5)
O Objetivo	Refocar e explorar os aspetos positivos da experiência individual (Seligman & Csikszentmihalyi, 2000)
Um catalisador	Um mecanismo para a mudança – reunir o campo de análise salientando o papel do positivo (Csikszentmihalyi, 2003)
Será nova?	Constrói sobre o conhecimento adquirido, capturando e focando-se nas qualidades positivas dos indivíduos (Seligman & Csikszentmihalyi, 2000)
Será uma moda?	Não se trata de uma solução, nem uma ideologia – a sua importância reside na forma como motiva a investigação para as experiências positivas (Seligman <i>et al.</i> , 2005; Seligman <i>et al.</i> , 2002)

De onde veio?	Proveio da constatação de que a Psicologia durante muito tempo falhou em capturar a riqueza da experiência humana, centrando-se apenas na doença (Seligman <i>et al.</i> , 2005)
Será uma abordagem discreta?	E um movimento de inclusão que deve captar a riqueza da experiência humana (Bacon, 2005)
Apresenta rigor científico?	O rigor científico é o centro de toda a investigação em Psicologia, pelo que igualmente está no centro da Psicologia Positiva (Seligman & Csikszentmihalyi, 2001)

Adaptado de Dewe and Cooper, 2012: 22 (citado em Messias, F.B., 2014: 94)

O bem-estar objetivo afere-se tendo em conta um conjunto de indicadores socioeconómicos que possibilitam diferenciar os indivíduos entre si antes de qualquer outra medição subjetiva ao nível da saúde, da qualidade de vida ou da felicidade. O bem-estar subjetivo (BES) centra-se ao nível do indivíduo, nas suas disfunções físicas e psicológicas visando estudar os fatores associados ao funcionamento positivo dos indivíduos em função da sua autoavaliação. Constitui um campo de estudo recente dentro da Psicologia Positiva (Schaufeli and Bakker, 2004; Ryan and Deci, 2001; Seligman and Csikszentmihalyi, 2000; Ryff and Singer, 1998; Diener, 1984) e inclui a dimensão cognitiva e a afetiva (Lyubomirsky *et al.*, 2005; Simões *et al.*, 2000; Danna and Griffin, 1999; Diener, 1984). Centra-se nos fatores e nos processos que respeitam à variabilidade da felicidade (Tay and Diener, 2011; Diener *et al.*, 2010; Diener and Biswas-Diener, 2009; Biswas-Diener and Dean, 2007; Diener *et al.*, 2003; Diener, 2000) e aos fatores e processos facilitadores da satisfação geral com a vida (Danna and Griffin, 1999) ou em domínios mais específicos sujeito à autoavaliação dos indivíduos (Schaufeli and Bakker, 2004).

Diener and Lucas (2000) perspetivam o bem-estar como um sentimento subjetivo, segundo critérios padronizados pelo próprio indivíduo e somente avaliado por este (Diener and Lucas, 2000). Para uns relaciona-se com o desempenho profissional (Schaufeli and Bakker, 2004), para outros identifica-se com a relação com a família e amigos (Ryan and Deci, 2001; Diener, 1984) para outros refere-se à riqueza, prestígio e poder pessoal (Lyubomirsky *et al.*, 2005), para outros, ainda é somente ter saúde, ter o suficiente para satisfazer as necessidades do quotidiano ou ter as condições para atingir a realização pessoal (Ryan and Deci, 2001; Simões *et al.*, 2000; Danna and Griffin, 1999; Ryff and Singer, 1998).

Para Ryff and Keyes (1995) e Ryff (1989), os teóricos do BEP adotam a visão de felicidade e de bem-estar, centrada na experiência pessoal do indivíduo e da autorrealização, concebendo o BEP, tanto teórica quanto operacionalmente, como um conceito multidimensional estruturado assente em seis elementos: autonomia, autoaceitação, crescimento pessoal, propósito de vida, relacionamento positivo e domínio da envolvente (Ryff and Keyes, 1995) (Figura 4).

Figura 4 - Modelo de Bem-Estar Psicológico de Carol Ryff



Adaptado de Ryff, 1989; Ryff and Keyes, 1995 (citado em Messias, F.B., 2014: 111)

Esta perspetiva adota uma visão eudaimónica da felicidade, que se refere não só à felicidade hedónica, mas também à realização do potencial pessoal, das metas fundamentais de vida, descrevendo o funcionamento positivo global do indivíduo. (Tay and Diener, 2011; Diener *et al.*, 2010) – se por um lado, o BES está associado a avaliações da satisfação

com a vida e a afetos positivos e negativos que revelam ou não a felicidade (Eid and Larsen, 2008), por outro, o BEP está estruturado por formulações psicológicas sobre o desenvolvimento humano e as suas capacidades para enfrentar os desafios da vida (Cohen, 2000; Ryff and Keyes, 1995; Ryff, 1989).

Já o conceito de bem-estar no trabalho (BET) abre uma nova perspectiva de investigação apoiada na Psicologia Positiva, tendo como centro os aspetos positivos dos indivíduos e das organizações (Mark, Andrew and Sharon, 2007; Grzywacz and Marks, 2000; Warr, 1999; Harter, Schmidt and Keyes, 2003). O BET é apresentado na literatura como um constructo multidimensional (Warr, 2003, 2007), perspectivado ainda face à dicotomia de doente e de não doente para o trabalho (Danna and Griffin, 1999; Dublin and Champoux, 1977) e ainda perspectivado somente em termos afetivos (Warr, 1999).

### 3.6 Objetivos do estudo, hipóteses de trabalho e metodologia

A pergunta orientadora deste estudo procurava compreender a influência da liderança na promoção do bem-estar junto dos colaboradores da hotelaria de cinco estrelas no Algarve. Por outro lado, centrando-se o estudo em descrever o bem-estar naquela tipologia de empreendimentos turísticos através do comportamento, ou ação, das chefias promotoras de bem-estar, estabeleceu-se como objetivo genérico compreender e caracterizar a liderança que promove o bem-estar nos colaboradores. Para além destes objetivos gerais, foram definidos os seguintes objetivos específicos:

- Analisar os conceitos de bem-estar na hotelaria de cinco estrelas;
- Analisar sistematicamente o discurso dos chefes promotores e não promotores de bem-estar no sentido de diferenciar as suas autoperceções;
- Explicar a liderança promotora de bem-estar.

Após se ter definido este conjunto de objetivos, foram definidas as hipóteses que poderiam responder às questões de investigação e os instrumentos que o permitiriam alcançar. Assim, conceberam-se duas grandes hipóteses de investigação:

*Hipótese 1: Os chefes promotores e não promotores de bem-estar são percebidos de maneira diferente pelos subordinados.*

Para a resposta a esta primeira hipótese, fez-se uso de um questionário de liderança e bem-estar em elaboração por Sousa *et al.* (2013) para compreender as perceções dos colaboradores face às chefias promotoras e não promotoras de bem-estar perspectivando que os colaboradores daquela tipologia hoteleira diferenciassem as chefias promotoras e não promotoras de bem-estar.

*Hipótese 2: Os chefes promotores de bem-estar têm perceções da liderança diferentes dos chefes não promotores de bem-estar.*

Para a definição e resposta a esta segunda hipótese, partiu-se do pressuposto de que seria possível identificar os comportamentos da liderança promotora de bem-estar, não apenas através da descrição dos próprios comportamentos das chefias mas através da relação entre estas e os seus colaboradores.

O estudo pretendeu verificar se estas hipóteses eram válidas e se as posições de chefia eram relevantes quanto ao bem-estar dos colaboradores na população estudada - para a presente comunicação, são os resultados que conduziram à resposta à hipótese 2 que mais nos interessam (Messias, F.B., 2014: 239-258, 265-272).

#### 3.6.1 - População

A população do estudo foi constituída pelo total dos empreendimentos turísticos existentes no Algarve provenientes de um conjunto diversificado de grupos hoteleiros nacionais e internacionais com a classificação de cinco estrelas (Minazzi, 2010; The European Consumer Centre's NetWork, 2009). No momento do estudo, a hotelaria de cinco estrelas estava classificada em hotéis, apart-hotéis e conjuntos turísticos (*resorts*) apresentando a região algarvia um total de 35 empreendimentos turísticos de cinco estrelas – os empreendimentos turísticos da população foram identificados por numeração de 1 a 35, designando-os de Hotel 1 a Hotel 35.

#### 3.6.2 - Amostra

A amostra foi constituída por um número de empreendimentos turísticos de cinco estrelas no Algarve selecionados aleatoriamente da população e desse número foi encontrado o número de colaboradores estudados (subordinados e chefias). Para selecionar a amostra socorremo-nos do método de sondagem por amostragem probabilística em duas etapas (Vicente, Ferrão and Reis, 2001). Numa primeira etapa foi calculado o número de empreendimentos turísticos que constituíram uma amostra independente. Numa segunda etapa ponderou-se cada empreendimento



com o número de colaboradores tendo em conta garantir que os empreendimentos escolhidos eram representativos.

Para obter o cálculo da amostra utilizaram-se dados provenientes de um estudo anterior na hotelaria de quatro e cinco estrelas no Algarve constituído pelos empreendimentos turísticos estudados e pelo questionário aplicado (Monteiro, 2008). Utilizou-se assim o questionário e a escala de 1 a 5 tipo Lickert administrado por Monteiro (2008). Para a estimativa foi utilizado o programa *software SPSS Statistics vs. 21.0*. Escolheu-se uma variável pedindo-se a média e a variância por empreendimento turístico.

Deste modo, o número de empreendimentos turísticos que viessem a formar a amostra e o número de colaboradores a estes correspondentes, teria de ser equivalente a uma dimensão da amostra cujo grau de confiança não fosse inferior a 90% e o erro amostral não fosse superior a 30%, que permitisse a credibilidade, validade e precisão das conclusões (Vicente *et al.*, 2001). Assim, garantiu-se que o número de empreendimentos e o número de colaboradores a estudar não contrariasse a representatividade da amostra (Tabela 1).

**Tabela 1 - Cálculo Dimensão Amostra Final**

$\lambda$ %	Z	D	CV %	PR %	F2 %	m
90	1,64	1,16	15	30	20	6

Messias, F. B., 2014: 177.

Assim, a amostra foi constituída por 6 empreendimentos turísticos designados de Hotel 1 a Hotel 6 (Tabela 2).

**Tabela 2 - Empreendimentos Turísticos da Amostra e Número de Colaboradores**

<i>Empreendimentos turísticos</i>	<i>N.º colaboradores</i>
Hotel 1	140
Hotel 2	150
Hotel 3	100
Hotel 4	100
Hotel 5	200
Hotel 6	80
Total	770

Messias, F. B., 2014: 177.

O número de colaboradores dos empreendimentos turísticos da amostra representa 21,74% do total dos colaboradores da população (Quadro 3)

**Quadro 3 - Relação Colaboradores - População e amostra**

População	Amostra
35 Empreendimentos Turísticos	6 Empreendimentos Turísticos
N.º Total de colaboradores = 3542	N.º Total de colaboradores = 770
100% do Universo Populacional	21,74% do Universo Populacional

Messias, F. B., 2014: 179.

Administraram-se 770 questionários. Com este procedimento assegurava-se que o número de colaboradores para observação em cada unidade hoteleira da amostra fosse de pelo menos 20%, como determinado pelo cálculo da dimensão da amostra pelo método da sondagem em duas etapas e igualmente expectávamos assegurar o mínimo de 100 indivíduos da amostra por fator medido (Pasquali, 1999). Desta forma, conseguindo um número de colaboradores (subordinados e chefias) em cada unidade da amostra igual ou superior a 20%, atingiu-se um duplo objetivo: garantir a aleatoriedade dos colaboradores e com esta a robustez da qualidade e representatividade da sondagem.

### 3.6.3 - Instrumento

Foi utilizado o método das grades de Kelly que permitiu utilizar o instrumento em elaboração por Sousa *et al.* (2013) adaptado ao contexto da hotelaria de cinco estrelas possibilitando a aplicação da escala de liderança promotora

de bem-estar (ELPB) ao estudo empírico.

A teoria dos constructos pessoais de George Alexander Kelly (1963) também conhecido por método das grades de Kelly (Repertory Grid) constitui uma teoria da personalidade que se foca na forma como cada indivíduo percebe a realidade atuando como um criador de sentido (*meaning maker*). Uma pessoa constrói as suas teorias a partir de um sistema de constructos bipolares e opostos. Cada constructo ganha sentido em oposição a um outro constructo oposto. Esta perspetiva do mundo é efetuada através da oposição de opostos em que cada pessoa concebe a realidade como um mero conjunto interpretativo dos acontecimentos exteriores a si mesmo (Butt, 2008). Deste modo, por exemplo, apenas “faz sentido falar-se de um chefe promotor de bem-estar em oposição a um chefe não promotor de bem-estar e cada indivíduo possui a sua própria definição de bem-estar num determinado momento e contexto” (Messias, F.B., 2014: 182).

O método de Kelly foi utilizado primeiramente como método terapêutico para aceder ao sistema de constructos pessoais dos indivíduos, inicialmente concebida para ser usada nos pacientes de George Kelly. Mais tarde, foi utilizada em vários estudos, entre estes, pode apontar-se o conduzido numa investigação sobre criatividade dos professores (Sousa, 1999), num estudo sobre representações sociais (Sousa and Monteiro, 2005), num estudo em liderança e inovação no turismo (Monteiro, 2008), num estudo em liderança e bem-estar nas empresas do Algarve (Sousa *et al.*, 2013) e no presente estudo.

A escala foi testada tendo sido sujeita antecipadamente a um conjunto de procedimentos efetuados até à implementação do estudo piloto - nomeadamente, os seguintes: *procedimento preliminar de enquadramento e contextualização do estudo e eliciação dos constructos bipolares no método das grades de Kelly, procedimento de aplicação do instrumento e realização das entrevistas, procedimento de pré-teste de adaptação e apresentação dos itens da ELPB numa ou em duas colunas e, por fim, o procedimento de pré-teste para adaptação da ELPB ao estudo piloto e comparação de constructos* ao estudo de Sousa *et al.* (2013) (Messias, F.B., 2014: 184-194) – que após foi sujeita a uma bateria de testes psicométricos no estudo de validade e consistência interna da ELPB (Messias, F.B., 2014: 194-201)

#### 3.6.4 - Procedimento do estudo quantitativo

Após o estudo piloto concluído em maio de 2010, em junho de 2010, deu-se início ao procedimento com vista à identificação concreta da amostra. Em inícios de 2011, a amostra encontrava-se determinada. O estudo empírico reporta-se assim ao primeiro trimestre de 2011.

Passou-se o questionário, e o anexo para indicação das chefias promotoras e não promotoras de bem-estar, pelos empreendimentos turísticos da amostra durante os meses de março a junho de 2011. Finda a época alta, de outubro a dezembro de 2011, prosseguiu-se com o estudo empírico e realizaram-se as entrevistas estruturadas às chefias indicadas como promotoras e não promotoras de bem-estar.

A população visada pelo estudo era constituída por todos os colaboradores (subordinados e chefias) dos empreendimentos que constituem a amostra. Conhecendo as dificuldades do trabalho de campo, optou-se por entregar, em cada unidade, o número de questionários correspondente ao efetivo de colaboradores - assegurava-se assim que se respeitaria a percentagem mínima de 20,00% de colaboradores por cada empreendimento turístico resultante da amostragem probabilística bem como respeitar-se-ia o tamanho da amostra mínimo de 100 sujeitos por fator medido (Pasquali, 1999).

Foram distribuídos 770 exemplares da ELPB no total correspondente ao número de colaboradores (subordinados e chefias) em funções na amostra no momento em que se implementou o estudo – recolheram-se 583 questionários e foram validados 439 questionários.

#### 3.6.5- Procedimento do estudo qualitativo

O estudo quantitativo permitiu analisar as percepções dos colaboradores face ao chefe promotor de bem-estar. Tendo em vista aprofundar o conceito de liderança promotora do bem-estar na população estudada importava conhecer como se definem ambas as categorias e diferenciá-las. Assim, perguntou-se aos colaboradores da amostra, em envelope fechado, que nomeassem uma chefia promotora de bem-estar e uma chefia não promotora de bem-estar (Apêndice A).

Assegurada a confidencialidade das respostas constatou-se a nomeação de 23 chefias promotoras de bem-estar e de 10 chefias não promotoras de bem-estar. As entrevistas realizadas tinham como objetivo determinar a autopercepção do chefe promotor de bem-estar visando o aumento da compreensão do constructo de bem-estar. O guião de entrevista clarificou a autopercepção da liderança promotora de bem-estar. No final da entrevista, convidaram-se os entrevistados a preencher novamente o questionário, por forma a permitir identificar os chefes promotores de bem-estar (Apêndice B). No final de cada uma das entrevistas, solicitava-se ao entrevistado que preenchesse a ELPB, mesmo que a tivesse preenchido anteriormente, quando foi distribuída no hotel - este procedimento possibilitou identificar os questionários de ambas as categorias de chefias indicadas e diferenciar as suas respostas. Seguidamente,

procedeu-se à organização e transcrição das entrevistas tendo em vista a observação dos dados. Para o tratamento dos dados utilizou-se o software de análise *Nvivo 10* e seguiu-se a metodologia proposta pela *Framework Analysis* (Ritchie, Spencer and O'Connor, 2003; Ritchie and Spencer, 1994) construindo um índice orientador efetuado a partir do guião de entrevista. Esta metodologia favorece a transparência e a isenção na observação dos dados bem como o seu tratamento metódico e sistemático, possibilitando a interpretação tendo em vista os objetivos do estudo (Ritchie and Spencer, 1994: 186).

### 3.7 - Resultados do estudo qualitativo e conclusões

O estudo qualitativo permitiu compreender a perceção de bem-estar dos colaboradores em relação aos comportamentos das chefias. Foram entrevistados 33 colaboradores-chefia - 23 dos quais indicados pelos colaboradores-subordinados como promotores de bem-estar e 10 como não promotores de bem-estar. Estas entrevistas foram sujeitas a análise de conteúdo, permitindo analisar o discurso de ambas as categorias de chefias, diferenciando as suas auto perceções.

Concluimos que a chefia promotora de bem-estar adota comportamentos positivos, apresenta um bom relacionamento e estabelece boas relações com os colaboradores e é competente no desempenho da tarefa. Trata-se de uma chefia que procura equilibrar o seu autointeresse e o interesse dos colaboradores, que se preocupa com eles e apoia-os na resolução de problemas. É altruísta e adota um comportamento alinhado aos padrões de conduta moral e ético. É uma chefia que se compromete com a organização e alinha-se aos resultados organizacionais.

A chefia promotora de bem-estar acompanha diariamente o colaborador nas suas tarefas, fornece-lhe autonomia, apoia-o e orienta-o na realização dos objetivos organizacionais - é caracterizada por possuir competências de relacionamento interpessoal, competências de gestão e organização, competências relacionais e por possuir capacidade de comunicação organizacional e capacidade de focalização nos interesses e objetivos organizacionais.

O chefe promotor de bem-estar sente-se pertença do grupo e considera-se um membro dele integrante. É competente, dinâmico, honesto, justo, gosta do que faz, procura a coesão do grupo e valoriza os colaboradores. Motiva e incentiva os seus colaboradores, preocupa-se com a organização e responsabiliza-se pelo bem-estar dos seus colaboradores - apresenta igualmente preocupações ao nível da responsabilidade social da empresa. Promove o trabalho em equipa, é exigente no exercício da sua chefia, é exigente consigo próprio e com os outros. Promove um bom ambiente de trabalho não excluindo nenhum colaborador. Valoriza, reconhece e recompensa o desempenho dos colaboradores. Procura ser melhor e melhorar as suas competências. É um indivíduo autocrítico e esforçado no trabalho. Encara o desafio de forma positiva. É honesto e sociável. É ambicioso, responsável e flexível.

O líder promotor de bem-estar revê-se no padrão de comportamento genuíno do líder capaz de promover capacidades psicológicas positivas do colaborador-subordinado bem como promover um ambiente organizacional ético e positivo, assente no compromisso no trabalho, apelando à consciência do grupo e fomentando o autodesenvolvimento positivo de ambos (Walumbwa *et al.*, 2008).

Constatou-se que a liderança promotora de bem-estar se constrói em torno de duas dimensões - *competências relacionais* e *competências da tarefa* - em consonância com as teorias clássicas construídas em torno da tarefa e da relação mas indo mais além. O modelo de liderança promotora de bem-estar atualiza-se face ao modelo tradicional, jogando mão dos padrões próprios dos modelos das teorias contingenciais, motivacionais, da liderança ética, autêntica e integral, tudo numa combinação complexa e dinâmica do processo de liderança.

Em conclusão, podemos dizer que este estudo “contribuiu para a compreensão da liderança e do bem-estar na hotelaria de cinco estrelas mostrando que a liderança promotora de bem-estar é um processo interpessoal, de transparência relacional e influência organizacional, orientado para o desempenho organizacional focalizado no autodesenvolvimento dos colaboradores” (Messias, F.B., 2014: 270).

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## APÊNDICES

### APÊNDICE A - ANEXO AO QUESTIONÁRIO SOBRE LIDERANÇA E BEM-ESTAR / ELPB

FACULDADE DE ECONOMIA  
UNIVERSIDADE DO ALGARVE



Anexo ao  
Questionário sobre Liderança e Bem-Estar

#### CONFIDENCIAL

Agradecendo desde já a sua colaboração no preenchimento do questionário junto sobre liderança e bem-estar, solicitamos-lhe que responda às duas questões que lhe colocamos abaixo. Após responder volte a colocar o questionário e este anexo resposta no envelope que lhe foi entregue. O envelope deve ser entregue fechado.

As suas respostas são confidenciais e servem somente este estudo.

Indique um nome de um chefe que em sua opinião promove o bem-estar dos seus colaboradores?

Indique um nome de um chefe que em sua opinião não promove o bem-estar dos seus colaboradores?

Obrigado pela sua colaboração!



**APÊNDICE B -  
QUESTIONÁRIO SOBRE LIDERANÇA E BEM-ESTAR / PRÉ-TESTE ESCALA LIDERANÇA PROMOTORA  
DE BEM-ESTAR (ELPB)**

**FACULDADE DE ECONOMIA  
UNIVERSIDADE DO ALGARVE**



**QUESTIONÁRIO SOBRE LIDERANÇA E BEM-ESTAR**

Este questionário insere-se no âmbito de um projecto de Tese de Doutoramento em Turismo destinado a estudar o impacto da liderança no bem-estar dos colaboradores em Hotelaria.

As respostas a este questionário são totalmente confidenciais, não sendo possível, em momento algum, a identificação dos inquiridos ou das chefias a quem se reportam.

As suas respostas são de elevada importância para este estudo e os resultados contribuirão para um melhor conhecimento e desempenho da actividade hoteleira e da competitividade organizacionais.

Desde já agradecemos a sua disponibilidade

**Dados Biográficos:**

Sexo:  Masculino  Feminino

Idade:  Até 25 anos  26-40 anos  40-50 anos  Mais de 50 anos

Habilitações:  Até 9º ano  Secundário  Curso Profissional  Curso Superior

Qual o Departamento do Hotel em que trabalha?

**Departamento:** (faça uma cruz no quadrado correspondente ao departamento em que trabalha)

- |  |                                      |
|--|--------------------------------------|
| <input type="checkbox"/> Andares         | <input type="checkbox"/> Lavandaria  |
| <input type="checkbox"/> Animação        | <input type="checkbox"/> Manutenção  |
| <input type="checkbox"/> Bar             | <input type="checkbox"/> Recepção    |
| <input type="checkbox"/> Cozinha         | <input type="checkbox"/> Restaurante |
| <input type="checkbox"/> Direcção        |                                      |
| <input type="checkbox"/> Administrativos |                                      |

Há quanto tempo trabalha com o seu/sua chefe actual? \_\_\_\_\_

Exerce cargo de chefia?  Sim  Não

O seu chefe é:  Homem  Mulher

Prefere ter como chefe um:  Homem  Mulher  Tanto faz/ É indiferente  
Porquê? \_\_\_\_\_

Pense no(a) seu chefe e, utilizando a escala que se segue, assinale com um **círculo** o número que corresponde à sua resposta, utilizando a escala de **1** (discordo totalmente desta afirmação) a **5** (concordo totalmente com esta afirmação).

- 1 discordo totalmente desta afirmação
- 2 discordo parcialmente com esta afirmação
- 3 não concordo nem discordo ou não é aplicável
- 4 concordo parcialmente com esta afirmação
- 5 concordo totalmente com esta afirmação

Nº	Frase	O meu chefe
01	Contacta para saber se correu tudo bem	1 2 3 4 5
02	Grita com o funcionário em público	1 2 3 4 5
03	Exige rigor no trabalho, demorando-se o tempo que for necessário	1 2 3 4 5
04	Sem espaço para brincadeiras	1 2 3 4 5
05	Demonstra confidencialidade na resolução de problemas dos funcionários	1 2 3 4 5
06	Comunica pouco entre chefias, originando repetição de acções	1 2 3 4 5
07	Não explica o que pretende	1 2 3 4 5
08	Pode-se mudar a folga	1 2 3 4 5
09	Não se interessa pela formação do empregado	1 2 3 4 5
10	Não se preocupa com a confidencialidade na resolução de problemas dos funcionários	1 2 3 4 5
11	Tenta que o funcionário não trabalhe horas a mais	1 2 3 4 5
12	Preocupa-se com a melhoria dos conhecimentos do empregado	1 2 3 4 5
13	Aceita dificilmente a saída antecipada do empregado	1 2 3 4 5
14	Deixa os funcionários agir com liberdade	1 2 3 4 5
15	Não se preocupa se a pessoa tem tempo para fazer tudo bem	1 2 3 4 5
16	Informa acerca de tudo o que se passa	1 2 3 4 5
17	Resolve os problemas	1 2 3 4 5
18	Adia a resolução dos problemas	1 2 3 4 5
19	Admite quando erra	1 2 3 4 5
20	Não respeita os horários	1 2 3 4 5
21	Fala com todos os funcionários	1 2 3 4 5
22	Cria conflitos	1 2 3 4 5
23	É sensível a tudo o que está à sua volta	1 2 3 4 5
24	Com tempo para a brincadeira	1 2 3 4 5
25	Nunca se inteira da forma como as coisas correram	1 2 3 4 5
26	Facilita a saída do funcionário para resolver problemas	1 2 3 4 5
27	O trabalho tem que ser feito rápido; se necessário sem qualidade	1 2 3 4 5
28	Move-se através dos conhecimentos	1 2 3 4 5
29	Se o funcionário chegar atrasado, esporadicamente, não levanta problemas	1 2 3 4 5
30	Nunca se preocupa com a vida pessoal dos funcionários	1 2 3 4 5
31	Sabe até onde cada um pode ir	1 2 3 4 5
32	A folga está marcada e não se pode mudar	1 2 3 4 5
33	Explica bem os objectivos que se pretendem atingir	1 2 3 4 5
34	Não tolera atrasos	1 2 3 4 5
35	Apazigua os conflitos	1 2 3 4 5
36	Quando tem que chamar a atenção, fá-lo em privado	1 2 3 4 5
37	Faz reuniões frequentes entre chefias para melhorar a comunicação	1 2 3 4 5
38	Põe-se atrás dos funcionários para ver o que estão a fazer	1 2 3 4 5
39	Preocupa-se sempre com o funcionário que não vem trabalhar	1 2 3 4 5
40	Não se sabe nada	1 2 3 4 5
41	Tenta ver o ponto de vista de todos os envolvidos	1 2 3 4 5
42	Não confronta com as partes interessadas	1 2 3 4 5
43	Tem sempre razão mesmo sabendo que não	1 2 3 4 5
44	Pessoa frontal	1 2 3 4 5
45	Só fala com os chefes de secção	1 2 3 4 5
46	Faz uma grande história à volta das coisas	1 2 3 4 5
47	Pessoa fria	1 2 3 4 5
48	Rodeia-se de pessoas competentes	1 2 3 4 5

Respondeu a todas as questões? Obrigado pela sua colaboração!

## PARALLEL SESSION II

## DYNAMICS OF HEALTHY AGING COMMUNITIES

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### ABSTRACT

In our time, populations around the world are aging and most people can expect to live into their 60s and more. However, older age does not imply dependence. The growing number of older adults in our society requires new perspectives of health care system and new manners to organize and promote the development and wellbeing of old people, in each real community. Communities depend on organizations to ensure their health, quality of life and to increase healthy environment and satisfying their needs. That implies the use of community interventions properly planned. So, we must know the answers too many questions and we must provide many paths to find the best way to conduct elderly people to happiness. Where are the old people? In terms of geographic space, where are they now? Where do they live? What do they look like? How to communicate with them? What do they like to do? Or are able to do? Who can support them in their dreams? This paper presents a multifactorial approach to aging reality in the community. It shows the relevance of community participation, the sense of community, the relevance of promotion healthy aging, and explain the importance of an epidemiological profile of functionality and quality of life of elderly.

Keywords: Aging, Community Participation, Sense of Community, Promotion healthy aging, Social representation, Quality of life.

### 1. INTRODUCTION

The elders of our society not only live longer than their ancestors as have resilient competence to cope with life's problems and constituting models for the new generations (Faria, 2014). Many of them are active in society, is the level of participation in the family, community, business, politics and the environment. Others have difficulties in adapting their lives to their own aging process (retirement, chronic illness, transitions, isolation and loneliness). Aging also appears associated with certain physical, mental and social weaknesses that we need to prevent or able to identify in order to deal with them. Disease and disability, in particular, chronic degenerative diseases arise sometimes in this age group and affect the functional capacity. Understandably, the greatest weakness is the risk of disability, institutionalization, hospitalization and death (Strandberg, Pitkälä and Tilvis, 2011), so it is important to be focused to the signs.

The organization of society, family interaction patterns and filial responsibility in providing care to their parents has undergone changes in recent times. Sometimes, contributed to the isolation and loneliness of older and its institutionalization. When the family cannot support or does not exist, you need to create support structures for senior citizens. But, when the family wants to care for and support their loved ones need to create family support structures in the aging process.

The authors observe that "*Not only is the world aging, but it is also aging differently*". We must transpose the current image of older people in society associated with frailty, dependency, unproductive or a burden for society and for future generations. Studies show that the quality of life, welfare, maintenance of mental qualities are directly related to social activity, socializing, integrated feel and useful in family and community. However, aging can also occur associated with certain physical, mental and social weaknesses. We know that good mental health and good memory enables seniors to realize their fullest potential and to cope with life transitions and major life events. While poor mental health and poor memory has the opposite effect. So, we need exploring the changing social dynamics of aging and their multiple contexts and promote the wellbeing in all aging people.

Studies have shown how the quality of life, welfare, maintenance of mental, physical and social qualities are directly related to the performance of meaningful and rewarding occupations (Carvalho and Dias, 2011). Thus, according to European Union and Committee of the Regions, (Andor, Bresso and Sedmak, M., 2011), one must know how to make the most participatory senior citizens in society, as actors in their own development. Therefore, this view of aging is associated with the interests of elders pass to be understood as "*people develop*" and not as "*people to solve*." The developmental perspective of the aging process has been supported by three components (Fonseca, 2005):

1. potential development;
2. adaptive capacity; and
3. limits of adaptive capacity

So we can expect that older people are competent and provide the ability to adapt to aging, to enable them to know how to deal with situations and problems arising from the transition and the implications of change due to aging. The ability of older self-update with your new stage of their lives allows them to be open to new challenges, willing to experiencing different experiences and to devise a new project of life.

## 2. AGING IN SOCIETY

The World Health Organization (WHO, 2002) draws attention to the contemporary reality of the population aging process and how it can meet global, national and local challenges. In particular, it relates seven challenges are highlighted in the following order:

1. disease double load (change in the pattern of non-communicable diseases to non-communicable, and is expected in 2020 an increase of 78% of the global burden of disease in non-communicable diseases, chronic diseases (heart disease, cancer and depression) causes death and disability, mental illness and injury;
2. higher risk of disability;
3. provision of care for aging populations process;
4. feminization of aging;
5. ethics and iniquities;
6. economy of a population aging process; and
7. creation of a new paradigm that perceives the elderly as active participants in a society with integration of age, active contributors and beneficiaries of development.

So that everything goes well you need to plan in an innovative way and carry out comprehensive policies to aging.

The wellbeing of the population as a whole in the future must be a concern of all people and we know that we must prepare the future in the present. The Academy of Medical Sciences (2014) aims to identify the main health challenges the UK population will face by 2040, and the opportunities to address them. The Academy considers that *“Many of the health challenges of the future, such as an ageing population, pandemics and obesity, can only be fully addressed through measures to improve the physical and mental health of the population as a whole and by preventing disease before it reaches the clinic.”* That is a good example for others countries; to prepare the future of healthy people.

In ours days, we observe that life expectancy is increasing, with people 85 years and older, (especially women). comprising the fastest growing segment of the population in many countries.

It is expected that in 2025 there are about 1.2 billion people with 65 or more years. In the European Union the percentage of older workers will increase in the coming decades. The trends of the active population of EU-27 suggest an increase of about 16.2% (9.9 million) of the age group of 55-64 years between 2010-2030 and the remaining decrease. Therefore, population aging is one of the most striking phenomena in contemporary societies, the result of a number of advances in the biomedical, technological and behavioral sciences, which are concerned with increasing the well-being and quality of life of older people (Fernandes Vasconcelos-Raposo, Pereira Ramalho and Oliveira, 2009).

As multifaceted process, aging involves structural and functional changes in almost all the body, which are reflected in demonstrations to psychomotor level, socio-affective and cognitive (Fernandes *et al.*, 2009). In the socio-affective dimension are to highlight the loss of roles, expectations and references to the social group, which can threaten the integrity of the elderly, raising some cases, according to Solomon and Davis (1995, cit. by Vaz and Nodin, 2005), depression, anxiety, psychosomatic reactions, withdrawal and disengagement. This panoramic calls for a new social organization. On the one hand, the creation of support at local and regional level structures, enabling live longer with quality of life and, secondly, the possibility of identifying the added value of the elders and maximize this source of human wealth (Faria, 2014).

We would like older citizens had the opportunity to develop their skills in order to promote their quality of life and to be supported in their endeavors, as well as in their personal adversity, social and health. How communities are contributing to realize this intention? What are the synergies that are being developed between the institutions dedicated to aging? What kind of projects and services could be created and implemented by the community? How they could create support networks for the promotion of health and quality of life in aging and the prevention of

risks associated with it? The answer to these questions implies community involvement to building a healthy aging in the community.

### 3. HEALTHY AGING IN COMMUNITY

Today, aging vision is presented in a dynamic and positive point of view, not only linked to chronic illnesses, disease and death. Therefore, we understand adulthood and old age from a development perspective and learning lifelong

The fact that we consider adulthood and old age are related to earlier stages of human development allows the possibility to plan an appropriate intervention at the level of promotion and protection capabilities of risks at this age. However, according to Fonseca (2004, 2012), this step is also independent of the others, so it requires close and detailed look in terms of physical, cognitive, social and psychological aware of life changes at this age, as the case for reform. Studies show that *“the fact that individuals are transformed not only in appearance over the adult years, but in social and life patterns, in interests and priorities, and in relationships and inner qualities. No longer is the mature adult to emerge fully formed after a succession of developmental stages in childhood. Adulthood itself is now recognized as a period of active and seemingly systematic change”* (Wortley and Amatea, 1982, p.476).

According to Fernandez-Ballesteros (2000), understanding the indicators of functional age (functional capacity, reaction time, life satisfaction, range of social networks) allows for the creation of conditions for a satisfactory aging. The maintenance of functional capacity throughout life, in particular, from the age of 65, becomes a priority for healthy aging. In this regard, the World Health Organization, draws attention to the importance of educating people from the middle-aged, *“in healthy lifestyles, management of stress, the need for adequate exercise and nutrition and the prevention of loss of autonomy the well as prevention of disease. This process must begin in midlife in order to be fully effective”* (Schroots, Fernández-Balesteros and Rudinger, 1999b, p.144).

Aging may arise associated with certain physical, mental and social weaknesses. This is the image of aging that humans fear most. The study by Fried and colleagues (2001; cit Duarte and Paúl, 2014, 28) considers that there is a *“Phenotype of Fragility”* which is manifested by the presence of three or more of the following indicators:

1. weight loss unintentional last year (direct measurement of weight);
2. weakness: decreased strength (measured on the dynamometer);
3. Exhaust: self-reported fatigue, (identified by two issues of the Depression Scale of Epidemiologic Studies Center (CES-D);
4. slow: measured by gait speed (indicated in seconds away 4.6M); and
5. level of activity (calculated result of kilocalories (kcal) spent a week and measured on the basis of self-reporting of activities and exercise performed).

From here, authors consider three levels of frailty (Fried *et al.*, 2001; cit. Duarte and Paúl, 2014, 28):

1. *“fragile”*: if the patient has three (or more) of these criteria;
2. *“pre - fragile”*: When has one or two of these indicators; and
3. *“robust”* (“not weak”): those who show no commitment at this level

The authors call attention to other predisposing factors, such as mental health indicators at the level of cognition (association between physical frailty and mental performance) and mood (positive association between depressive symptoms and the condition of frailty); whereas in clinical practice should be targeted intervention strategies developed in these two dimensions to delay and reduce the association between brittleness and aging (Duarte and Paúl, 2014).

In the 70s, a group of professionals from diverse contexts (political, social and academic) sought to transpose the current image of older people in society associated with frailty, dependency, unproductive or a burden for society and for future generations. It is this debate that arises the concept of productive aging (EP) defined as *“a meaningful and satisfying activity, in which the elderly are involved in a structured and continuous manner and that has a positive impact on your life”* (Gonçalves *et al.*, 2006, 139). In this process, if there is a social and cultural context that compensates for the loss of biological resources, the rhythm that gives rise to the decline can be locked, and can accelerate the presence of negative expectations about aging cultural and economic level.

In the 80s, Baltes and Baltes (1990) presented the concept of successful aging (SA), highlighting the heterogeneity of the aging process and the existence of a reserve in order to offset the decline of certain skills. While defending the principle of continuity of developmental gains and losses throughout the life cycle, consider that there are limits exposed by age for adaptation and behavioral plasticity, triggering an increase in losses and a decrease in gains. Thus, in this perspective, aging can be understood through the selection model, optimization and compensation,

interactive adaptation mechanisms that always seek to maximize gains and minimize losses (Baltes, Staundinger, and Lindenberger, 1999 cit. Gonçalves et al., 2006).

The World Health Organization (WHO, 2002) went further when came up with the concept of active aging, such as “*optimization process opportunities for health, participation and security in order to enhance the quality of life during aging*”. On the other hand, studies show that the quality of life, welfare, maintenance of mental qualities are -If directly related to social activity, socializing, integrated and useful feeling in the family and community (Carvalho and Day, 2011).

From the perspective that aging can be a positive experience, synonymous with a longer life and accompanied by continuing opportunities for health, participation and security, the World Health Organization (WHO, 2002) provides a different view of aging. Active expressed aging implies participation and involvement in various social, cultural, economic, civil and spiritual, not just the ability to be physically active or to be part of the workforce, this new way of understanding and perspetivar aging emphasizes importance of people to realize their potential for the promotion of their welfare and, above all, their quality of life (Ribeiro and Paúl, 2011)

In this sense, strategic planning ceases to have an approach based on the needs (considering older people as passive targets) and replaced by a rights-based approach, which allows the recognition of the rights of older people to equal opportunities and treatment in all aspects of life as they age. This approach supports the responsibility of the elders in the exercise of their participation in political processes and other aspects of community life (World Health Organization, 2002).

The year 2012 has been designated the “*European Year of Active Ageing and Solidarity between Generations*” enabling a positive approach to aging, creating spaces and reflective debate times and the emergence of proactive initiatives that enable the development and enhancement of senior population. It is considered that active aging can give the baby boom generation and the seniors of the future the opportunity to:

1. remain in the labor market and share their experience;
2. continue to play an active role in society; and
3. live a life as healthy and rewarding as possible.

On the other hand, sharing experiences and intergenerational solidarity in aging societies is a human and social wealth for the construction of happiness for everyone. Therefore, during the 2012 European Year was called attention to the fact never be late to “*share experiences*”, start a new career, “*to be master of his own life*”, “*expand the horizons*”, “*dedicate if other*”, “*make new friends*”, “*join forces*”, “*to have fun together*”, “*concern ourselves with others*”, “*to have a young spirit* “and” live intensely”.

The link between community involvement and psychological well-being sharing similarities with the benefits of paid work. For example, Jahoda (1998, cit. By Olesen and Berry, 2011), a prominent theoretician of unemployment and health field, assumes that employment is a protective factor of mental health in that foster a sense of belonging or goals common. This, in addition to the importance of continuity of activities and roles during advanced adulthood, shows that social participation (or community) can be a crucial source or psychological well-being alternative for reform in the absence of paid work. A comprehensive perspective of community participation is used by Berry, Rodger and Dear (2007) in the design of your “*Australian Questionnaire Community Participation*”. In the validation study of this instrument, they found that only seven types of participation (which called Big 7) were independently associated with lower psychological distress in a general sample of the adult community. These types of participation are:

1. contact with friends,
2. organized community activities,
3. contact with neighbors,
4. contact with the extended family,
5. contact with people in the household,
6. active interest in the current affairs and
7. religious practice

Other types of participation as the public expression of opinions and political protest, appear, however, be associated with higher levels of distress.

Although community sentiment levels are related to levels of community participation, the direction of this relationship is unclear. Sarason (1974) argues that the sense of community can be a facilitator process of citizen participation and provide an antidote to feelings of anomie, alienation, isolation and loneliness that enhance dynamic destructive of people’s lives and the impoverishment of societies. On the other hand, the author points out that it is

the need to have a sense of community that drives individuals to engage community participation practices.

McMillan and Chavis (1986, 6) consider: “*Sense of Community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together.*”. They propose that Sense of Community is composed of four elements: Membership, Influence, Integration and fulfillment of needs; and Shared emotional connection.

Already Talo, Mannarini and Rochira (2014), in their meta-analysis of the literature on the sense of community, state that most empirical studies have shown that participation is a variable that depends on the sense of community. The literature assumes the existence of a circularity relationship between the sense of community and community participation. In this sense, the sense of community enhances the active participation of citizens which, in turn, fosters a sense of community (Severino de Jesus, 2013).

#### 4. AGING AND WELLBEING IN SOCIETY

The organization of society, family interaction patterns and filial responsibility in providing care to their parents has undergone changes in recent times (Pereira and Roncon, 2010), and to some extent contributed to the isolation and loneliness of older and its institutionalization. In a study conducted by the authors stress the intra-familial correlates negatively with the quality of life and positively with depression. Therefore, when the family can not support or does not exist, you need to create support structures for senior citizens. But when the family wants to care for and support their loved ones need to create family support structures in the aging process so that it does not wear. An interesting given the option of looking after the family brings us to the facts of everyday life to show us that effectively in our time, are often older who care for older ones (spouse, siblings), but also care of loved young family (children, grandchildren, great-grandchildren). This needs to be the target of creating social and health policies for aging and a specialized intervention carried out in the community in order to support the family.

Provide to older people in society a life with quality means that professionals who work with this population in social, educational, health and political hold discussions and implement ongoing strategies of productive aging, so that these citizens are participating in society and perceive well-being and satisfaction with life. It is also important that they know and can protect your health consciously, delineating their boundaries and taking precautions to protect your health and not to endanger. The adoption of healthy lifestyles in old age provides a potential benefit to the preservation of health and autonomy of seniors, enabling healthy aging. Therefore, various structures for aging have been created and several programs have been developed to ensure social support, training and personal development, health promotion and the prevention and control of diseases. Provide to older people in society a life with quality means that professionals who work with this population in social, educational, health and political hold discussions and implement ongoing strategies of productive aging, so that these citizens are participating in society and perceive well-being and satisfaction with life. It is also significant that they know and they can protect your health consciously, delineating their boundaries and taking precautions to protect your health and not to endanger. The adoption of healthy lifestyles in old age provides a potential benefit to the preservation of health and autonomy of seniors, enabling healthy aging. Therefore, various structures for aging have been created and several programs have been developed to ensure social support, training and personal development, health promotion and the prevention and control of diseases.

The concept of quality of life has been presented in several perspectives, but the definition of quality of life of the World Health Organization is the one with greater international consensus (Canavarro and Vaz Serra, 2010). The quality of life is defined as “*the perception of the individual about his position in life, within the context of culture and value systems in which it is inserted and in relation to their goals, expectations, standards and concerns*” (WHOQOL Group, 1994 28). In order to assess the quality of life WHO created the WHOQOL-100 (WHOQOL Group, 1993, 1994, 1995, 1998), which has the following areas: Physical; Psychological; Independence level; Social relationships; Environment; and Spirituality. Later, an abbreviated version of WHOQOL which is composed of 26 items and is organized into four domains was performed: Physical, Psychological, Social Affairs and Environment, including a facet on overall QOL (quality of life in general, and general health perception).

#### 5. CONCLUSION

OECD (2015) data indicates that in OECD countries, the population share of those over 65 years old reached 17.8% in 2010, up from 7.7% in 1950, and is expected to climb to 25.1% in 2050. We envisage the future society towards ageing societies and sustainable development urban. In its report, the OECD (2015,1) leaves us three considerations: “*First, ageing societies are not “a problem” as such. Longevity is the result of socioeconomic development and can provide opportunities for growth, such as through technological development. Second, ageing societies are not simply societies of “older people”. Cities, where older*



people live with a high quality of life, can be good places for any generation. Third, unlike other potential challenges, such as a financial crisis or natural disaster, ageing trends and their impact can be fairly predictable. Cities can thus take action now to prepare for future demographic changes.” Therefore, each community has to prepare for a new era.

Focused in a territory, the community must be understood as a relational space. In a relational community. The sense of community implies a connection and a sense of belonging to the group. According to the authors, the members feel this context as a safe place, of belonging, where they can learn new skills and make friends, invest their time and energy in achieving the common goals, feeling that can make a difference and establish an emotional connection with this community and its members (Ornelas, 2008).

Grow old with well-being and quality of life implies the involvement of himself, his family, community and society. So, we are facing a set of dynamic developing in the area of individual, family, social and political responsibility. Enliven every year from the age of 65 implies creating support structures and empowerment to older society and prepare the young to know how to deal assertively with the aging of their community. and create dynamics of successful and active aging.

We need innovation to prepare for “*The Global Aging Society*” and we need participation and involvement of all citizens. Every Community must care for their aging society.

It is a fact, many communities where older people live were not designed for their needs, older residents may require support to remain in the least restrictive environment. So, how they say the authors, we must “*Creating elder-friendly communities*”. That is, “*Age-prepared communities use community planning and advocacy to foster aging in place. “Elder-friendly communities” are places that actively involve, value, and support older adults, both active and frail, with infrastructure and services that effectively accommodate their changing needs*” (Alley, Liebig, Pynoos, Banerjee and Choi, 2007,1). Before citizens, politicians and rulers are the first responsible to develop that strategies. The development of aging, with present and future, with well-being guaranteed, is a right for all people. So, we have not choice, we must to get involved in the *Dynamics of Healthy Aging Communities*. and create support structures with positive discrimination.

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# COMMUNITY PARTICIPATION AND SENSE OF COMMUNITY IN RETIREES FROM THE CITY OF SERPA

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## ABSTRACT

This study intended to investigate the role of different types of community participation in sense of community as well as to explore the role of a set of variables described in the literature as determinants of participation. To do this we adapted to the Portuguese population the Australian Community Participation Questionnaire and the Sense of Community Index 2 and built the Community Participation Determinants Inventory, instruments which have shown to be adequate to evaluate these variables.

A sample of 229 residents of the town of Serpa was involved, 107 of whom were retirees. The whole sample were involved in the validation procedures of instruments, but only the retirees were taken in account in the main study.

The results indicate low levels of social contact with workmates, adult learning, religious observance, organized community activities, voluntary sector activity, expressing opinions publicly, community activism and political protest. Significant relations between sociodemographic variables and community participation, including gender, marital status, employment status, professional level, educational level, income, length of residence and the household were found. Regarding the relation with the sense of community, significant correlations were found with the overall level of participation, with the breadth of participation and with most types of participation, except for contact with immediate household, contact with extended family, social contact with workmates and political protest.

Despite of found relations with all determinants of participation, their correlations with the levels of participation are most significant in the intrapersonal factors.

Keywords: Retirees, Community Participation, Sense of Community, Community Participation Determinants.

## 1. INTRODUCTION

Community participation, a central concept of community psychology which seems to play a crucial role in health, happiness and life satisfaction, was conceptualized by Putnam (1995, as cited in Olesen & Berry, 2011) as the first of two major components of social capital. The second component is social cohesion (which incorporates the sense of belonging, social trust, generalized reciprocity, cooperation and information sharing). Participation is thought to be linked to cohesion in that greater participation leads to greater cohesion, creating a virtuous circle of social capital creation and maintenance (Berry, Rodgers & Dear, 2007).

According to Berry & Shipley (2007), the relation between social capital and mental health is believed to exist because community participation both enables and promotes aspects of social cohesion which, in turn, contributes to mental health. Thus, it is assumed that social cohesion mediates the association between community participation and mental health.

After an extensive review of literature, Berry, Rodgers & Dear (2007) identified three broad categories of community participation: (1) informal social connectedness, (2) civic engagement, and (3) political participation. This three categories include 14 types of community participation, as follows: informal social connectedness includes contact with immediate household, contact with extended family, contact with friends, contact with neighbors and social contact with workmates; civic engagement includes adult learning, religious observance, organized community activities, voluntary sector activities and giving money to charity; political participation includes active interest in current affairs, expressing opinions publicly, community activism and political protest.

This perspective of community participation is very broad, covering the most common activities that have been

consistently associated in the literature with psychological well-being, particularly during late adulthood.

In the view of Sarason (1974, as cited in Ornelas, 2008), sense of community can be a facilitator process of citizen participation and provide an antidote to feelings of anomie, alienation, isolation and loneliness that potentiate destructive dynamics of life of people and the impoverishment of societies.

In a review of sense of community research, Ornelas (2008) emphasizes, among other conclusions, that the sense of community is positively related with higher levels of psychological well-being and negatively related with feelings of loneliness.

Despite these findings, the relation between community participation and sense of community is not clear. Therefore, it was considered appropriate to better know how these two constructs are hinged in subjects of an aging community.

Thus, this research aims to clarify the relation between these two variables, in particular between different forms of community participation and sense of community, in a sample of retirees living in the city of Serpa. Another goal is to understand the relation between these variables and the retirees sociodemographic characteristics and to identify the determinant factors (which facilitate or hinder) of their community participation.

## 2. COMMUNITY PARTICIPATION

Community participation, a central concept of community psychology, seems to have an important role in health, happiness and life-satisfaction. But this term has been used to designate different levels and forms of participation. Therefore, it is important to clarify the meaning of this concept.

To Ornelas (2003), community participation is not merely the voluntary offering of time or resources to a community, instead, it results from citizen participation in the decision-making in community behalf, implying effective involvement in group, organization and community decision-making processes. Thus, it emphasizes people empowerment regarding decision-making and development processes, access to resources and knowledge from this development process as well as access to the benefits by it achieved.

One of the most cited works in the literature of community participation, which influenced many theories and the way power structures interact in society, was that of Sherry Arnstein (1969, as cited in Kenny, Hyett, Sawtell, Dickson-Swift, Farmer and O'meara, 2013), author who conceives community participation as a set of engagement levels, increasing as regards the power of the citizen, pictured by analogy to a ladder.

The author describes the ladder as an illustration the different levels of participation, assuming that through the comprehension of their differences there may be greater understanding of the demands of citizens for significant redistribution of power and the symbolic way as participation is often seen by who holds it.

At lower levels, participation is made on the basis of consultation and information provision. At the higher levels, is the citizen who takes control, which involves the redistribution of government power for citizens.

A more comprehensive and less focused on power is Berry, Rodgers & Dear (2007) view, which in the development of their Australian Community Participation Questionnaire adopt a broader vision of community participation. After an extensive review of literature, Berry *et al.* (2007) identified three broad categories of community participation: (1) informal social connectedness, (2) civic engagement, and (3) political participation. This three categories include 14 types of community participation, as follows: informal social connectedness includes contact with immediate household, contact with extended family, contact with friends, contact with neighbors and social contact with workmates; civic engagement includes adult learning, religious observance, organized community activities, voluntary sector activities and giving money to charity; political participation includes active interest in current affairs, expressing opinions publicly, community activism and political protest. More than emphasize differences of power, the typology proposed by Berry *et al.* (2007) focuses on the contexts of participation, which are as diverse as the household or unions and political parties.

This broader concept of community participation includes in its most common forms activities that have been consistently associated in the literature with psychological well-being, particularly during late adulthood. In a consistent way with other studies about social activity and life satisfaction, Berry *et al.* (2007) found that only 7 types of participation (which they called Big 7) were independently associated with lower psychological distress in a general sample of the adult community. These types of participation are: (1) contact with friends, (2) organized community activities, (3) contact with neighbors, (4) contact with extended family, (5) contact with immediate household, (6) active interest in current affairs and (7) religious observance. Other types of participation as the expressing opinions publicly and political protest, appear, however, to be associated with higher levels of distress.

In another study, Berry & Welsh (2010) found that higher levels of participation (in the Big 7) are associated not only with better mental health but also with better general health and better physical functioning.

One of the ways in which community participation contributes to the improvement of mental health indicators is through the social contact that it implies / promotes.

Pettigrew (2007, as cited in Toepoel, 2013) argues that rituals such as having meals with others, reading, gardening and shopping help older people to remain socially active and act as a means of relieving loneliness. Other activities that reduce isolation include volunteering, cultural activities, sports and the use of internet (Toepoel, 2013). In contrast, Putman (1995, as cited in Toepoel, 2013) finds that the activity of watching TV increases social isolation. This author states that watching TV impedes participation in activities outside the home and takes the place of outdoor activities, social meetings and conversations. He argues that more time spent watching TV means less social trust, less sense of belonging to groups and fewer social connections. It is, however, unclear whether the activity of watching television which contributes to the isolation or is a consequence of this.

On the other hand Van Ingen and Van Eijck (2009, as cited in Toepoel, 2013) assume that, in addition to the type of activity, the type of company is an important factor in the evaluation of the relation between participation in leisure activities and social connectivity. These authors argue that the ties with family members can facilitate social support, while ties with wider social circles can stimulate civic engagement.

The links between social or community participation and psychological well-being share similarities with the benefits of paid work. For example, Jahoda (1998, as cited in Olesen & Berry, 2011), a prominent theorist in the field of unemployment and health, assumes that employment is protective for mental health because it promotes a sense of belonging or shared purpose. This, in addition to the proposed importance of continuity in activities and roles during late adulthood, indicates that community participation may be an alternative and / or key source of psychological well-being for retirees in the absence of paid work.

Other authors, Harlow and Cantor (1996, as cited in Olesen & Berry, 2011), found that employment status moderated the association between social activity (visiting with friends, neighbours, relatives and / or entertaining) and life satisfaction for a group of men. This finding indicated stronger association between social activity and life satisfaction for retired men compared to employed men.

Moen e Fields (2002, as cited in Olesen & Berry, 2011) similarly found that volunteering for a community organization was significantly associated with greater life satisfaction, self-esteem and mastery amongst retired people relative to working people.

Finally, Warr, Butcher and Robertson (2004, as cited in Olesen & Berry, 2011) found a significant interaction between overall activity level (that is, the frequency of participation across 17 activities, including visiting friends, family and neighbours, attending church, home maintenance, sports and others) and employment status with regard to affective well-being and life satisfaction amongst adults aged 50 to 74 years.

### 3. SOCIAL CAPITAL

Community participation was conceptualized by Putnam (1995, as cited in Olesen & Berry, 2011) as the first of two major components of social capital. The second component is social cohesion (which incorporates the sense of belonging, social trust, generalized reciprocity, cooperation and information sharing).

According to Putnam (2000, as cited in Ornelas, 2008) social capital includes the range of community and social networking organizations, the idea of common good, community identity, civic participation and norms of trust and reciprocity that facilitate cooperative action between citizenship networks and institutions. The social capital is distinct from physical capital, associated with physical objects, and human capital, associated with individual qualities, referring to links between individuals, social networks and norms of reciprocity and trust emerging from these links.

Community participation and personal social cohesion are also respectively known as the structural and cognitive components of social capital (Almedom, 2005; Whitley & McKenzie, 2005; as cited in Thuy & Berry, 2013). The structural component has to do with multiple ways of participating in the community, the networks of association that participation generates, and the quality of relationships with and between those networks (Whitley & McKenzie, 2005, as cited & Thuy and Berry, 2013). Participation is thought to be linked to cohesion in that greater participation leads to greater cohesion (Berry *et al.*, 2007), creating a virtuous circle of social capital creation and maintenance.

Because social capital is strongly protectively related to health (especially top mental health), happiness and life satisfaction, loss of social capital is a substantial concern (Miller & Buys, 2008, as cited in Thuy & Berry, 2013).

According to Berry & Shipley (2007), the relation between social capital and mental health is believed to exist because community participation both enables and promotes aspects of social cohesion which, in turn, contributes to mental health. Thus, it is assumed that social cohesion (which incorporates, as seen above, the sense of belonging, social trust, generalized reciprocity, cooperation and information sharing) mediates the association between community participation and mental health.

One of the central constructs of community psychology and is found in line with the concept of social cohesion is that of sense of community.

#### 4. SENSE OF COMMUNITY

The sense of community concept, introduced by Seymour Sarason, is a fundamental concept of community psychology. According to this author, citizens can live, work, pay taxes and vote and yet not to identify with their community, feeling that their participation and contribution to community problems solutions are not necessary or that there are no opportunities for this contribution (Sarason, 1974, as cited in Ornelas, 2008).

In the view of this author, sense of community can be a facilitator process of citizen participation and provide an antidote to feelings of anomie, alienation, isolation and loneliness that potentiate destructive dynamics of life of people and the impoverishment of societies.

The psychological sense of community is defined by Sarason (1974, as cited in Ornelas, 2008) as “*the perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, and the feeling that one is part of a larger dependable and stable structure*” (p. 58). Thus, the concept involves the sense of belonging to a network of relations, to a greater and reliable community, voluntary interdependence and mutuality.

McMillan & Chavis (1986, as cited in Ornelas, 2008) formulated a theory about the psychological sense of community in which they tried to translate the concept into measurable constructs for research.

In this context, they identified four components which define the psychological sense of community:

- *Membership*: which refers to the sense of belonging and being part of the collective. This status has five attributes: (1) the boundaries, that define who is part of this community; (2) a common system of symbols that unites members; (3) the emotional safety, that results from belonging and shared values; (4) identification with the community; and (5) the personal investment, resulting from the commitment to the community and generates stronger ties among its members;
- *Influence*: which refers to the feeling that members can make the difference into the group and that the group may be important to them;
- *Integration and fulfilment of needs*: which refers to the feeling that members' needs will be met through the resources that they will have access due to their status as members of the group;
- *Shared emotional connection*: which results from the commitment and conviction that members share and will share a history, common places, time and similar experiences. These connections are strengthened through positive and close contacts among its members.

To Newbrough (1980, as cited in Ornelas, 2008), some organizations (neighborhood organizations, church, mutual help groups) can act as mediation structures which, by creating opportunities for involvement of people with their community, promote citizens participation and facilitate their connection to the community.

To Rappaport (1994, as cited in Ornelas, 2008) belonging to a group, organization or community in which people can simultaneously receive and give support, is a way to increase personal control, that is, to increase confidence and personal convictions about their capacity for intervention and influence in various spheres of life.

Several studies have shown that elevated levels of sense of community may result in psychological benefits to people. This is the case of the study of Davidson & Cotter (1991, as cited in Fortuna da Silva, 2012) whom, in order to study the relation between the community feeling and the subjective well-being in adults living in three different areas in the United States, found that these two variables are significantly related. They concluded in this study that a strong sense of community increases the subjective well-being in terms of increased happiness and self-efficacy and decreased concern.

Also Prezza & Costantini (1998, as cited in Mendes de Morais, 2010) examined the relation between sense of community, life satisfaction, self-esteem, perceived social support and satisfaction with the services provided by the community in three communities of different sizes from Italy (Viterbo, Aquila and Naples). They found that the sense of community has a close relation with life satisfaction, self-esteem and perceived social support and, in particular, that life satisfaction is higher in residents of the smallest city (Viterbo) than in the residents from the other cities.

In Canada, the sense of community in adolescents, at both neighborhood and school context, was shown to be negatively associated with feelings of loneliness (Pretty, Andrews, & Collet, 1994, as cited in Mendes de Morais, 2010) and positively associated with wellbeing (Pretty, Conrov, Dugav, Fowler, & Williams, 1996, as cited in Mendes de Morais, 2010).

In Australia, Jong, Russell & Powers (2004, as cited in Mendes de Morais, 2010), in their longitudinal study about the sense of belonging to a neighborhood among elderly women, found that a high level of sense of belonging is associated with an increase of the physical and mental well-being and a decrease of stress.

Ornelas (2008) in a review about research on psychological sense of community points some conclusions:

- Sense of community is positively associated with higher levels of psychological well-being and negatively with feelings of loneliness.
- Residence time in the neighborhoods can strengthen sense of community, facilitating the development of more frequent and satisfying relationships between neighbors.
- Sense of community is related to many forms of political participation (voting, contacting politicians, community problem solving).
- Sense of community is positively correlated with development of positive relationships between neighbors, participation on local organizations, perceived control of the surrounding environment and collective effectiveness.
- Increase in sense of community precedes the increase of neighborhood levels and feeling of influence on matters relating to the neighborhood among individuals and groups.
- There is greater psychological sense of community in the contexts in which individuals feel they have a voice, power and influence.

Given this scientific evidence, increase support ties between citizens and their connection to their neighborhood contexts as well as strengthen geographic (defined on the basis of territory) or relational (developed on the basis of common interests and values) communities is a way to reduce isolation and alienation (Ornelas, 2008).

Although, as described above, sense of community levels are related to community participation levels, the direction of this relation is yet unclear.

Sarason (1974, as cited in Severino de Jesus, 2013) argued that it is the need to have a sense of community that drives individuals to engage in community participation practices.

Also Talò, Mannarini & Rocha (2014), in their meta-analysis of literature concerning sense of community, state that most empirical studies have shown that participation is a variable that depends on the sense of community.

Nevertheless, as in the previously explained association with social cohesion, the literature assumes the existence of a circularity relation between sense of community and community participation. Thus, the sense of community enhances the active participation of citizens which, in turn, stimulates the sense of community (Severino de Jesus, 2013).

## 5. METHODOLOGY

There is sufficient evidence that economic and social participation is essential to the well being and success of individuals, families and communities. People who are actively involved in their communities tend to experience higher levels of health and well-being than those who are not involved. The sense of community, also associated with better health indicators, is seen in the literature both as a cause or a consequence of participation.

The main question which guides this study is *how community participation and sense of community are related in te retirees from the city of Serpa*.

In this context, this research aims to understand the relation between community participation (in its different types) and the sense of community in the retirees from the city of Serpa. The other goals of this study are to understand the relation between these variables and the sociodemographic characteristics of the retirees and to identify the factors that determine (as facilitators or barriers) their community involvement.

Specifically, this study aims to understand:

- The overall level, frequency (by type of participation) and breadth of community participation in the retirees from the city of Serpa;
- The relation between community participation and socio-demographic variables;
- The sense of community in the retirees from the city of Serpa;
- The relation between sense of community and socio-demographic variables;
- The relation between community participation (global level, type and breadth of participation) and sense of community;
- The determinants of community participation in the retirees from the city of Serpa;
- The relation between community participation and its determinants;

This study fits the principles of action research, which has exploratory and transversal nature. There were used quantitative strategies for data collection as the survey and psychological assessment scales.

## 5.1 Participants

The participants in this study correspond to a convenience sample, which is made up of 229 residents of the city of Serpa, in the south of Portugal, 59.8% female and 40.2% male, aged 17 to 89 years ( $M = 53.17$  years), in which 46.72% are retired.

Apart from the participants identified in the community by convenience, were involved some teachers and users of the Senior Academy, users of the city's Social Centres, some members of the Vincentian Conference of Serpa, some volunteers from Ser Vida association and some unemployed people, trainees of two modulars training courses and of a training course for inclusion of the local development association Rota do Guadiana.

## 5.2 Instruments

In Portugal, there are no studies about community participation, in an inclusive and comprehensive perspective, specifically with regard to the senior population, nor appropriate instruments to assess participation. On the other hand, although there are some studies about the sense of community, mobilized instruments are not the most commonly used in international studies, making it difficult to compare results.

In that sense, we decided to adapt the Australian Community Participation Questionnaire (ACPQ) and the Sense of Community Index 2 (SCI-2) to the portuguese population and to develop a tool that would allow us to systematically collect information about community participation determinants described in literature, the Community Participation Determinants Inventory (IDPC). Sociodemographic data of the participants were also collected.

### *Australian Community Participation Questionnaire*

The ACPQ was developed by Berry, Rodgers & Dear in 2007 because, despite its recognized importance in the health research field, there were no instrument for measuring community participation systematically developed (Berry *et al.*, 2007; Berry & Shipley 2007).

This instrument is based on a definition of participation which includes *informal social connectedness* (ISC), *civic engagement* (CE) and *political participation* (PPa).

Based on an initial literature review were listed sixteen different types of participation: contact with family members, contact with the extended family, contact with friends, contact with neighbors, social contact with co-workers, organized community activities, religious practice, adult education, leadership in the voluntary sector, donating money to charity, active interest in local affairs, interest in national and international affairs, public expression of opinions, participation in political groups and political action organization.

They were privileged items impacting see or do activities with others in person as compared to impersonal participation, personal involvement creates more stable bonds (Putman, 2000, as cited in Berry *et al.*, 2007). To test this idea they were included items associated with impersonal participation such as the payment of clubs or community organizations quotas.

For each item, participants characterized their level of participation in this activity through its positioning on a scale of 1 to 7, from 1 = *Never, or almost never* and 7 = *Always, or almost always*.

From the initial set of 67 items, based on the statistical procedures undertaken, a significant number of items was removed, whereby the final scale remained with only 30 items, divided into 14 subscales: (1) contact with immediate household (CIH); (2) contact with extended family (CEF); (3) contact with friends (CF); (4) contact with neighbors (CN); (5) social contact with workmates (SCW); (6) organized community activities (OCA); (7) giving money to charity (GMC); (8) voluntary sector activities (VSA); (9) adult learning (AL); (10) religious observance (RO); (11) active interest in current affairs (AICA); (12) expressing opinions publicly (EOP); (13) community activism (CA) and (14) political protest (PPr).

These subscales are grouped in three interconnected dimensions. The *informal social connectedness* dimension includes contact with immediate household, contact with extended family, contact with friends, contact with neighbors and social contact with workmates. The *civic engagement* dimension includes adult learning, religious observance, organized community activities, voluntary sector activities and giving money to charity. Finally, the *political participation* dimension includes active interest in current affairs, expressing opinions publicly, community activism and political protest.

### *Sense of Community Index 2*

The Sense of Community Index is the most widely used quantitative measure of the sense of community in the social sciences, having been used in several studies covering different cultures (North and South America, Asia, etc.), several contexts (urban, rural, tribal, among others) and different types of communities (cities, neighborhoods, clubs, schools, groups on the Internet, among others) (Chavis, Lee & Acosta, 2008).

The SCI was originally developed by McMillan & Chavis in 1986 and reviewed by Chavis, Lee & Acosta in 2008



(SCI-2), based on McMillan & Chavis (1986, as cited in Chavis, Lee & Acosta, 2008) theory of sense of community, according to which sense of community is a perception composed by four elements: *membership* (M), *influence* (I), *fulfilment of needs* (FN) and *shared emotional connection* (SEC).

The results of previous studies demonstrated that the SCI is a strong predictor of participation and a valid measuring instrument. However, SCI has been criticized in terms of its variability (since it initially consisted only of 12 items to which people responded through a true / false scale), consistency of its subscales, their use in different cultural groups and clarity of some of the items (Chavis, Lee & Acosta, 2008), a fact which led the authors to carry out a review of the scale.

The SCI-2 is comprised of 24 statements, which are classified by the subject from “*Not at all*” (0) to “*Completely*” (3). Through the quotation of the 24 statements the sense of community and its four subscales scores are obtained. These subscales correspond to the four elements identified by McMillan & Chavis theory (1986, as cited in Chavis, Lee & Acosta, 2008).

Once revised, the SCI-2 was used in a study using a sample of 1800 participants. The consistency analysis of the scale and subscales revealed very reliable values for the total scale ( $\alpha = 0.94$ ) and reliable for the subscales ( $0.79 < \alpha < 0.86$ ).

Being a scale designed to be used in different types of communities, it is necessary to identify, at the corresponding place, the community referent (in the case of this study, the city of Serpa, a geographical community).

The SCI-2 also includes an initial validation question that can help in interpreting the results (“*How important is it to you to feel a sense of community with other community members?*”). Chavis, Lee & Acosta (2008) state that although the answer to this question is found related to the sense of community, this can not happen in all sorts of communities.

### *Community Participation Determinants Inventory*

In order to create the Community Participation Determinants Inventory (CPDI), an instrument to assess the several determinants of community participation (barriers or facilitators), a literature review related to different types of participation was carried out (Mendes, 2014).

In this review, we identified three orders of determinants derived from the Leisure Constraints Model (Crawford, Jackson & Godbey, 1991), which guided the construction of this inventory: intrapersonal, interpersonal and structural determinants. Based on these dimensions, we developed a total of 49 items, also derived from the literature.

In the intrapersonal dimension were included items related to socioeconomic, biological, cognitive, emotional and behavioral characteristics. In the interpersonal dimension were included items related to family status, social support and attitude of people. Finally, in the structural dimension were included items related to environmental factors, infrastructure, services and offers (Mendes, 2014).

Items took the form of statements to which participants had to respond indicating their agreement level, from 1 - “*I totally disagree*” to 6 - “*I totally agree*”.

More than gauge the participants’ perception about the impact of several factors on their participation in the community, it was intended to position them in relation to each factor and, then, to explore its association with their participation in the community.

Through a process of internal consistency analysis and factor analysis, the initial set of items was reduced to 34, divided by the 3 previously identified dimensions and 6 factors. The *Intrapersonal factors* dimension (IaF) include two factors: *Satisfaction with oneself and their skills* (SOTS, composed of 7 items) and *Attitude towards community participation* (ATCP, 4 items). The *Interpersonal factors* dimension (IeF) include *Social network and family support* (SNFS, 5 items) and *Attitude and people support* (APS, 7 items). Finally, *Structural factors* dimension (SF) include *Environment, access and media* (EAM, 3 items) and *Services, offers and participation habits* (SOPH, 8 items).

### *Sociodemographic variables*

In this study, in addition to the contained in the previously described instruments, were collected data concerning age, gender, marital status, professional status, retirement time, previous occupation (or current, in the case of employees), schooling, household income, residence area (or neighborhood), residence time and household composition.

As previously seen, these variables are described in the literature as related to successful aging, psychological well-being, retirement satisfaction, mental health and community participation.

## **5.3 Procedures**

Taking into account the unavailability of a portuguese version of the ACPQ and the existence of only a Brazilian version of the SCI-2, whose application in this study was not considered adequate, we started with a translation and validation work of these scales as well as the IDPC (Mendes, 2014).

Data collection began on February 6<sup>th</sup> and ended on May 15<sup>th</sup>, 2014. Initially we involve only the retirees of the

city but, because data collection process took too long in regard to temporal demands, we chose to extend the study to the non-retired population.

In the preliminary study for scales validation, all participants were taken into account, while in the main study only the retirees were considered. Nevertheless, some comparisons were established between them and the non-retired group.

The data collection procedure was the interview, in the case of participants with less reading comprehension skills, and the autonomous filling of instruments, which were provided either on paper or in digital format. The data were entered into a database created with SPSS (Statistical Package for Social Sciences, v. 20, IBM), which was also used for data processing.

### *Data processing*

Data processing began with the analysis of non-responses in the database, followed by the test of variables normality, the Kolmogorov-Smirnov and Shapiro-Wilk tests. Once in the tests we obtained significance levels below 0,20, the minimum value for accepting the null hypothesis for normal distribution, non-normality of variables was assumed.

Based on coefficients of symmetry – obtained by the division of the symmetry value  $g_1$  by the standard deviation value  $SD\ g_1$ , as described in Pestana & Gageiro (2005, pp. 77) – it was also found that many variables have asymmetric distributions (coefficients of symmetry  $< -1,96$  or  $> +1,96$ ).

Based on the observation of box-and-whiskers, we also confirmed the existence of outliers (aberrant observations that tend to distort the mean and standard deviation) at most variables. Once we confirmed that they were not result of data entry errors, we opted for its maintainance at the sample, since we considered that these were significant events for this research. Another advantage of keeping these cases was the non-reduction of the number of participants in the study ( $N = 229$ ).

After these initial procedures, undertaken in order to decide the data analysis procedures more appropriate to the collected data, we proceeded to the assessment of the reliability and validity of the two translated scales and scale created by us. This assessment was based on the assumptions set out by Hill & Hill (2005), namely the factorial, convergent and discriminant validity and internal consistency assessment. The results show that the scales are appropriate instruments for the assessment of the variables at issue (Mendes, 2014).

Before the statistical procedures with the aim to explore the relation between variables, we calculated new variables and grouped the participants according to the scores obtained in some of these variables (Mendes, 2014).

Due to the characteristics of available data, including their non-normality, we decided to use nonparametric correlations (Spearman's rank correlation coefficient) to establish relations among variables and to use the sample median ( $Md$ ), instead of sample mean, for comparisons between groups.

According to Pestana & Gageiro (2005), for not being sensitive to distribution asymmetries nor to the outliers presence, unlike the Pearson correlation coefficient (Pearson's  $r$ ), the Spearman's rank correlation coefficient ( $q$ ), indicated to measure the relation intensity among two ordinal variables, must be used to measure the relation between quantitative variables (either interval or ratio) when the criteria of normality is not assured.

On the other hand, and according to Marôco (2007, p. 124), if a variable is ordinal or if, being continuous, its distribution is not normal, the best central tendency measure to be used in the statistical procedures is sample median.

To evaluate the relation between quantitative and qualitative variables, nominal or ordinal, we used eta nonlinear association coefficient ( $\eta$ ), which, unlike the correlation coefficients, varies between 1 and 0. The  $\eta^2$  value is understood as the ratio of variation in the dependent variable that is explained by the independent one (Pestana & Gageiro, 2005).

## **6. RESULTS**

### **6.1 Community participation: Retirees and non-retirees**

We start by presenting the results obtained by the retirees ( $N = 107$ ) with respect to median levels of global community participation (GCP), dimensions of participation (ISC, CE and PPa), types of participation (CIH, CEF, CF, CN, SCW, AL, RO, OCA, VSA, GMC, AICA, EOP, CA and PPr) and participation breadth (CPB) compared to non-retirees and to the whole sample. Eta coefficient scores ( $\eta$ ) between community participation variables and retirement status are also presented.

With regard to the whole sample, we found that the most frequent types of participation were active interest in current affairs (AICA), contact with immediate household (CIH), organized community activities (OCA), contact with extended family (CEF) and contact with friends (CF). The less frequent types of participation are political protest (PPr), adult learning (AL), religious observance (RO) and voluntary sector activities (VSA).

Analyzing the retirement status effect (as an independent variable) in the community participation variables (as dependent variables) we see a *Medium effect* on the global participation level (GCP, which explains 5,20% of this variable variance, with retirees getting lower median scores), in contact with neighbors (CN, which explains 5,66% of this variable variance, with retirees getting higher median scores) and adult learning (AL, which explains 21,16% of this type of participation variance, with retirees getting lower median scores) and a *High effect* in social contact with workmates (SCW, which explains 26,42% of this variable variance, with retirees getting lower median values) (effect extent according to Marôco, 2007, p. 184).

In global terms, among retirees, global community participation (GCP) assumes a median score of 105,00, participation breadth (CPB) of 5,00, dimensions of participation from 27,00 (PPa) to 45,00 (ISC) and types of participation from 2,00 (PPr) to 13,00 (CIH).

## 6.2 Community participation and sociodemographic variables

In order to explore the relation between community participation and sociodemographic variables we calculated Spearman's rank correlation coefficient ( $\rho$ ), when these were metric or ordinal variables, and eta nonlinear association coefficient ( $\eta$ ), when these were nominal variables. In order to identify where the effect of nominal on participation variables were located, we also calculated sample median, splitted by sociodemographic variables categories.

With regard to *age*, we found only a positive correlation (significance level of 0,05) with contact with friends (CF), which means that the frequency of this participation type increase with age.

With regard to *gender*, there is a *Medium effect* of this variable on religious observance (RO, which explains 21,90% of this variable variance, with retired women obtaining higher median scores), organized community activities (OCA, which explains 8,18% of this type of participation variance, with men getting higher median scores) and expressing opinions publicly (EOP, which explains 6,50% of this variable variance, with men also getting higher scores).

With regard to *marital status*, we observed a *Medium effect* of this variable on the contact with immediate household (CIH, which explains 19,80% of this variable variance, with widowers getting lower median scores), contact with extended family (CEF, which explains 10,50% of this variable variance, with consensual union status getting lower median scores and widowers getting higher scores), contact with friends (CF, which explains 6,40% of its variance, with single and divorced people getting higher median scores), religious observance (RO, which explains 10,56% of this variable variance, with single retirees getting higher median scores), organized community activities (OCA, which explains 6,70% of its variance, with divorcees getting higher median scores) and active interest in current affairs (AICA, which explains 7,02% of its variance, with widowers getting lower median scores).

With regard to *professional status*, we observed that there is a *Medium effect* of this variable on the global community participation (GCP, which explains 5,95% of its variance), civic engagement dimension (CE, which explains 9,00% of its variance), political participation dimension (PPa, which explains 5,06% of its variance), social contact with workmates (SCW, which explains 6,05% of this variable variance), organized community activities (OCA, which explains 8,29% of this participation type variance), voluntary sector activities (VSA, which explains 6,92% of its variance), active interest in current affairs (AICA, which explains 5,62% of its variance), expressing opinions publicly (EOP, which explains 9,24% of its variance) and participation breadth (CPB, which explains 5,11% of its variance). In all community participation variables identified above, retirees who were engaged on a full time job are the group which gets a higher median score.

*Retirement time* only has a negative correlation (significance level of 0,05) with active interest in current affairs (AICA), which means that as retirement time increases the frequency of this community participation type decreases.

With regard to *professional level*, we found a positive correlation with global community participation (GCP, significance level of 0,01), civic engagement and political participation dimensions (CE and PPa, significance level of 0,01), voluntary sector activities (ASV, significance level of 0,01), giving money to charity (GMC, significance level of 0,05), active interest in current affairs (AICA, significance level of 0,01), expressing opinions publicly (EOP, significance level of 0,05), community activism (CA, significance level of 0,01), political protest (PPr, significance level of 0,01) and participation breadth (CPB, significance level of 0,05). We also found a negative correlation with contact with neighbors (CN, significance level of 0,05 level). These results indicate that the higher the level of professional responsibility / specialization the higher the levels of participation on the listed above types, except for contact with neighbors (CN), where scores are higher at the lower professional levels.

With regard to *schooling*, there are positive correlations with global community participation (GCP, significance level of 0,01), civic engagement and political participation dimensions (CC and PPa, significance level of 0,01), voluntary sector activities (VSA, significance level of 0,01), giving money to charity (GMC, significance level of 0,05), active interest on current affairs (AICA, significance level of 0,01), expressing opinions publicly (EOP, significance level of 0,01), community activism (CA, significance level of 0,01), political protest (PPr, significance level of 0,01) participation breadth (CPB, significance level of 0,01). We also found a negative correlation with contact with friends (CF, significance level of 0,05). This suggests that the higher the schooling level more frequents are these types of

participation, with exception for contact with friends (CF), which in this sample appears to decrease.

Regarding to *income* (specifically household income), we observed positive correlations with the global community participation (GCP, significance level of 0,01), civic engagement and political participation dimensions (CC and PPa, significance level of 0,01), adult learning (AL, significance level of 0,05), organized community activities (OCA, significance level of 0,01), voluntary sector activities (VSA, significance level of 0,01), giving money to charity (GMC, significance level of 0,05), active interest in current affairs (AICA, significance level of 0,01), community activism (CA, significance level of 0,01), political protest (PPr, significance level of 0,01) and participation breadth (CPB, significance level of 0,05). These results points to higher levels of participation, specifically in the identified types and dimensions, as the household income increases.

Regarding the *residence area*, it is noted a *Medium effect* of this variable on the extent of political participation (PPa, which explains 7,62% of its variance, with residents of peripheral area getting higher median scores), contact with friends (CF, which explains 7,45% of this variable variance, with residents of historic and surrounding areas getting higher median scores), religious observance (RO, which explains 10,82% of its variance, with residents of intramural and peripheral areas getting higher median scores), voluntary sector activities (VSA, which explains 8,88% of this participation type variance, with residents of surrounding area getting lower median scores), expressing opinions publicly (EOP, which explains 9,80% of its variance, with residents of peripheral area getting higher median scores), political protest (PPo, which explains 8,30% of its variance, with residents of peripheral area getting higher median scores) and participation breadth (CPB, which explains 5,20% of its variance, with residents of peripheral area getting higher median scores). Nevertheless, by the fact that the intramural area residents group was constituted by only 2 retirees and the peripheral area residents group by only 1 retiree, these results cannot be seen as representative.

With regard to *residence time*, there is a positive correlation with global community participation (GCP, significance level of 0,05), civic engagement dimension (CE significance level of 0,05), contact with friends (CF, significance level of 0,01), contact with neighbors (CN, significance level of 0,05), religious observance (RO, significance level of 0,01) and giving money to charity (GMC, significance level of 0,01). These data indicate that the higher the residence time the higher the frequencies of this types and dimensions of community participation.

Finally, regarding to *household composition*, there is a *Very high effect* of this variable in the contact with immediate household (CIH, which explains 63,36% of its variance, with retirees living alone getting, as expected, very low median scores) and a *Medium effect* in the informal social connectivity dimension (ISC, which explains 9,73% of the variance of this dimension, with retirees living alone getting lower median scores), political participation dimension (PPa, which explains 5,34% of its variance, with retirees living with spouses obtaining higher median scores), contact with friends (CF, which explains 6,55% of its variance, with those living alone or in other household type getting higher median scores), contact with neighbors (CN, which explains 5,57% of its variance, with those living in another household type, in particular those living with chaperone, getting lower median scores), religious observance (RO, which explains 8,35% of its variance, with retirees living alone with children getting lower median scores), active interest in current affairs (AICA, which explains 7,02% of this variable variance, with those living with spouse obtaining higher median scores and those living only with children getting lower median scores) and political protest (PPr, which explains 6,20% of its variance, with those living with spouse obtaining higher median scores).

### 6.3 Sense of community: Retirees and non-retirees

We start by presenting the results obtained by the retirees (N = 107) concerning the median scores of sense of community (SC), perception of the sense of community personal importance (PSCPI) and sense of community dimensions (M, I, FN and SEC) compared to non-retirees and to the whole sample. Eta coefficient scores ( $\eta$ ) between sense of community variables and retirement status are also presented.

In overall terms, among the retirees the perception of the sense of community personal importance (PSCPI) obtain the median score of 5,00 (corresponding to “*It is important*”), the SCI-2 overall score of 34,00 and the sense of community dimensions from 7,00 (I dimension) to 9,00 (M and SEC dimensions).

Analyzing the results we can verify that, according to eta coefficient scores, there is a Small effect of retirement status (as independent variable) in the sense of community variables (as dependent variables) (according to Marôco, 2007, p. 184). We also observe this small effect through splitted medians, since there is no significant differences among groups.

### 6.3 Sense of community and sociodemographic variables

In order to explore the relation between sense of community and sociodemographic variables we calculated Spearman's rank correlation coefficient ( $\rho$ ), when these were metric or ordinal variables, and eta nonlinear association coefficient ( $\eta$ ), when these were nominal variables. In order to identify where the effect of nominal on sense of community variables were located, we also calculated sample median, splitted by sociodemographic variables categories.

With regard to the impact of sociodemographic on the sense of community variables, we found that only residence area has a Medium effect on sense of community (SC, which explains 6,35% of its variance) and fulfilment of needs (FN, which explains 8,07% of this dimension variance), with residents from intramural area getting lower median scores and retirees from peripheral area getting higher median scores. Although it is a surprising result, when taking a closer look on this data we found that in whole retirees sample there are only 2 living in intramural and peripheral area, which leads us to see this result as not representative.

#### 6.4 Perception of sense of community personal importance

In order to explore the impact of the perception of sense of community personal importance (PSCPI) in sense of community itself were calculated eta association coefficient scores ( $\eta$ ) between this perception and sense of community variables. To confirm this effect were calculated median scores of the sense of community variables, either for retirees “*It’s not important ...*” group both for “*It is important ...*” group.

The results indicates a *High effect* of the perception of sense of community personal importance in the sense of community itself (SC, which explains 34,46% of its variance, with retirees considering important to share a sense of community with others members obtaining higher median scores of sense of community) as well as in its four dimensions.

#### 6.5 Participation breadth, participation levels and sense of community

In order to explore the relation between community participation and sense of community among retirees we calculated Spearman’s rank correlation coefficient ( $\rho$ ) between sense of community variables and community participation levels (global, by dimension and by participation type) and participation breadth.

Focusing on the correlation between sense of community global score (SC) and community participation variables, we found a positive correlation between sense of community and global community participation (PCG, significance level of 0,01), community participation three dimensions (ISC, CE and PPa, significance level of 0,01), most types of participation (CF, CN, AL, OCA, VSA, GMC, AICA, EOP and CC, significance level of 0,01; RO, significance level of 0,05) and participation breadth (CPB, significance level of 0,01). These results indicate that, on the retirees, the higher the scores of such participation types / participation breadth higher the sense of community level.

We found no significant correlations between sense of community and contact with immediate household (CIH), contact with extended family (CEF), social contact with workmates (SCW) and political protest (PPr).

Comparing these results with the correlations between sense of community four dimensions and community participation variables, there are only a few differences. There are no differences in the fulfilment of needs dimension (FN); in the membership dimension (M) there is a less significant correlation with religious observance (RO); in the influence dimension (I) there is a higher correlation (significance level of 0,05) with social contact with workmates (SCW) and political protest (PPr); and in the shared emotional connection dimension (SEC) there is a less significant correlation with religious observance (RO) and with the voluntary sector activities (VSA).

With regard to the perception of the importance of sharing a sense of community with the other members of that community, a validation question included in SCI-2, the correlational differences are found in religious observance (RO) and in voluntary sector activities (with correlations significantly lower than those found in the SC).

#### 6.6 Participants and non-participants

In order to explore the impact of participation status in the sense of community, we calculated eta association coefficients ( $\eta$ ) between sense of community variables and the retiree’s participation status. To understand which groups got higher and lower scores, we also calculated its median scores splitted by participation status.

Based on analysis of these data, we found a Medium effect of participation status in all sense of community variables, explaining between 13,91% (I) and 19,90% (SC) of its variance.

These results indicate that participating or not in the community is a crucial fact for the retirees sense of community, and that those who participate gets higher levels of sense of community.

#### 6.7 Retirees and non-retirees

Finally, to see if retirement status has a mediating role in the relation between community participation and sense of community were calculated Spearman’s rank correlation coefficient ( $\rho$ ) between sense of community (SC) and participation scores (overall, by dimension and by participation type) and participation breadth, splitted by retirement status.

Focusing only on the significant correlations (significance level of, at least, 0,05), the results indicate differences in the relation between sense of community and community participation variables among both groups. The

retirees group gets relatively higher correlations (differences greater than 0,1) than the non-retirees between sense of community (SC) and global community participation (GCP), participation dimensions (ISC, CE and PPa), most participation types (CF, CN, AL, VSA, GMC, AICA and EOP) and participation breadth (CPB).

These results indicate that, in general, community participation has a more significant relation with the sense of community among retirees than non-retirees. Assuming that performing a professional activity can contribute to sense of community, in the absence of a paid job, community participation appears to be a way of maintaining it.

## 6.8 Community participation and its determinants

To explore the relation between participation variables and their determinants we calculated Spearman's rank correlation coefficient ( $\rho$ ) between them. Since there is a correlation between many of these variables, we chose to look only at the most significant ones ( $> 0.40$ ).

There are high correlations between the CPDI overall score and the global community participation level (PCG), civic engagement dimension (CE) and OCA, GMC and AICA subscales. This relation means that, in the retirees, the more positive the scores of the many community participation determinants the greater the participation breadth and the participation levels, both global and different types (such as OCA, GMC and AICA, for example).

With regard to CDPI dimensions, results shows that only the intrapersonal factors (IaF) get high correlations with participation variables, in particular with participation breadth (CPB), global participation level (GCP), civic engagement (CE), political participation (PPa) and specific community participation types (such as OCA, VSA, GMC, AICA, EOP and CA).

From the subscales analysis we found that the intrapersonal factors (SOTS and ATCP) are the dimension which obtains more significant correlations with the community participation variables (STTS with GCP, OCA, GMC and AICA; ATCP with GCP, OCA and VSA).

Focusing only on the global community participation level (GCP), we find that this has a higher correlation with the attitude towards community participation (ATCP), then with satisfaction with oneself and their skills (SOTS), with attitude and people support (APS) and, finally, with social network and family support (SNFS). The structural factors dimension do not show a significant correlation with the global community participation level, being the correlation with Environment, access and media subscale (EAM) the less significant.

Contact with immediate household (CIH), extended family (CEF), workmates (SCW), adult learning (AL), religious observance (RO) and political protest (PPr) do not reveal a significant correlation with CPDI global score. When analyzing its correlation with specific determinants, we find that CIH, CEF, SCW and RO still don't get high nor, at least, significant scores. This means that these forms of participation determinants are different than these (for example, sociodemographic variables, professional status and gender, whose relations were previously described).

## 6.9 Specific community participation determinants

In order to study the impact of specific determinants on community participation we calculated Spearman's rank correlation coefficient ( $\rho$ ) between each CPDI item (including deleted through internal consistency analysis process) and participation variables.

Since there is a correlation between many of these variables, though not always high, we have chosen to present only the most significant ones ( $> 0.40$ ).

These results confirm the previously presented, grouped by factor. The ATCP subscale items still obtain the highest correlations with community participation global level (GCP), participation breadth (CPB), some of its dimensions (including CE) and some of its types (including OCA). These items include the perception of community participation benefits (item 17), participation habits (item 18), interest (item 19) and motivation to participate in the community (item 20).

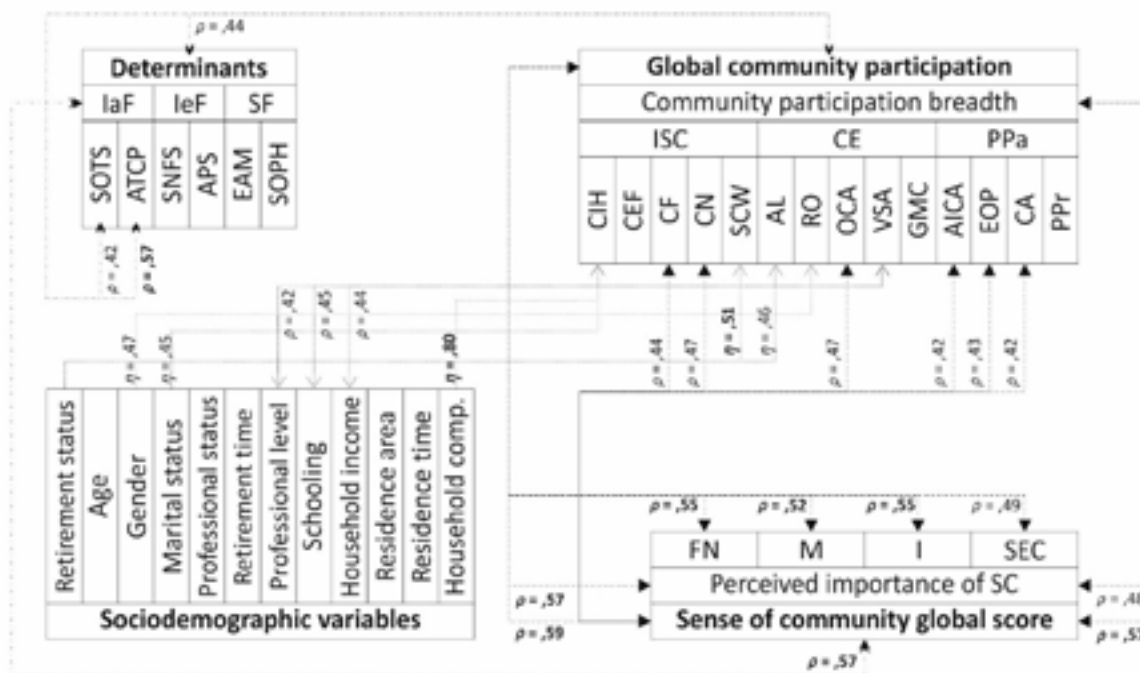
Also some items of SOTS subscale showed significant correlations with some of the community participation variables. These items include satisfaction with oneself (item 10), intellectual (item 13) and social skills (item 14).

It appears, however, that some of the items whose elimination was dictated by internal consistency analysis obtained high correlations with some of the participation variables. This happens with the 6<sup>th</sup> and 7<sup>th</sup> items, related to health and depressive symptoms, 21<sup>st</sup> item, concerning availability of time to participate in the community, and 22<sup>nd</sup> item, concerning family status satisfaction.

## 7. RESULTS ANALYSIS AND DISCUSSION

The results which support this analysis are shown in the following scheme (Figure I), which summarizes the observed most significant relations among variables. In the scheme more emphasis is given to relations that best answers to this study main issues.

Figure 1 - Summary of the most significant relations among sociodemographic, community participation, sense of community variables and community participation determinant



### 7.1 Retirees community participation levels

In this study we found that retirees obtain low levels of participation, specifically with regard to social contact with workmates, adult learning, religious observance, organized community activities, voluntary sector activities, expressing opinions publicly, community activism and political protest.

Despite of these results, comparing to non-retirees, the retirees whom participated in this study only obtained significantly lower scores on social contact with workmates and adult learning and higher scores on contact with neighbors. These results are however expected, since most of these retirees are not involved in any professional activity. On the other hand, in ACPQ, adult learning is evaluated by going to courses or evening classes and studying, doing assignments or sitting exams for a qualification. It turns out that in Portugal most of the available qualifying offers are financed by the European Social Fund and aimed at improving the employability indicators, so retirees are legally excluded from these offers. Furthermore, despite the valuable work done by senior universities, their classes usually take place during working hours and their courses do not confer a qualification. In this sense, although we have involved in the study some of the Serpa Senior Academy students, the levels of the retirees adult learning participation are, therefore, low.

The low participation levels found are in some way consistent with those obtained by Berry (2008), on an Australian study about social capital and mental health, in which they obtained lower participation levels in retired or pre-retired older individuals (with regard to contact with immediate household, social contact with workmates, adult learning and organized community activities), compared to all other groups involved in the study, except for people in exclusion situation (mostly middle-aged women, with part-time jobs and high poverty levels).

Also the results obtained by Olesen & Berry (2011), in a study about community participation and mental health, in which a sample of Australian retirees were involved, appear to be consistent with ours. In their study, the authors did not obtain significant differences among the involvement frequency in different community participation types among retirees and non-retirees, except for contact with neighbors. In this sense, we can assume that being at a full time or part time job, at the most of the time, lead us being apart from the neighbourhood where we live, so contact possibilities with neighbors gets reduced.

As described in literature, community participation levels seem to decrease with age, particularly at the time of labor market abandonment. Although retirement is seen as the moment when this abandonment occur, through these results we realize that maintaining a professional activity, whether full-time, part-time seasonal job) helps retirees to remain involved in their community, not only by job itself (which may result in social contact with workmates) but also by other community participation types (organized community activities, voluntary sector activities, active interest in current affairs and expressing opinions publicly).

## 7.2 Community participation, sociodemographic variables and other determinants

While sociodemographic variables only have a significant relation with some community participation types (CIH, SCW, AL, RO and VSA), determinant variables have also a relation with global community participation level, particularly through *satisfaction with oneself and their skills* and *attitude towards community participation*.

With regard to sociodemographic variables, specifically in relation to gender, as in the preliminary validation ACPQ study (Berry *et al.*, 2007), we found that women were significantly most engaged in religious observance and men most engaged in expressing opinions publicly. We also found that men were significantly most engaged in organized community activities.

Regarding the marital status variable, among retirees, we found that widowers have lower levels of contact with immediate household and higher of contact with extended family. This indicates that, on the one hand there is an obvious reduction of the contact with the household members, due to the spouse's loss, even when there are other household members, on the other hand, it seems that extended family makes effort to make up for this loss, by strengthening its presence.

Although not always being seen as something painful and negative, especially in cases where spouse was aggressive or seen as a burden (Fontaine, 2000), widowhood arouses anger, sadness, depression and loneliness feelings, as well as other negative attitudes risk (Fontaine, 2000; Barros de Oliveira, 2012). To cope with loneliness drama it is necessary, as referred by Barros de Oliveira (2012), that the elder make use of coping strategies or personal, family and community resources allowing them to mitigate isolation.

In this context, widowers which participated in this study seem to find within the family a strategy for dealing with widowhood, but not in other types of community participation, since they have lower global community participation levels, as well as in most of the different participation types (especially organized community activities and active interest in current affairs). These results are in line with the vision of Satarino, Haight & Tager (2002, as cited in Minhat & Admin, 2012), for whom spouse presence can work as a catalyst or motivating factor for the participation in leisure activities.

Also regarding to matrimonial status, results demonstrate retirees in consensual union have lower levels of contact with the extended family than the other groups. Given that marriage ceremony may function as a moment of mutual acquaintance and approximation between families, it seems understandable that the possibility of not having a ceremony to state a matrimonial relationship, whether religious or civil, may increase the distance between the new couple and their origin families. On the other hand, it seems common that, after widowhood, the involvement in a new matrimonial relationship may not be quite well accepted by the families, including the descendants, which might precipitate the gap between the new couple and their extended families.

Still regarding the sociodemographic variables, this study shows that participating in voluntary sector activities is influenced by professional level, schooling and retirees' household income. In this context, those who had a more specialized / skilled job, more educational qualifications and higher incomes are more likely to engage in this community participation type. This relation between the social status variables and participation, although not specifically with voluntary sector activities engagement, is common in the literature (Baum *et al.*, 2000, as cited in Ziersch *et al.*, 2011; Li *et al.*, 2010, as cited in Manhat & Amin, 2012; Săveanu, 2011; Hassan, 2012; Manhat & Amin, 2012).

Specifically in this case, results may suggest that voluntary sector activities can be seen as typifying activities of the retiree role, in the sense described in Olesen & Berry (2011). Since, in view of their characteristics, these retirees played greater specialization and responsibility roles during their professional career, their involvement in productive activities, often associated with places of power and influence (such as organizations promoting volunteering activities, clubs, associations, etc.), can be seen as a way to maintain a very similar social status to what they had as workers. Thus, volunteering can be seen as a prominent activity in the well-being of these retirees, not only for its health promotion component, but also due to its congruence with social expectations about their behavior (Olesen & Berry, 2011).

Finally, we can say that, despite retirees' household composition explain 64% of the variance of contact with immediate household, this difference is found in retirees living alone, the group in which this participation type levels are, as expected, very low (Md = 2.00, the minimum possible score).

With regard to participation determinants, we found significant relations between their global score and community participation global level, in particular through civic engagement dimension, organized community activities, giving money to charity, active interest in current affairs and participation breadth. When looking more closely at these results, we found that the most significant relations of community participation are with the intrapersonal factors, particularly with *satisfaction with oneself and their skills* and *attitude toward community participation*.

These results are consistent with the literature, for example, with regard to the association between participation and intrapersonal factors such as self esteem and confidence in their abilities (Anderson, 2010), depression and cognitive abilities (Li *et al.*, 2010, as cited in Minhat & Amin, 2012), leadership intelligence, communication skills and planning abilities (Hassan, 2012).

In our study it was found that *satisfaction with oneself and their skills* has significant relations with the engagement



on organized community activities, giving to charity and active interest in current affairs while the attitude towards community participation has significant relations with adult learning, organized community activities and voluntary sector activities. The attitude towards community participation also has a significant relation with participation breadth.

While being satisfied with oneself and their skills is associated with higher levels of giving money to charity and active interest in current affairs, a better attitude towards community participation is associated with higher levels of adult learning and voluntary sector activities engagement.

We also found that, although satisfaction with oneself and their skills have a relation with most forms of participation associated with civic engagement and political participation dimensions, attitude towards community participation is also related (correlations significance level of 0,01) with some forms of participation within informal social connectivity dimension, particularly with contact with friends and neighbors. In this perspective, we can assume that these most basic forms of social participation (linked to informal social connectivity) are significantly influenced by the attitude towards community participation but not by satisfaction with oneself and their skills.

In this perspective, we can mention Ornelas (2008), which assumes that friends network acts as a major source of company and as an important emotional and material support source but, through its voluntary nature, it appears to be more problematic than the family network, once it involves maintenance and reciprocity. Yet, the neighborhood relationships, which for this author are less built on a voluntary basis as that of friendship, are composed of weaker ties, with lesser degree of intimacy and being less active. Nevertheless, neighbors appear to be a major source of daily company and a help in problems solving.

Because they are more voluntary forms of informal social connectivity that the contact with immediate household and with extended family, it seems to make sense that the contact with friends and with neighbors depend more on individual attitude towards community participation than the contact with family.

As described by Crawford *et al.* (1991, as cited in Diniz & Motta, 2006) with regard to leisure activities participation, the retirees community participation global level also seems to be more influenced by intrapersonal factors, followed by interpersonal and, finally, structural factors. In this perspective, intrapersonal factors, by conditioning the motivation to participate, are assumed to be the most strong determinants, while the structural, by being more distant, are assumed as the weakest.

Nevertheless, when we analyze their relationship with different community participation types, we find that for some of them the structural determinants (particularly those related to services, offers and participation habits) are assumed as more preponderant than interpersonal factors (in particular with regard to organized community activities, giving money to charity and expressing opinions publicly, for instance).

These findings are aligned with literature, which establishes relation between participation and the lack of community resources (Dukeshire & Thurlow, 2002) and with the opportunities structure (Baum and Palmer, 2002 as cited in Ziersch *et al.*, 2011; Anderson, 2010), including leisure amenities, meeting and open spaces (Baum & Palmer, 2002, as cited in Ziersch *et al.*, 2011).

In this context, promoting satisfaction with oneself and their skills, a more appropriate attitude towards community participation, social networks and appropriate offers and services may be seen as community participation promoting strategies.

### 7.3 Community participation and sense of community

With regard to community participation and sense of community, results show a significant relation between them (both between community participation global level and sense of community, and between this and participation breadth), results we expected and that are found in accordance with literature (Sarason, 1974, as cited in Ornelas, 2008; Prezza, Amici & Tedeschi, 2001, as cited in Marante, 2010; Ornelas, 2008; Marante, 2010).

With respect to community participation types, we only found a very significant relation between sense of community and contact with friends, neighbors, organized community activities, active interest in current affairs, expressing opinions publicly and community activism. The contact with immediate household, with extended family, social contact with workmates and political protest do not appear to have a significant relation with the sense of community. Although, adult learning, religious observance, voluntary sector activities and giving money to charity have showed a relation with this variable, it appears to be less significative (<0,40).

Some previous studies conclusions are aligned with these results. An example of this are the Italian studies of Prezza, Amici & Tedeschi (2001, as cited in Marante, 2010), in which they found that neighborly relations are one of the main predictors of sense of community, and the study of Mendes de Moraes (2010), about sense of community, neighborly relations and well-being, which concluded that the neighborly relations contribute to the sense of community and, through this, for well-being of a sample of Lisbon residents. In their study, Prezza & Constantini (1998, as cited in Marante, 2010) also found a significant association between sense of community and participation in groups or associations.

Also Ornelas (2008), in his literature review reports strait relations between sense of community and contact with

political actors (in this study associated with expressing opinions publicly), collaboration in community problems solving (associated with, for example community activism) and participation in local organizations, and other forms of community participation.

Although in general these results are expected and in line with literature, the fact that religious observance, voluntary sector activities and political protest (related to joining unions or political parties) do not show significant correlations with sense of community levels, as demonstrated in previous studies, surprises us.

For instance, Elvas & Vargas Moniz (2010), in the literature review that theoretically supports their study about sense of community feeling and quality and life satisfaction, identify several authors that report a link between volunteering and sense of community.

Yet Marante (2010), in a study about sense of community, found a significant relation between engaging in religion and sense of community, community involvement, community needs satisfaction perception and with the importance assigned to the community.

As we saw earlier, although some of the types of participation associated with the political participation dimension were found to be significantly related with sense of community (as expressing opinions publicly and community activism), political protest, defined by unions and political parties engagement, does not have the same behavior.

This difference can be justified by the argument defended by Mannarini & Fedi (2009, as cited in Severino de Jesus, 2013), as a way to explain the cases where participation is not associated with the sense of community. According to them, when people have a low sense of community but critical view towards their environment, this view may be sufficient as a starting point for participation. In this sense we can assume that in the case of retirees involved in political protest, the lack of sense of community feeling is compensated by a critical perspective regarding to its context.

On the other hand, the political protest, associated in the literature with higher levels of psychological distress among retirees (Olesen & Berry, 2011), may itself boost in some cases a decrease on sense of community. In our opinion, joining a union or a political party may take place, in an individual view, from personal identification with values and principles of a more restricted people group, compared to the majority. In communitarian terms, playing a political role can contribute to increasing the perception of differences in relation to other members of the wider community. So, hypothetically, belonging to a union or a political party can contribute to increase sense of community regarding this interests community and, at the same time, reduce sense of community towards the geographic community (eg, city or county).

Despite methodological concerns present in the design and development of this research, the constraints imposed by their realization context eventually result in some practical limitations, which we briefly describe:

Due to its cross sectional nature, our study does not allow us to establish causal relations between variables. Given that the causal inference was not a goal of this study, we consider that, bearing in mind the purpose of exploring the relation between variables, this cross sectional nature appears to be appropriate.

Despite quantitative methodology use have allowed us to involve in this study a greater number of participants, which leads to potentially more representative results, we consider that it is in a certain way more limited in understanding the phenomenon of community participation, particularly concerning the identification of its determinants and its prevalence in the population, by using more rigid data collection strategies and, through this, less sensitive to other aspects of the phenomenon.

In this study there were used self-reported data, which are not validated based on objective measures, including the CPDI. Nevertheless, there is sufficient evidence in the literature that the perceptions are highly consistent with the objective measures (eg, Idler & Benyamini 1997, as cited in Berry & Welsh, 2010).

Due to the lack of representativeness of certain groups in our sample (particularly as regards to their socio-demographic characteristics such as marital status, employment status, residence area and household composition) some of the results of this study should be viewed with precaution.

Taking into account data characteristics and our relatively small sample, we were somehow unable to use more powerful statistical procedures, which could enhance our study results.

Given the fact that we evaluated the relationship between community participation and sense of community towards with regard to a city (with differential features compared to other cities), the results can not be generalized to the sense of community in respect to other types of communities (eg, of interests or other geographic communities).

## 8. CONCLUSIONS

This study aimed to investigate the role of different types of community participation in the sense of community, as well as to explore the role of sociodemographic variables and intrapersonal, interpersonal and structural factors in participation (participation determinants).

Taking into account the unavailability of tools to assess community participation, on a comprehensive perspective,

the sense of community and the determinants of participation, adapted to the Portuguese population, we decided to translate the *Australian Community Participation Questionnaire* and the *Sense of Community Index 2* and to construct the *Community Participation Determinant Inventory*, in order to collect individual information about the community participation determinants described in the literature.

We involved in this study a sample of 229 residents of the town of Serpa, 107 of whom were retirees, 122 non-retirees. The whole sample were involved in the psychometric studies on the instruments, but only the retirees were taken in account in the main study.

As regards the study of community participation and community feeling among retirees, in the first place, the results point to low level of social contact with workmates, adult learning, religious observance, organized community activities, expressing opinions publicly and community activism. Nevertheless, compared to non-retirees, retirees only get significantly lower scores in social contact with workmates and adult learning and higher scores in contact with neighbors, results that are close to those obtained by Berry (2008) and Olesen & Berry (2011), indicating a downward trend of community participation levels with age, particularly at the time of the labor market abandonment. In this context, results suggest that maintaining an professional activitie during retirement (even part-time or seasonal) may have a positive effect on the retirees levels of community participation.

Meaningful relations between some sociodemographic variables and community participation were found, including gender, marital status, professional level, schooling, household income, residence time and household composition. As in the study by Berry *et al.* (2007) we find that women tend to be more involved in religious observance than men, which are more engaged in organized community activities and expressing opinions publicly. With regard to marital status, widowers show lower levels of contact with immediate household and active interest in current affairs and higher levels of contact with extended family, while retirees in consensual union obtain lower levels of contact with extended family.

Also common in the literature is the relation between schooling and household income and community participation (Baum *et al.*, 2000, as cited in Ziersch *et al.*, 2011; Li *et al.*, 2010, as cited in Manhat & Amin, 2012; Săveanu, 2011; Hassan, 2012; Manhat & Amin, 2012), which in our study revealed to be more expressive specifically in voluntary sector activities. These results may suggest that voluntary sector activities can be seen as typifying activities of the retiree role, in the sense described in Olesen & Berry (2011). Having these retirees played greater specialization and responsibility roles during their professional career, their involvement in productive activities, often associated with places of power and influence (such as organizations promoting volunteering activities, clubs, associations, etc.), can be seen as a way to maintain a very similar social status to what they had as workers.

As regards the relation with the sense of community, significant correlations were found with community participation global level, participation breadth and with most participation types, except for contact with immediate household, contact with extended family, social contact with workmates and political protest. However, some correlations have relatively low scores ( $<0.40$ ), as with adult learning, religious observance, voluntary sector activities and giving money to charity.

These results are in line with previous studies, such as the Italian studies of Prezza, Amici & Tedeschi (2001, as cited in Marante, 2010), in which they found that neighborly relations are one of the main predictors of sense of community, and the study of Mendes de Moraes (2010), about sense of community, neighborly relations and well-being, which concluded that the neighborly relations contribute to the sense of community and, through this, for well-being of a sample of Lisbon residents. In their study, Prezza & Constantini (1998, as cited in Marante, 2010) also found a significant association between sense of community and participation in groups or associations.

Also Ornelas (2008), in his literature review reports strait relations between sense of community and contact with political actors (in this study associated with expressing opinions publicly), collaboration in community problems solving (associated with, for example community activism) and participation in local organizations, and other forms of community participation. Although in general these results are expected and in line with literature, the fact that religious observance, voluntary sector activities and political protest (related to joining unions or political parties) do not show significant correlations with sense of community levels, as demonstrated in previous studies, surprises us. For instance, Elvas & Vargas Moniz (2010), in the literature review that theoretically supports their study about sense of community feeling and quality and life satisfaction, identify several authors that report a link between volunteering and sense of community. Yet Marante (2010), in a study about sense of community, found a significant relation between engaging in religion and sense of community, community involvement, community needs satisfaction perception and with the importance assigned to the community.

Yet the least significant relationship found between sense of community and political protest can be justified by the argument defended by Mannarini & Fedi (2009, as cited in Severino de Jesus, 2013), as a way to explain the cases where participation is not associated with the sense of community. According them, when people have a low sense of community but critical view towards their environment, this view may be sufficient as a starting point for participation.

On the other hand, in our opinion, joining a union or a political party may take place, in an individual view, from

personal identification with values and principles of a more restricted people group, compared to the majority. In communitarian terms, playing a political role can contribute to increasing the perception of differences in relation to other members of the wider community. So, hypothetically, belonging to a union or a political party can contribute to increase sense of community regarding this interests community and, at the same time, reduce sense of community towards the geographic community (eg, city or county).

Despite of found relations with all participation determinants, we found that the most significant relations of community participation are with the intrapersonal factors, particularly with satisfaction with oneself and their skills and attitude toward community participation. These results are consistent with the literature, for example, with regard to the association between participation and intrapersonal factors such as self esteem and confidence in their abilities (Anderson, 2010), depression and cognitive abilities (Li *et al.*, 2010, as cited in Minhat & Amin, 2012), leadership intelligence, communication skills and planning habilities (Hassan, 2012).

In our study it was found that satisfaction with oneself and their skills has significant relations with the engagement on organized community activities, giving to charity and active interest in current affairs while the attitude towards community participation has significant relations with adult learning, organized community activities and voluntary sector activities. The attitude towards community participation also has a significant relation with participation breadth.

While being satisfied with oneself and their skills is associated with higher levels of giving money to charity and active interest in current affairs, a better attitude towards community participation is associated with higher levels of adult learning and voluntary sector activities engagement.

We also found that, although satisfaction with oneself and their skills have a relation with most forms of participation associated with civic engagement and political participation dimensions, attitude towards community participation is also related (correlations significance level of 0,01) with some forms of participation within informal social connectivity dimension, particularly with contact with friends and neighbors. In this perspective, we can assume that these most basic forms of social participation (linked to informal social connectivity) are significantly influenced by the attitude towards community participation but not by satisfaction with oneself and their skills.

As described by Crawford *et al.* (1991, as cited in Diniz & Motta, 2006) with regard to leisure activities participation, the retirees community participation global level also seems to be more influenced by intrapersonal factors, followed by interpersonal and, finally, structural factors. In this perspective, intrapersonal factors, by conditioning the motivation to participate, are assumed to be the most strong determinants, while the structural, by being more distant, are assumed as the weakest.

Nevertheless, when we analyze their relationship with different community participation types, we find that for some of them the structural determinants (particularly those related to services, offers and participation habits) are assumed as more preponderant that interpersonal factors (in particular with regard to organized community activities, giving money to charity and expressing opinions publicly, for instance). These findings are aligned with literature, which establishes relation between participation and the lack of community resources (Dukeshire & Thurlow, 2002) and with the opportunities structure (Baum & Palmer, 2002, as cited in Ziersch *et al.*, 2011; Anderson, 2010), including leisure amenities, meeting and open spaces (Baum & Palmer, 2002, as cited in Ziersch *et al.*, 2011).

Despite its limitations, because we have used a comprehensive set of community participation types, we believe that this study contributes to acknowledge the relation between community participation and the sense of community during retirement.

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# HEALTHY AGING PROMOTION IN BAIXO ALENTEJO, PORTUGAL

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## ABSTRACT

The objective of this study was describe the perspective of health promotion agents about healthy lifestyles promotion in order to a healthy aging, in Baixo Alentejo - Portugal. Using a qualitative design the sample of subjects was deliberated, with fourteen health promotion agents from primary health care services and municipalities selected to participate in an individual interview. Data analysis included a content and thematic analysis that revealed six themes: 1) Development of community interventions to promote healthy lifestyles 2) Effectiveness of interventions in the adoption of healthy lifestyles 3) Factors that influence the development of interventions to promote healthy lifestyles 4) Community participation 5) Environment facilitator of healthy choices 6) Nurse's role in the healthy lifestyles promotion. We conclude that the interventions are directed mainly to children and the elderly and are usually developed by the health sector in partnership with municipalities. Community participation is one of the most mentioned strategies to increase the effectiveness of health promotion interventions however there are difficulties in community empowerment and a lack of culture of participation in people and communities. Nurses have three key roles in health promotion interventions to promote healthy lifestyles: caring role; leadership role and enabling role.

Keywords: Health Promotion, Healthy aging, Healthy lifestyles, Community intervention.

JEl Classification: I18.

## 1. INTRODUCTION

The last century saw significant changes in the demographic and epidemiological profile of the world population, particularly in the more developed countries. Life expectancy has progressively increased over recent decades and this trend is expected to continue. However, a long life are not always accompanied by good health and the cost and prevalence of chronic disease is increasing (Oxley, 2009). Although chronic diseases have been identified as the main cause of functional decline and death, many studies now suggest that chronic diseases might not be a necessary consequence of aging if a healthier lifestyle are adopted by the individuals of any age (Oxley, 2009).

The promotion of healthy aging is an international imperative for policymakers and practitioners because the societies need to increase knowledge about how to promote good health so as to prevent the costly and negative impacts effects of aging (Runciman, Watson, McIntosh, and Tolson, 2006; The Swedish National Institute of Public Health, 2006).

Effective interventions are needed to promote health and prevent disease in a perspective that goes beyond the individual risk factors and continue throughout the life course (Darnton-Hill, Nishida, and James, 2004).

Nurses are in the ideal and best position to assume the role of health promoter and their expertise and knowledge in this area receives high credibility from the public (Kemppainen, Tossavainen, and Turunen, 2013) and from the other professionals.

## 2. BACKGROUND

The attention to aging issues increased in recent decades as a result of demographic changes over the twentieth century. The increasing lifespan together with declining fertility rates are a reality across the most developed countries. Europe is the continent most affected by an aging population and Portugal is not an exception with an important increases in the size and proportion of the elderly population. Alentejo, which is the less populated region of Portugal, has a higher percentage of old people and is where the population shows a higher need for health care because there is a higher percentage of population with declining health status caused by chronic or acute diseases (Santana, 2000; Santana, Alves, Couceiro, and Santos, 2008; INE, 2012).

Progressive aging of our societies should be viewed as positive phenomena and an opportunity to focus on a positive health promotion throughout the life-course (Ruciman et al, 2006), however this new reality is also a challenge for many sectors of society: in education - reducing the number of students, in health - increased pressure on the Health System and in social protection - financial sustainability (Rosa and Chitas, 2010). Recent projections predict an overall increase in public spending related to population aging, there is however a general consensus that the impact of these costs can be minimized by keeping healthy, autonomous and independent people for the longest period possible (Oxley, 2009; Davim *et al.*, 2010; Drennan *et al.*, 2005; Ming, Gao and Pusari, 2006).

Healthy aging has been defined as “the process of optimizing opportunities for physical, social and mental health to enable older people to take an active part in society without discrimination and to enjoy an independent and good quality of life” (The Swedish National Institute of Public Health, 2006, p. 16). Promote healthy aging is one of the major challenges to be faced today and the promotion of a healthy lifestyle through life is one of its pillars. “Lifestyle is a way of living based on identifiable patterns of behavior which are determined by the interplay between an individual’s personal characteristics, social interactions, and socioeconomic and environmental living conditions” (WHO, 1998, p. 26). “In the context of health, lifestyle is defined as discretionary activities that are regular part of one’s daily pattern of living and significantly influence health status” (Pender *et al.*, 2011).

The WHO policy framework on ageing comprise a life-course approach to healthy ageing, recognizing that actions to ensure quality of life in old age should begin well before older age is reached. A healthy childhood and adulthood are considered the most important determinants of healthy old age (Sanders, 2006). Recent research demonstrates that a healthy lifestyle is more influential than genetic factors in maintaining health throughout the aging process and although the risk of disease and disability increases with age, poor health should not be a necessary result of aging (Nuñez, Armbruster, Phillips, and Gale, 2003; Oxley, 2009). While the promotion of healthy aging should begin as early as the fetal stage and maintained throughout life, however, the transition from work to retirement has become the focus of specific interventions for healthy aging and in several countries, 50 is the operational age for those specific interventions (The Swedish National Institute of Public Health, 2006).

People should be given opportunities, knowledge and access to services and resources so that they are enabled to have better control over these health determinants and to build their own health as well as the health of their families by their own actions. Central to the maintenance or improvement of health of the individual, families, groups and communities are health promotion and disease prevention activities. According to the World Health Organization (WHO) health promotion is the process of enabling people to increase control over the determinants of health and thereby improve their health. Participation is essential to sustain health promotion actions (WHO, 1998). Pender, Murdaugh and Parsons (2011) define health promotion as “increasing the level of wellbeing and self-actualization of a given individual or group” (p. 36).

Health promotion is to be achieved by three basic strategies: 1. Advocacy - to create essential conditions for health. 2. Enabling - to enable all people to achieve their full health potentials. 3. Mediating - to mediate between the different interests in the society in the pursuit of health. These strategies are to be supported by five priority action areas: 1. Building healthy public policy. 2. Creating supportive environment for health. 3. Strengthening community action for health. 4. Fostering the development of personal skills. 5. Reorienting health services (WHO, 1986). Health promotion embraces not only actions directed at strengthening the skills and capabilities of individuals, but also actions directed towards changing social, environmental and economic conditions so as to influence public and individual health. It includes political and social interventions designed to change policies and services as well as to promote social responsibility for health (WHO, 1998).

The Health 2020 policy framework (WHO, 2012) proposes four priority areas for policy action: 1. Invest in health through a life-course approach and empower citizens, 2. Tackle Europe’s major disease burdens of non-communicable and communicable diseases; 3. Strengthen people-centered health systems and public health capacity, including preparedness and response capacity for dealing with emergencies; and 4. Create supportive environments and resilient communities.

The key role of local government in tackling the social determinants of health and in health promotion interventions has been increasingly recognized because the municipalities offer support environments for healthy living and also because they are par excellence the partners of other community organizations and health care to the achievement of health-promoting interventions (Loureiro and Miranda, 2010). In Portugal, the involvement of municipalities in issues related traditionally to the health sector is not very expressive, and only about two decades a relatively small number of municipalities has been committed explicitly in this aspect of the citizen’s life (Loureiro, Miranda, and Miguel, 2013).

Since the 1970s, Portugal is one of the countries that has been determined to put primary health care principles into practice with excellent results in most health indicators. Primary health care is nowadays the central pillar of the Portuguese health system, based on a community health center network covering the entire country. In 2005, Portugal began a reform of Primary Health Care and five different types of small multi-professional teams were created,



called functional units of the health center groups (ACES), one of this teams is a Community Care Unit (UCC) that is coordinated by nurses and has as one of its specific tasks: providing community interventions in response to community needs (Biscaia *et al.*, 2008).

Health promotion in general, and the promotion of healthy aging in particular, is a process in which the community nursing plays an important role, always ensuring the active participation of citizens and the involvement of all relevant stakeholders. The work of community nurses is increasingly putting the emphasis on promoting healthy lifestyles throughout life in order to healthy aging. Working in partnership with groups to achieve a deep understanding of local contexts may assist nurses when building up pictures of people's health-related needs and views (Manthorpe, Maim, and Stubbs, 2004; Ruciman *et al.*, 2006; Ming *et al.*, 2006).

Traditionally, the focus of health promotion by nurses and other health professionals has been on disease prevention and changing the behavior of individuals with respect to their health. However, nowadays the role of health promoters is more complex, but nurses have multi-disciplinary knowledge and experience of health promotion in their nursing practice. Ruciman and colleagues (2006) note that, there are tensions between the traditional biomedical orientations towards disease prevention and the current orientation towards maintenance of positive health and well-being and although preventive and positive health promotion objectives tend to be combined, it is the positive health dimension that is too easily lost in practice.

### 3. METHODS

#### 3.1 Design and setting

This study aimed to understand the perspective of health promoters about healthy lifestyles promotion in order to a healthy aging, in Baixo Alentejo – Portugal, using qualitative research methods to analyze the meanings that individuals attribute to their actions (Fortin, 2009).

#### 3.2 Participants

The key informant interviewees were purposively selected and included health professionals and municipalities' professionals identified as having an important role in community health promotion interventions. Key informants are those individuals who are knowledgeable in a specific field and voluntarily share their knowledge and skills, observations and insights to which the researcher would otherwise not have access.

The selection of the participants was based on the snowball method, which involves the random identification of subjects based on a network of interrelations established with the researcher. Initially, we conducted a first interview to the nurse of the Clinical Council of the health center groups (ACES) that identified the next key participants. Fourteen health promotion agents from primary health care services and municipalities were interviewed.

#### 3.3 Ethical considerations

Approval was obtained from the Baixo Alentejo Health Local Unit Ethics Committee. The author provided information about the study to all participants. Informed consent was obtained from all participants, who were assured of confidentiality and of their right to refuse to answer any question or withdraw from the study at any time.

#### 3.4 Instruments and analysis

Data were collected from January to June 2014, through deep semi-structured interviews. The interviews were conducted by the researcher using guided questions. These included questions about the participation or the participant's knowledge about interventions to promote healthy lifestyles as well as their effectiveness; interviewee's perception regarding the inter-sectorial work for the development of community interventions to promote healthy lifestyles; Interviewees' perception of the factors influencing the development of community interventions to promote healthy lifestyles in the general population and particularly in middle-aged people; Interviewees' perception of community participation in planning, implementation and evaluation of community interventions to promote healthy lifestyles; Interviewees' perception of the environment facilitates healthy choices and Interviewees' perception of the role of nurses in promoting healthy lifestyles.

The schedule, script and site of the interviews were planned in order to provide appropriate conditions to achieve the best results possible in this investigation mode. The availability of the interviewees was respected and interviews were scheduled ahead to assure favorable conditions and results. All participants were interviewed in Portuguese.

All interviews were recorded, after the participants' consent, and fully transcribed afterwards. The thematic content analysis method proposed by Bardin was used, resulting in the categorization process (Bardin, 2009). This method

is based on the analysis of the contents described based on the interviews, in order to identify the divergences and convergences the subjects defined and group them in categories. This methodological trajectory is organized in three phases: Pre-analysis; Exploration of the material; and, finally, Treatment of the results: inference and interpretation (Bardin, 2009).

The researcher conducting the analyses familiarized herself with the transcribed data by reading through the transcripts numerous times with the aim of identifying main themes and sub-themes. The guide questions also informed the identification of themes in the analysis process, as these questions referred to the main issues that needed to be covered in the interviews.

## 4. FINDINGS AND DISCUSSION

Fourteen interviews were conducted for this study. Twelve are health professionals working in primary care settings (nine community nurses, one nutritionist, one physician and one psychologist) and two professional from the local government. The average age of the interviewees was 49.5 years, most (10) are female and all have Portuguese nationality.

All interviewees occupy coordination positions with responsibility and they were identified as being an important role in community health promotion interventions.

Six major themes of knowledge about the perspective of health promotion agents about the development of community health promotion interventions in order to a healthy aging, were identified in this study: 1. Community interventions to promote healthy lifestyles; 2. Effectiveness of interventions in the adoption of healthy lifestyles; 3. Factors that influence the development of interventions to promote healthy lifestyles; 4. Community participation; 5. Environment facilitator of healthy choices; 6. Nurse's role in the healthy lifestyles promotion.

### 4.1 Development of community interventions to promote healthy lifestyles

The key elements regarding the development of community interventions to promote healthy lifestyles were: 1. Intervention promoter; 2. Intervention continuity; 3. Intervention approach; 4. Articulation between health services for the development of interventions; 5. Inter-sectoral articulation for the development of interventions.

The health sector – community health professionals – are the are the main promoters of community interventions to promote healthy lifestyles however municipalities also play an important role in promoting activities mostly for promoting of physical activity, this activities require greater investments in skilled human resources, adequate spaces, and equipment. Some community associations promote activities that are usually sporadic and without continuity. Interventions autonomously promoted by citizen groups are the less frequent.

Most interventions are for children and young people and the continuity of these interventions was valued by interviewees. Schools appear as the ideal setting to develop promotion interventions of healthy lifestyles, often integrated in the school health program. There are also many health promotion interventions in the elderly. Health promotion interventions for middle-aged people and other adults of working age are less frequent. All these interventions are considered as promoting healthy aging as healthy childhood and adulthood may be the most important determinants of healthy old age (Sanders, 2006).

There are many interventions focused on preventing disease or risk, however most are focused on health promotion based on a more positive view of health. Health promotion interventions are mainly aimed at children and young people and disease prevention interventions are mostly addressed to adults and elderly. Similar results were found by Runciman and colleagues (2006) which emphasize that in terms of the approach to health promotion work with older people, biomedical, preventive and opportunistic work mainly with individual older people was common. Preventive interventions may target populations that are in good health, just as health promotion interventions may address people with a chronic illness and “although health promotion and disease prevention originate from different theoretical backgrounds, in clinical nursing practice, the interventions tend to overlap” (Wosinski et al, 2016, p. 2).

“A partnership for health promotion is a voluntary agreement between two or more partners to work cooperatively towards a set of shared health outcomes. Such partnerships may form a part of inter-sectoral collaboration for health, or be based on alliances for health promotion. Such partnerships may be limited by the pursuit of a clearly defined goal – such as the successful development and introduction of legislation; or may be on-going, covering a broad range of issues and initiatives. Increasingly health promotion is exploring partnerships between the public sector, civil society and the private sector.” (WHO, 1998, p. 27).

Collaboration in some form was evident in almost all of the interventions described by interviewees, and inter-sectoral collaboration was the most valued. Collaboration between levels of care was also valued. An interesting range of inter-professional and inter-sectoral collaborative partnerships in health promotion intervention, mostly initiated by primary care teams, were described. Municipalities and other community organizations also seek the health sector

as a preferred partner in health promotion interventions. These findings suggest that professionals are aware that interventions developed in partnership achieve health outcomes or intermediate health outcomes in a way which is more effective, efficient or sustainable than might be achieved by the health sector acting alone (WHO, 1998). Similar results were found by Runciman and colleagues (2006) that reinforce the important role that community nurses have in these partnerships, which emerged as a strategic response to policy, and as a pragmatic response on the part of community nurses to sharing the load and getting the work done. However, we need to emphasize that this partnerships should consider the patient a partner and an active member in the planning, implementation and evaluation of health promoting care (Guedes et al, 2012).

#### 4.2 Effectiveness of interventions in the adoption of healthy lifestyles

“Health promotion evaluation is an assessment of the extent to which health promotion actions achieve a “valued” outcome” (WHO, 1998, p. 22).

Two key elements arise regarding the effectiveness of interventions in the adoption of healthy lifestyles: evaluating the effectiveness of interventions and strategies to increase the effectiveness of interventions.

Some of the health promotion projects developed have indicators that evaluate their effectiveness but most interventions are not evaluated reflecting a lack of standardized measurement tools and methods. However the requirement of outcome indicators for the evaluation of projects is increasingly a reality, especially in projects where there is inter-sectoral collaboration or applying for funding. Similar results were found by Runciman and colleagues (2006), which notes that in most cases, audit or evaluation was linked to a particular initiative or innovation in health promotion work.

Some interviewees reported difficulties in assessing the effectiveness of interventions in the adoption of healthy lifestyles noting that many initiatives have been implemented relatively recently and there has not been sufficient time for effects to visible effects that can be evaluated.

In this study, one of the most mentioned strategies to increase the effectiveness of health promotion interventions is the involvement of the community and partners in the planning, implementation and evaluation of interventions, which is consistent with WHO’s recommendations which states that “evaluations of health promotion activities may be participatory, involving all those with a vested interest in the initiative; interdisciplinary, by involving a variety of disciplinary perspectives; integrated into all stages of the development and implementation of a health promotion initiative; and help build the capacity of individuals, communities, organizations and governments to address important health problems” (WHO, 1998, p. 22).

Is reinforced by the interviewees the importance of health promotion interventions addressed to children and young people because a greater chance to enjoy a longer and healthier life comes from the early adoption of healthy lifestyles.

Adequate and rapid assessment of health needs before the intervention is another of the main strategies mentioned by the interviewees. The assessment is the first stage for planning, implementing, and evaluating community health promotion or prevention programs. “Successful implementation of community health promotion-prevention programs depends in large part on accurate assessment of community characteristics” (Pender et a., 2011, p 113). To a complete community analysis is important to assess and define needs, opportunities, and resources. “A community analysis is done with the community, not on or for the community” (Pender *et al.*, 2011, p. 112).

#### 4.3 Factors that influence the development of interventions to promote healthy lifestyles

Regarding the factors that influence the development of interventions to promote healthy lifestyles, these may be related to the participants, the professionals or the organizations.

The main factor associated with participants mentioned by respondents was age, as previously mentioned most interventions are directed to children and the elderly because they are more available. Adults at active age, and particularly middle-aged, participate less because they are busy and therefore less available and often the timing of interventions are not compatible to their availability. Interventions to promote health of middle-aged people are considered crucial, since it is a stage of life where important decisions are made that will have an impact on later life and professional support and information to assist the decision-making may be useful (Manthorpe *et al.*, 2004).

Change resistance and motivation to participate were also identified as factors related to participants.

With regard to factors related to the professionals their motivation and the strategies used were the most mentioned. These findings may mean that professionals, particularly in busy areas, may not see health promotion as a priority, while others may lack the knowledge and skills needed to put into practice with appropriate strategies (Sanders, 2006).

The lack of resources for the practice of health promotion in primary health care was the most mentioned factor related with organizations. The participation of nursing students in planning and implementation of interventions was also considered as an important factor. Is also referred, by some participants, the importance of political investment

in health promotion. This investment is a strategy for optimizing the health promoting impact of public policies (WHO, 1998).

#### **4.4 Community participation**

The Ottawa Charter (WHO, 1986) emphasizes the importance of concrete and effective community participation in setting priorities for health, making decisions, planning strategies and implementing them to achieve better health. Through community participation, individuals and organizations within an empowered community provide social support for health and gain increased influence and control over the determinants of health in their community (WHO, 1998).

It is widely recommended that people should be fully consulted and involved in planning for health promotion, our findings suggest that sometimes the health professionals seek to promote participation involving people and community groups in the planning process of interventions, however there are difficulties in community empowerment and a lack of culture of participation in people and communities.

Is important to emphasize that the empowerment of people and communities is critical to full participation since health promotion most “be carried out by and with people, not on or to people. It improves both the ability of individuals to take action, and the capacity of groups, organizations or communities to influence the determinants of health. Improving the capacity of communities for health promotion requires practical education, leadership training, and access to resources” (WHO, 1997). The relationship between participation and empowerment assumes that the knowledge of participants, their views and experience are included in decision-making processes in order to ensure that these decisions include all dimensions experienced by those who daily suffer the problems that decisions try to solve (Serapioni and Matos, 2013).

#### **4.5 Environment facilitator of healthy choices**

To enabling individuals to change and maintain healthy lifestyles, action must be directed not only at the individual but also at the social and living conditions which interact to produce and maintain these patterns of behavior. “The main aim of healthy public policy is to create a supportive environment to enable people to lead healthy lives. Such a policy makes healthy choices possible or easier for citizens. It makes social and physical environments health enhancing.” (WHO, 1998, p. 24).

In this study the key elements regarding the environment facilitator of healthy choices were: promoting environment of physical activity; promoting environment of healthy eating and barriers to access to healthy choices.

Existence of appropriate infrastructure for physical activity in communities and local government investment to promote physical activity were the most mentioned aspects regarding the promoting environment of physical activity.

Access to healthy foods and interventions promoting healthy eating have been reported regarding the promoting environment of healthy eating. Interventions aimed to promote healthy eating and the existence of nutritionists in primary health care seeks to give an appropriate response to the increasing prevalence of obesity in all ages, which is a reality in Portugal and also in Alentejo, and the consequent morbidity and mortality associated (WHO, 2005; DGS, 2014; INSA and INE; 2009, DGS, 2012).

Gaps in the provision of physical activity were the barriers to access to healthy choices identified by the interviewees.

#### **4.6 Nurse’s role in the healthy lifestyles promotion**

Whitehead (2000) refers that much of the literature “relates to the specific role of community-based nurses in the primary healthcare team, and identifies their unique position and responsibility for pioneering the universal acceptance and adoption of health-promoting practices” (p. 604).

In this study the role of nurses in health promotion comes with three key elements: caring role; leadership role and enabling role.

As regards to the caring role are pointed two essential aspects: the proximity and knowledge that nurses have about patients, families and communities. Sanders (2006) refer that promoting individual’s health is an essential aspect of caring. Nurses are often in close and frequent contact with patients, families and the community (Kempainen, Tossavainen, and Turunen, 2013).

The nurses’ leadership role is manifested through the leadership of interventions and also the leadership of community intervention teams. These teams can be multi-professional and the leading role of nurses is recognized by all team members. Nurses are also referred as the connecting link with other professionals, facilitating interdisciplinarity. Pender and colleagues (2011) refer that “nurses, because of their biopsychological expertise and frequent, continuing contact with clients, have the unique opportunity of providing global leadership to health professionals in the promotion of better health for global community” (p. 8).

Nurses are also referred as having an enabling role by empowering people to adopt healthy lifestyles and promoting their participation in decisions that concern their health. Enabling people to make choices about health and lifestyle is an important aspect of nurse's role (Sanders, 2006). "In health promotion, enabling means taking action in partnership with individuals or groups to empower them, through the mobilization of human and material resources, to promote and protect their health" (WHO, 1998, p. 17).

## 5. CONCLUSIONS

The results of this study cannot be generalized, as they refer to particularities related by the fourteen participants about their perspective from the promotion of healthy aging interventions in Baixo Alentejo – Portugal, however findings can be compared with those of other studies in the literature.

Community interventions to promote healthy lifestyles are mostly developed by health professionals working in community and municipalities. Inter-sectoral collaborative partnerships mostly between the health sector and municipalities are a reality.

Children, young people, and elderly are the main participants of the programs of healthy lifestyles promotion. Health promotion interventions for middle-aged people and other adults of working age are less frequent. Age is considered as the main factor related to participants that influence the development of interventions to promote healthy lifestyles.

Motivation of participants and professionals was also considered as a factor that influences the development of interventions to promote healthy lifestyles.

The lack of resources for the practice of health promotion in primary health care and the participation of nursing students in planning and implementation of interventions were the most mentioned factors related with organizations.

Most community interventions to promote healthy lifestyles interventions are not evaluated reflecting a lack of standardized measurement tools and methods.

One of the most mentioned strategies to increase the effectiveness of health promotion interventions is the involvement of the community and partners in the planning, implementation and evaluation of interventions, however there are difficulties in community empowerment and a lack of culture of participation in people and communities.

The promotion of physical activity and healthy eating were the main aspects evaluated by respondents regarding the environment facilitator of healthy choices. The investment and the role of municipalities in building supportive environments for physical activity was evidenced. The municipalities and the health sector develop programs to promote healthy eating and in most communities there is easy access to healthy foods.

Nurses have three key roles in health promotion: caring role; leadership role and enabling role. The proximity and knowledge that nurses have about patients, families and communities were considered essential aspects. The nurses' leadership role is recognized by all team members. Enabling people to adopt healthy lifestyles and to participate in decisions that concern their health is also an important aspect of nurse's role.

Our findings suggest that there may be merit in:

- Consulting and actively involving people and communities in health promotion interventions.
- Finding strategies to enable increased participation of adults at active age and particularly middle-aged people.
- Strengthening a life-course approach to healthy ageing.
- Strengthening inter-sectoral and multi-professional partnerships.
- Creating opportunities for practice teams to share ways of working in healthy lifestyles promotion.
- Promoting mechanisms for evaluating the effectiveness of interventions promoting healthy lifestyles.
- Considering effective ways of developing and evaluating practice change.
- Giving more visibility to the role of nurses as health promoters and prevention specialists.
- Valuing the health promotion work in the community by primary care and municipalities.
- Continuing to design interventions based on the assessment of the health needs of populations.
- Being alert to trends and changes in all sectors of society and understand how these may affect the health of the population.

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# REVITALIZATION OF TRADITIONAL OCCUPATIONS IN BAIXO ALENTEJO FOR COMMUNITY DEVELOPMENT AND ENTREPRENEURSHIP

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## ABSTRACT

This study aims to realize the potential of the revitalization of traditional professions in Baixo Alentejo – Portugal for community development and entrepreneurship. The investigation involved the following participants: two experts, six representatives of regional and local associations, forty two representatives of local government and seven traditional trades professionals. The collected data indicate about 40 traditional occupations and about 150 professionals operating in Baixo Alentejo, it was found that the traditional occupations are part of the culture, identity and heritage, individualize and characterize communities. Contribute to community development and entrepreneurship in that allow secure people, create jobs and businesses, attracting tourists and disclose the locations. The study allowed us to understand that the future of traditional occupations involves the articulation between public authorities and associations; creating an action plan; creation of an area of production, distribution and marketing; combine innovation to traditional occupations, adapting them to the functionality of today; using indigenous products; promote visits to examples of good practice; encourage the teaching of traditional occupations; focus on training/retraining of activity and invest in new assets. Considering the results obtained was outlined a proposal for intervention project called “*Occupational House*” that is to involve the community in a knowledge and experience sharing space.

Keywords: Traditional Professions, Baixo Alentejo, Community Development, Entrepreneurship.

## 1. INTRODUCTION

The Alentejo despite its major flaws in the economic and social level have a strong identity, with vast material and immaterial resources that could be streamlined and strengthened. As indicated by the Coordination Committee and the Alentejo Regional Development by stating that “The economic and social value of rural areas is essential to territorial cohesion and competitiveness of territories, combining local potential with traditional activities and modern solutions in a perspective of complementarity between territories and resources, in favor of diversification of local markets, promoting entrepreneurship and sustainability. “(CCDR Alentejo, 2014, p. 296). It should also be noted that the Regional Action Plan “*Alentejo 2020*” (2013), indicates that the socio-economic recovery of low density territories through the use of business opportunities associated with endogenous resources through: activities related to tourism, craftsmanship and quality products; dissemination, marketing and innovation processes and technologies to bet based on the quality of traditional products and local employment initiatives and support for employability and entrepreneurship.

Among the many local resources featuring Alentejo highlight the traditional professions, beyond its historical and cultural value, they are an important binding factor and involvement of people with their territory, with capital gains environmental and tourist level. Traditional professions have failed to monitor developments and progress and entered extinction, there is no water carriers or coopers, even when there will be cobblers, barbers, potters, seamstresses, and many other professions ?, this context, the starting question arises: how the revitalization of traditional occupations in Baixo Alentejo, can contribute to community development and entrepreneurship ?, who led the research.



## 2. COMMUNITY AND ENTREPRENEURSHIP DEVELOPMENT

Human beings can not live in isolation, it is part of a whole, of a community. To Ander-Egg (1980) “*Community is an organized group of people who understand how social unit, whose members participate in some characteristic, interest element, objective or joint function, with a consciousness of belonging, situated in a particular geographic area wherein the plurality of people interact more strongly among themselves than in another context.*” (Ander-Egg 1980, p. 25). The community is not defined only in terms of location, “*it is the entity to which people belong, greater than kinship relations, but more immediate than the abstraction we call ‘society’.*” (Cohen, 1985, p. 15), one can then say that the community is characterized by life in common among persons closely related by ties created

Community development is the effort to improve the living conditions of those who live in a place, according to Silva (1964) should the United Nations the following definition of community development: “*Community development is a technique by which the inhabitants of a country or region unite their efforts to the public authorities in order to improve the economic, social, and cultural life of their communities, to join these communities to the nation’s life and to allow them to contribute without reserve for the country’s progress.*” (Silva 1964, p. 506), it is based on the existing social reality that must be sought subsidiaries solutions, integrating and valorizadoras of people and resources.

It is further that community development should be done in order to place people at the center of the process, from their interests in order to promote the improvement of people’s quality of life, creating an intervention program with endogenous and integrated nature, as stated José (2008) “*we have to start from where people are, that is, while we are dreaming of fantastic designs video and marches to parliament, we have to end up doing, and rightly, is the answer very specific situations on the ground.*” (Joseph, 2008, p.70). The training of the territory has to be made on site, listening to people, listening to their concerns and problems, crossing the knowledge / local experiences with scientific knowledge, only then can become active, interested and participative people in order to provoke to improve the quality of life of people and territory.

Entrepreneurship has been gaining importance and attention for some years, due to rising unemployment and weak economic growth, relating to innovation, initiative and creativity, boost employment and economic growth, “*strategic, in rural areas, is job creation. The development of a territory will not be made in the emergence of new companies that then sustain its residents.*” (Aparicio, 2005, p.10), entrepreneurship should be a strategy used to counter the depopulation of villages, since It allows you to create businesses and jobs, enabling people to secure territory. Increased competitiveness in rural areas requires greater entrepreneurial training and innovation, it is important to invest in the improvement of production processes, product quality and production, human resources development and efficiency of organizations, “*Endogenous quality of economic development decisive for the structural progress of the Portuguese economy will depend essentially on the process of renewal of people and businesses, better and more innovative and the emergence of entrepreneurs able to discover and seize opportunities by investing and generating wealth.*” (Aparicio, 2005, p.11 ), there is an urgent need to focus on entrepreneurship as a way to create businesses and enable existing, focus on innovation and leverage existing resources locally.

Studies on entrepreneurship highlight the importance it represents for community development, “*The advantages associated with entrepreneurship are clear: the creation of new businesses involves an investment in the local economy; the creation of new jobs; promoting competitiveness and the development of innovative business tools.*” (Calado, 2007, p. 15). That’s a need for greater education and training for entrepreneurship, which contribute not only to economic development but also social, because creating jobs is a strategic factor of social inclusion.

Betting on entrepreneurship is a key aspect for community development, entrepreneurship is the driving force in boosting the economy, relating to innovation and creativity allows the creation of new jobs and businesses, also contributing to greater empowerment of individuals and territory, allowing secure people, the greater the sense of belonging to a particular territory, the greater the commitment of all actors in the struggle for development, maximizing what is ours.

## 3. CULTURE, IDENTITY AND HERITAGE

The company has, over time, witness to many changes, and the concepts of culture, heritage and identity of those examples. The heritage is fundamental in the celebration of memory and the construction / reconstruction of identities. Culture “*is a certain set of behaviors models, customs, tools and objects used by a population, usually confined to a geographical area defined.*” (Ferreira, 1983, p. 23). Today it is often said that the culture of a people is what constitutes their identity. This identity, the culture that defines it. According to Ferreira (1983) is not the result of rational design, prepared the way you can design and create, from scratch, a factory, an industrial complex, an urbanization. The culture is primarily to identify the way in different places and times a given social reality is constructed and thought. Identity means that each is defined by common characteristics to all those who are similar to themselves and ways of being and characteristics own which distinguishes it from all others.

It should be noted that the heritage is not only what we have inherited, but also what particular generation want to leave in the future, ie “*everything that deserves to be preserved or, more precisely, as the tangible and intangible components of identity of all human society, constitutive of their identity*” (Cluzeau, 1998, p. 41). The heritage is an essential qualification value of territories and identity affirmation, having a significant potential differentiator and increasing the attractiveness and regional competitiveness. According Champetier (1998), for certain territories, the heritage is the feature around which may articular- the strategy of (re) development and the will to forge a new local identity.

The Regional Smart Specialisation Strategy (ENEI) for the period 2014-2020 is based mainly on the value of identity of the Alentejo, represented by its cultural heritage, environmental value and the deepening of urban-rural relations. Enhanced by innovation, with a view to creating new dynamics of economic development and employment and the improvement of existing within a framework of sustainability and quality of life. This strategy aims to enhance the heritage (natural and cultural as the main wealth and distinctive feature), by linking with the cultural and creative industries that contribute to the region’s position as a cultural and creative region, promoting the expansion of specialized tourism services and promoting coordination with other areas associated with food and the environment. The Alentejo Operational Programme 2020 (POR Alentejo 2020), based on the same guideline of action and targets a Alentejo with symbolic capital and distinctive identity, a territory with material resources, knowledge and skills and facilities, open to the world and able to build an economic base focused on its environmental added value, attracting residents, visitors, investments and activities that generate employment and social cohesion.

Valuing heritage extends in future terms, reinforcing its importance as a symbol of preservation of the collective memory of peoples and territories, ensuring new platforms in the creation of wealth and local jobs. The Regionalization Intelligent Strategy for Alentejo 2020 highlights the importance of creating value by “*(...) the identification, study, revival and reinterpretation of traditional knowledge and updated knowledge and revisited in the context of smart specialization to the Alentejo.*” (CCDR, 2014, p. 399). This idea is reinforced by Godinho (2005) by stating that the future of rural areas, in general may depend largely on its ability to use the legacy of the past. Traditional professions are an example of this “*legacy of the past*” being part of our culture, identity and heritage

#### 4. TRADITIONAL PROFESSIONS

There are numerous professions know-how and passed down from generation to generation, it is important to identify, study and preserve. Adolpho Coelho in his book “*Portugal and adjacent islands*” in 1896, identifies 369 different professions, considered according to the author “*an incomplete list in fact, the popular industries and professions*” (Coelho, 1896, p.21). In the absence of a definition for traditional occupations, it is necessary to clarify what is meant by “*traditional professions*” according to Rodrigues (2002), a profession emerges when a set number of people begin to practice founded technique on a response to needs social. In the Dictionary of Porto Editora Portuguese (2001), profession is the regular exercise of an activity for a living / office in the same dictionary craft word refers to the manual art or mechanics / job / profession, verifying that the craft and profession words are synonymous, “*the profession is synonymous with craft, that is, an activity from which the individual can take away their livelihood.*” (Cazeneuve, 1982, p.488). The word derives from the word traditional tradition, according to the same dictionary tradition is the oral transmission of facts, legends, dogmas, etc., of a society from generation to generation / memory / thinking or acting inherited from previous generations. It was built so for the purposes of this research the following concept of traditional trades:

Work / activity / occupation, where the individual takes livelihoods, and transmitted orally from generation to generation without more authentic proof of its truth to this broadcast. The industrial revolution has changed the shape of “know-how” leading traditional professions to extinction, “*The advent of modern industry has led to an increasing simplification of crafts, reducing the need for specific qualifications, made possible by the introduction of machinery, now perform most of the manual professions.*” (Gestine & Paolo, 2010, p.89). Today and with technology advancing at a frantic pace, the world is constantly changing, which was a year ago today is obsolete, if not we follow those developments were exceeded. Traditional professions have failed to keep up with the boom of technology, not used creativity and innovation, entering the process of extinction.

Traditional professions contribute to local regeneration through the creation of jobs and small businesses are also an important factor in attracting tourists and develop a non-aggressive relationship with the environment, “*In Portugal some traditional activities*” escaped “*from extinction precisely because of the tourism phenomenon, such as pottery, tapestry and sweets.*” (Nogueira, 2001, p.5). Transmitted from generation to generation, where the practice is the source of knowledge, traditional professions galgam the banks of the simple mode of production and transformed into ways of life. Traditional professions individualize and characterize communities, take the potential of traditional occupations is a route with human face of community development and sustainable entrepreneurship.

## 5. METHODOLOGY

In this study we chose a methodology of action research. This methodology aims to take into account the actual social needs, should involve all participants in the investigation and resolution of problems, participants must be active in the intervention process, acquiring a primary importance in the field of intervention in Community and Entrepreneurship Development, “*currently not no local intervention project that does not define “must” by using the methodologies of research-action.*” (Guerra, 2002, p.62). The overall objective of the research is to realize the potential of the revitalization of traditional professions in Alentejo for community development and entrepreneurship. It is the following specific objectives: identify existing traditional occupations in the parishes of Baixo Alentejo and realize its importance at the local level; realize the importance of traditional occupations for community development and entrepreneurship and how they can be preserved and sustainable and understand the difficulties and opportunities of existing traditional occupations in Baixo Alentejo, with a view to drawing up a plan of action.

The research focused on the Alentejo region, according to the Intermunicipal Community of Baixo Alentejo (2015), the Alentejo is a subregion of the extensive region of Alentejo and includes 13 municipalities: Aljustrel, Almodovar, Alvito, Barrancos, Beja, Castro Verde, Cuba Ferreira do Alentejo Mértola Moura Ourique Serpa and Vidigueira. With the administrative reorganization of the territory of the parishes in 2013, the Alentejo has consisted of 62 parishes. The study is considered four distinct stages of data collection, involving the following participants: two employees of the Beja Regional Museum - Museum Queen Dona Leonor; six Entities Regional and Local Associations: Entity Regional Alentejo Tourism; Intermunicipal Community of Baixo Alentejo; Business Association of Baixo Alentejo and Alentejo Litoral; Integrated Development Association of Rural - Alentejo XXI; Defense Association Heritage of Mértola and Association for the Protection of Cultural Heritage of Beja region; Forty-two parish councils of the 62 parish councils existing in the Lower Alentejo, which corresponds to a percentage of 68% and last seven professional traditional professions active in the Baixo Alentejo, whose professions are: baker, barber, dressmaker, joiner, refiner, coal and shoemaker.

All research participants were chosen based on convenience sampling. the following data collection techniques were used: document analysis, through bibliographic research on the subject of the investigation; exploratory interviews the two employees of the Beja Regional Museum - Museum Queen Dona Leonor; questionnaire applied to parishes joints of Baixo Alentejo; interviews with representatives of Regional Authorities and Local Associations of Baixo Alentejo and also to professionals working traditional jobs. All interviews and questionnaires were oriented analysis considering the following dimensions: *Dimension 1* - identification / characterization of the traditional professions; *Dimension 2* - importance of traditional occupations; and *Dimension 3* - future of traditional occupations.

## 6. RESULTS

According to the findings, it was identified about 40 traditional occupations and about 150 professionals operating in Baixo Alentejo. The large majority of traditional professional occupations study participants is over 50 years; 4th grade. They are mostly male; have family micro-business and learned from older family members. It has a little comprehensive perspective of the business and a little entrepreneurial vision, regard the business as a form of livelihood, failing to identify the problems of their profession in general and envision the future of the profession. Have a feeling of sadness for the lack of interest that young people have in relation to their activity. Despite pride in their work, they like to show their art and tell your story. But, we also note that they do not value their profession because they show a pessimistic perspective about the future, the elderly, and they feel that the younger have no interests in relation to their activity. It appears that the main difficulties of the traditional professions are: lack of innovation.

It appears that the main difficulties of the traditional professions are:

- lack of innovation;
- they can not keep up with rapid technological advancement of society;
- the amount paid for the products does not pay financially;
- aging professionals and the failure to transmit their know-how;
- lack of interest people in learning / undertaking; lack of financial support maintenance / opening activities;
- they can not clear the products and lack of customers;
- depopulation of villages and lack of young people;
- lack of interest of young people;
- lack of financial support and low level entrepreneurial population.

It appears that the traditional occupations continue to have great importance in the localities, part of the culture, identity and tradition. They should be preserved, otherwise are lost traditions hundreds of years, the products turn out to be all the same characterless and the territories lose their identity. The capital gains that have are contributing to the preservation of culture and heritage; allied to innovation enable the creation of businesses and jobs, securing youth and entrepreneurship; should bet on traditional occupations, in order to attract tourists and at the same time take to drain the products, disseminating locations; traditional professions are a form of affirmation of identity, quality, brand and image of the territory; contribute to economic growth and fixing people; Allied innovation may be adapted to today

The future of traditional occupations involves the relationship between public authorities and associations; creating an action plan; creation of an area of production, distribution and marketing. It should be encouraged the teaching of traditional occupations in schools; creating financial incentives; bet on the redevelopment of activity with new assets; invest in the training of new assets and professionals performing traditional professions; creation of an area of production, distribution and marketing and focusing on the promotion and dissemination of traditional activities. Proposals to revive traditional occupations identified undergo:

- invest in convent sweets;
- food;
- sausages and cheeses;
- use local products;
- articulate new designers to traditional knowledge;
- promote visits to cases of good practice;
- create a school of pottery; and
- rehabilitation of community bread ovens in the city of Beja.

After analyzing the data collected, we present a project proposal recalling the words of one of the research participants: *“If not done anything urgently most of these professions and knowledge disappears very quickly.”*

## 7. PROJECT PROPOSAL

The intervention project is called a *“Occupational House”*, the designation shall be the project that you want to involve the whole community a knowledge transmission space and sharing of knowledge and experiences, should the audience feel involved and integrated, becoming active and participatory, feeling familiar, as if in their own “home”. The overall objective of the project *“Occupational House”* is to create a space that enhances the development of the territory and encourage entrepreneurship through the revitalization of traditional occupations, in Baixo Alentejo. The project is structured in four distinct and complementary parts, according to the following specific objectives: to promote research and dissemination of traditional occupations in Baixo Alentejo; support the production and marketing of identity products in the region; promoting training activities and stimulate innovative entrepreneurship and to publicize the traditional professions that are extinct and that played an important role in the territory.

The *“Occupational House”* must involve the whole community, and its main target audience of traditional trades professionals, people interested in learning and undertake a traditional profession; tourists, students, researchers and curious by theme. To implement the project a physical space is required covering different areas above: research and dissemination; production and marketing; training and exposure. Project activities are flexible and should be adaptable to the needs of the target audience of the course of the same. The *“House of Crafts”* aims to be a space that is replicable and sustainable which implies the need to create partnerships with entities / Region Associations. To determine its sustainability project lacks a continuous assessment.

## 8. CONCLUSION

The study from the following initial question: *“How the revitalization of traditional professions in Baixo Alentejo, can contribute to community development and entrepreneurship ?”*. These research was initiated through literature searches, and we perceiving that there is little information about the concept traditional professions. It was found although there are numerous professions know-how and passed down from generation to generation, and it is important to identify, study and preserve.

Broke to the ground for the construction of the empirical study we concluded that the traditional professions contribute to community development and entrepreneurship. They continue to have great importance in the localities,

are part of the culture, identity and tradition and they are a form of affirmation of identity, quality, brand and image of the territory.

A project proposal was designed “*Occupational House*“, which aims to involve the whole community in an area of knowledge transfer and sharing of knowledge and experiences.

The training of territories is done by empowering people. The higher the level of training, knowledge transfer and sharing of knowledge and experiences of the people, greater capacity have to wonder about their lives and about where are inserted. This is the starting point for personal change and location. Given the above it is concluded that the research coincided with the community development perspective and entrepreneurship, to try to involve the whole community, listening to their problems and concerns and creating an action plan that meets your needs, crossing the knowledge places with scientific knowledge, based on locally available resources, but innovating in order to meet the current needs. Only then can become active, interested and participative people in order to lead to improve the quality of life and territory

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# LA NECESIDAD DE UN PLAN DIRECTOR PARA CIUDADES TURÍSTICAS INTELIGENTES. ANÁLISIS DE LAS CIUDADES DE FARO (PORTUGAL) Y GANDÍA (ESPAÑA)

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## RESUMEN

La Ciudad Inteligente es aquella comprometida con su entorno que intenta mejorar la calidad de vida de la ciudadanía y la economía local, a través de elementos más sostenibles y tecnológicamente más avanzados, en aspectos como el desarrollo económico, la movilidad, el medio ambiente, la eficiencia energética, las tecnologías de la información y el bienestar. Este tipo de desarrollo urbano basado en la sostenibilidad debe ser capaz de responder adecuadamente a las necesidades esenciales de instituciones, empresas, y de los propios ciudadanos, tanto en el plano económico, como en los aspectos operativos, ambientales y sociales. Con la finalidad de profundizar en el concepto *Smart*, la Universidad Politécnica de Valencia organizó un seminario en Gandía con representantes políticos de la región, personal técnico, empresariado y comunidad universitaria. Entre las principales conclusiones se destaca que, para alcanzar una implantación real en las ciudades turísticas, es imprescindible la colaboración de agentes públicos y privados, ciudadanos y de personas expertas de distintas disciplinas. Además, este tipo de proyectos requieren necesariamente de un *Plan Director*, diseñado con la participación de los *stakeholders*, que resuelva problemas reales. Nos encontramos ante la ausencia de una guía metodológica para elaborar este plan director, de forma eficiente, en ciudades turísticas intermedias. A través de una metodología basada en la investigación acción participativa pretendemos trazar las líneas de ese plan director; que pueda ser extrapolable a otras ciudades. En el análisis, comparamos dos ciudades turísticas intermedias, Faro (Algarve, Portugal) y Gandía (Valencia, España).

Conceptos Clave: Ciudades Inteligentes, Turismo Inteligente, Planificación, Investigación Acción Participativa.

Keywords: Smart Cities, Smart Tourism, Planning, Participatory Action Research.

## 1. INTRODUCCIÓN

### 1.1. El contexto actual

Desde hace ya algunos años se viene hablando de las ciudades inteligentes como el nuevo paradigma de desarrollo urbano, y donde las nuevas tecnologías juegan un papel fundamental. Este concepto es el resultado de la necesidad cada vez más urgente de orientar nuestra vida hacia la sostenibilidad. La profesora Andrea Caragliu (2011), define *Smart City* como una ciudad inteligente cuando las inversiones en capital - tanto humano como social -, y las infraestructuras de comunicación tanto tradicionales (transporte) como las modernas (tecnologías de la información y comunicación), promueven un desarrollo socioeconómico sostenible y a su vez un alto nivel de calidad de vida. Además de una eficiente gestión sostenible de los recursos y medioambientales, así como ahorro. Y todo esto, y como condición *sine qua non*, a través de un gobierno participativo. Por todo esto, los gobiernos actualmente transitan hacia este modelo de ciudad. No es intrascendente, el hecho que una de las principales líneas de ayudas a los municipios fomentadas por el gobierno central español sea precisamente la puesta en marcha de proyectos para sistemas de *Smart City*.

Así, la anterior definición nos conduce a relacionar la *Smart City* con el Internet de las Cosas, donde el espacio digital y físico se unen al poseer algo en común. Esto es, la idea de un futuro interconectado en todos los sentidos. Las *Smart Cities* se dividen en seis dimensiones esenciales: economía, personas, movilidad, medio ambiente, calidad de vida y gobierno (Giffinger, 2007). A este listado, nosotros añadimos otra, la cultura. Concretamente, la Unión Europea hace hincapié en la creación de una estrategia para la implementación de la inteligencia en las ciudades. En el ADN de este nuevo paradigma de desarrollo urbano, está la proclama de que en un futuro próximo, todos los elementos de la ciudad estarán perfectamente conectados, permitiendo la interacción de estos, en tiempo real. Así mismo, el sistema también permitirá intercambiar información en tiempo real. Y toda la información recaudada es medida, integrada y analizada. Con un fin, el de mejorar la eficiencia y optimización de los recursos y servicios que se prestan, y en definitiva, de servir de ayuda a una toma de decisiones más acertada.

Ahora bien, una ciudad inteligente comporta importantes retos. El primer reto es que tiene que contar con la cobertura tecnológica necesaria para esta interacción. Esto se consigue fomentando el wifi gratuito a lo largo de la ciudad y ofreciendo servicios que permiten al ciudadano realizar gestiones y contratar servicios de forma móvil. Y en tiempo real. Otro reto es, el hecho de facilitar y liberar información pública. Es decir, información relevante y personalizada que permita a los ciudadanos personalizar su relación con el entorno, según sus necesidades y preferencias. Por tanto, la ciudad, y concretamente la administración, tiene que liberar parte de la información que controla, para que esta pueda ser usada por el ciudadano. Es lo que se conoce como el *Open Data*. Finalmente, todo un reto educativo y formativo. Y bastante titánico, como es el hecho de luchar contra la brecha tecnológica y digital. La de aquellos llamados *desempoderados* digitales, para no permanecer excluidos y poder participar de esta ciudad.

El potencial y el abanico de posibilidades turísticas de convertirse en una ciudad inteligente puede ser enorme. La interconexión e intercambio de información, y su tratamiento, pueden ampliar y mejorar la experiencia de los turistas, adaptándonos a las distintas necesidades y preferencias de estos, ofreciendo una información más personalizada y enriquecida en contenido del destino. Para llevar a cabo el diseño de una ciudad o destino turístico inteligente, es necesario un Plan Estratégico Director - de acuerdo con los criterios establecidos de nueva gobernanza -, marcadamente participativo. Que orqueste todas las sinergias que se generan entre las administraciones, empresas, universidades y ciudadanos. La finalidad de este es superior, pues tiene que resolver los problemas reales y mejorar la calidad de vida ciudadana. Sin esta finalidad, ¿para qué serviría sino?

Ciertamente el actual contexto es un hándicap. Los problemas económicos que arrastran por ahora muchas de las ciudades intermedias españolas y portuguesas, representan un freno para la implantación de este nuevo paradigma de desarrollo urbano. Sin embargo, no tenemos que perder la oportunidad del modelo de ciudades y destinos turísticos inteligentes. Por ahora, las posibilidades de financiación europea para este tipo de proyectos son un hecho, y es una cuestión que no podemos dejar pasar. En definitiva, el recorrido es amplio y todo está para hacer. Pero, hay que empezar a rodar despacio y con una base sólida. Por lo tanto, se abre una oportunidad para poner en marcha proyectos relacionados con *Smart Cities* y con los Destinos Turísticos Inteligentes.

## 1.2 Objetivo. La necesidad de un plan director en ciudades turísticas intermedias

La Ciudad Inteligente es aquella comprometida con su entorno que intenta mejorar la calidad de vida de la ciudadanía y la economía local, a través de elementos más sostenibles y tecnológicamente más avanzados, en aspectos como el desarrollo económico, la movilidad, el medio ambiente, la eficiencia energética, las tecnologías de la información y el bienestar. Este tipo de desarrollo urbano basado en la sostenibilidad debe ser capaz de responder adecuadamente a las necesidades esenciales de instituciones, empresas, y de los propios ciudadanos, tanto en el plano económico, como en los aspectos operativos, ambientales y sociales.

Una *Smart City* convertida en un Destino Turístico Inteligente (*Smart Destination*) es una ciudad que apuesta por crear un modelo de turismo sostenible y que aprovecha al máximo sus recursos, con el objetivo de mejorar tanto el nivel de vida de su ciudadanía como de los turistas. La tecnología es un factor esencial, ya que permite interconectar servicios públicos y privados y a estos con los usuarios. Se persigue así lograr la eficiencia, en el uso de la energía y de otros recursos, y aumentar la satisfacción de las personas por el servicio recibido. De este paradigma surge el *Smart Destination*, un nuevo usuario, que está hiperconectado a la red, que consume contenido a cualquier hora, a través de distintos canales. Un nuevo turista cada vez más exigente y que valora poder integrarse digitalmente con el destino antes, durante y después de la visita.

Con la finalidad de profundizar en el concepto *Smart*, la Universidad Politécnica de Valencia organizó un seminario en Gandía (Valencia) con representantes políticos de la región, personal técnico, empresariado y comunidad universitaria.<sup>3</sup> Entre las principales conclusiones destacar que, para alcanzar una implantación real en las ciudades turísticas, es imprescindible la colaboración de agentes públicos y privados, ciudadanos y de personas expertas de distintas disciplinas. Además, este tipo de proyectos requieren necesariamente de un *Plan Director*, diseñado con la participación de los *stakeholders*, que resuelva problemas reales. Nos encontramos ante la ausencia de una guía

<sup>3</sup> Universitat Politècnica de Valencia: <http://cienciagandia.webs.upv.es/2015/12/sinergias-para-lograr-ciudades-y-destinos-inteligentes/>

metodológica para elaborar este plan director en ciudades turísticas intermedias. A través de una metodología basada en la investigación acción participativa pretendemos trazar las líneas de ese plan director; que pueda ser extrapolable a otras ciudades. En el análisis, comparamos dos ciudades turísticas intermedias, Faro (Algarve, Portugal) y Gandía (Valencia, España).

### 1.3 Ciudades turísticas intermedias: Gandía (España) y Faro (Portugal)

La Comunidad Valenciana es una región autónoma española, formada por las provincias de Alicante, Castellón y Valencia. Cuenta con 5.113.815 habitantes (INE, 2014). Representa aproximadamente el 10% del estado español, en cuanto a las macro magnitudes: población, inversión, PIB, renta, etcétera. Es la cuarta región española más exportadora. La Comunidad Valenciana aporta cerca de un 12% del turismo español. Es un sector considerado estratégico pues supone el 12,6% de nuestra riqueza anual, medida con el PIB. La región valenciana es el tercer destino turístico nacional en número de viajeros y de pernoctaciones, teniendo en cuenta tanto el turismo nacional como el extranjero. Nos visitan al año alrededor de 22 millones de turistas<sup>4</sup>. Las cifras anteriores corroboran el potencial turístico de esta región.

La ciudad de Valencia es la capital de la provincia homónima y de la Comunidad Valenciana. La ciudad de Valencia cuenta con 786.189 habitantes (INE, 2015). En el sureste de la provincia de Valencia, se encuentra la ciudad de Gandía, perteneciente a la comarca de La Safor. Una comarca de 31 municipios que cuenta con una población de 176.544 habitantes. La principal base de la economía de la comarca es el comercio y los servicios. La ciudad de Gandía es la capital comarcal<sup>5</sup> y una de las subcabeceras comerciales más importantes de Valencia, con una importante área de influencia supracomarcal - de influencia directa o compartida con municipios de la comarca, y de ciudades y pueblos de otras comarcas (destacar por ejemplo las ciudades de: Alcoy, Onteniente, Xàtiva, Dénia, etcétera). El área de influencia comercial de Gandía la componen 82 municipios con un total redondeando de más de 360.000 habitantes (Pateco, 2010).

La ciudad de Gandía está formada por dos núcleos de población: la ciudad urbana, propiamente dicha, y la playa. Actualmente cuenta con una población de 75.514 habitantes (INE, 2015). Es uno de los principales destinos turísticos españoles, por lo que en verano la ciudad duplica su población hasta llegar a los 160.000 habitantes. Situada en la costa mediterránea, la playa de Gandía es una de las más anchas de todo el litoral valenciano. Cuenta con una superficie de 700.000 m<sup>2</sup> y de una longitud aproximada de 7,5 km. Así mismo, dispone de todo tipo de servicios e infraestructuras para cumplir con las necesidades de los turistas. La temperatura media anual es de 19-20° centígrados. El clima es mediterráneo subtropical con unas temperaturas muy suaves durante el invierno y unos veranos muy cálidos. Estas características, junto con las que ofrece la zona urbana, ayudan a que el destino sea visitado por tantos turistas a lo largo del año, sobretodo en temporada estival.

El turismo es el principal motor económico de Gandía, una ciudad que por su ubicación y clima mediterráneo atrae a miles de turistas cada año. Por poner un ejemplo, Gandía es el tercer destino de la Comunidad Valencia en pernoctaciones en apartamentos turísticos reglados y el quinto en pernoctaciones hoteleras (Agència Valenciana del Turisme, 2015). Sin embargo, el turismo actual de Gandía, como destino maduro, refleja la necesidad de innovar para no caer en declive y de actuar frente a ese turismo masivo que evita la sostenibilidad del destino. Para ello, ayudaría en gran medida convertirse en una *smart destination* y llevar a cabo actuaciones propias de este nuevo paradigma de desarrollo urbano, de un nuevo modelo de ciudad. Desde los años 60 es un importante destino turístico de playa, principalmente estacional y procedente del interior de España.

Portugal al igual que ocurre con otros países europeos ha ido aumentando durante los últimos 25 años la participación del sector terciario en su economía. En consecuencia, el sector agrícola y pesquero que tenía en los años 60 un peso del 24% del PIB, ha reducido este porcentaje al 4,3% en el año 2011. No obstante este sector todavía ocupa una buena parte importante de la población activa. El retroceso relativo de la industria en el conjunto de la economía al igual que ocurre en España es un hecho.

El sector turismo en Portugal tiene según las estadísticas más recientes un peso del 9,1% en el VAB nacional y las actividades con él relacionadas ocupan el 8,8% de la población empleada. Debido a la importancia del sector en la economía, la actividad turística ha sido objeto de un Plan Estratégico en el marco de las políticas públicas desarrollado hasta el 2015. El Plan propone aumentar la importancia de la actividad en la economía, para lo que el Estado pone a disposición varios mecanismos de apoyo a proyectos de naturaleza empresarial y de infraestructuras. El comercio es el subsector de servicios más relevante, empleando a casi el 12% de la población y generando el 18% del VAB total.

El turismo es uno de los sectores más importantes de la economía lusa, considerado el principal sector exportador dentro del total de bienes y servicios exportados (13,5%) y el principal dentro de los servicios (45%). Según datos de la Secretaría de Estado de Turismo, España es el primer mercado emisor de turistas para Portugal y tercero en cuanto

<sup>4</sup> Informe "La Comunidad Valenciana en cifras, 2012-2013". Consejo de Cámaras de la C.V. - Generalitat Valenciana).

<sup>5</sup> Es una comarca de la Comunidad Valenciana, con capital en Gandía. Está situada en la cuesta sudeste de la provincia de Valencia y está conformada por 31 municipios y con una población de 176.544 habitantes (INE, 2015).



a ingresos por turismo. Este Plan Estratégico va a dirigir a nuestro país, el 20% de la inversión en promoción de Portugal como destino turístico.<sup>6</sup>

Adentrándonos en la ciudad portuguesa de Faro, destacar que se trata de la capital de la región del Algarve. Tiene 64.560 habitantes y es cabecera de un municipio con 201,31 km<sup>2</sup> (INE, 2015). La ciudad es un importante centro turístico, y dispone de aeropuerto internacional y de un destacado patrimonio monumental. Su aeropuerto es el segundo más ocupado en Portugal después del de Portela (Lisboa), no en vano tiene un movimiento de más de 5 millones de pasajeros al año. La temperatura media anual de la ciudad es de 17,8° centígrados.<sup>7</sup>

El Plan desarrollado en Faro referente a su estrategia de *branding* y *marketing*, identifica dos ejes que son la base de su identidad: por un lado, el patrimonio natural, y por otro, el patrimonio histórico. Estos elementos, que son esenciales para la construcción de estrategias de promoción y que atraen a los turistas y visitantes, definen en este plan los mensajes y contenidos que transmiten las acciones e iniciativas de comunicación y promoción de la comarca del Algarve.<sup>8</sup>

Ambas ciudades, Faro (Algarve, Portugal) y Gandía (Valencia, España), comparten elementos característicos que son comunes. En primer lugar, la terciarización de sus economías, esto es, la transformación de las actividades económicas hacia otras más enfocadas al sector de servicios. Y en donde la estructura económica ha cambiado hacia una basada fundamentalmente en el sector de servicios – concretamente hacia el sector turístico y el sector comercial - en detrimento del sector industrial. En segundo lugar, se trata de ciudades con atraktividad turística, elemento vital en la motivación de los turistas a viajar, y no únicamente por sus playas y el buen clima, sino también por su valor cultural, histórico-patrimonial y ocio. La cuestión del atractivo turístico genera una actividad conexas (gastronomía, hostelería, agencias de viajes, hoteles, etc.) como desarrollo de infraestructuras para el acceso y disfrute de los atractivos turísticos (rutas, señalización, etcétera; y en la ciudad de Faro concretamente, su aeropuerto). En tercer lugar, ambos destinos son ciudades intermedias con similar población. La ciudad de Gandía (España), triplica en el período estival su número de habitantes – con un importante turismo intrarregional -, similar a lo que ocurre en la ciudad de Faro (Portugal). Los desplazamientos turísticos en ambas regiones, resultan ser mayores en Faro al disponer esta ciudad de un aeropuerto internacional. Finalmente, destacar que el turismo no es una actividad inocua para los lugares donde se desarrolla. Ambas ciudades no son ninguna excepción. Sin duda, el crecimiento incontrolado y masivo tiene importantes repercusiones sobre el medio natural (por la presión turística y urbanística), sobre el desarrollo del transporte y la movilidad, sobre las propias economías locales, sobre los recursos turísticos-culturales o incluso sobre las condiciones de desarrollo de la visita turística – la pérdida de calidad de la experiencia -. Por tanto, a nivel turístico también, las ciudades tienen planteados importantes retos en relación a la transmisión del legado cultural y patrimonial a las generaciones futuras y una responsabilidad que pasa por mantener el desarrollo turístico dentro de los límites de la sostenibilidad.

La falta de planificación de los espacios puede dar lugar a impactos no deseados. Por tanto, alcanzar una implantación real en ambas ciudades con la finalidad de poder convertirse en ciudades turísticas inteligentes, conlleva ineludiblemente en comprometerse con su entorno. Intentar mejorar la calidad de vida ciudadana y la economía local, a través de elementos más sostenibles y tecnológicamente avanzados, en aspectos como la economía, medioambiente, movilidad, población, formas de vida y gobernanza, y cuya aplicación íntegra hacen que una ciudad pueda convertirse en ciudad inteligente (Giffinger, 2010). Y además, responder adecuadamente a las necesidades operativas esenciales de la sociedad entendida en sentido amplio. Por tanto, este tipo de proyectos requieren necesariamente de la participación de los *stakeholders* en su propósito de resolver problemas reales. No hay ningún *Plan Director* para ciudades intermedias que quieran realizar esta transición a convertirse en ciudades turísticas inteligentes. Nuestro objetivo es, comparar las ciudades intermedias de Faro (Portugal) y Gandía (España), y proponer una guía metodológica para elaborar este posible plan director. Y que, a su vez, se pueda extrapolar y retroalimentar a partir de los resultados obtenidos, a otras ciudades turísticas intermedias.

## 2. FUNDAMENTOS TEÓRICOS

### 2.1 El mundo de la práctica y del pragmatismo

El reflexionar sobre el interrogante: ¿para qué y para quién, en definitiva, hacíamos la investigación?, nos trajo a repensar y reconstruir nuestro papel como investigadores para implicarnos en la producción de un tipo de conocimiento que fuera propositivo y pragmático; que fuera más allá del diagnóstico sobre la realidad, y las posibles explicaciones de sus necesidades y límites en la estructura social. Nos trajo a incluir también la formulación de propuestas y estrategias

<sup>6</sup> Guía País Portugal. Elaborado por la Oficina Económica y Comercial de España en Lisboa (enero 2015).

<sup>7</sup> Climatological Normals of Faro. Weather.gov.hk. 2012-12-20. Enlace web: [http://www.weather.gov.hk/wxinfo/climat/world/eng/europe/sp\\_po/faro\\_e.htm](http://www.weather.gov.hk/wxinfo/climat/world/eng/europe/sp_po/faro_e.htm) < Consultado en marzo de 2016 >.

<sup>8</sup> Web Oficial Cámara Municipal de Faro: <http://www.cm-faro.pt/> <consultado en febrero de 2016 >

de cambio; así como desarrollar procesos de devolución de la información y de apropiación de esta por parte de los agentes implicados, incorporando la perspectiva dialéctica.

La investigación, en nuestro caso, sigue la secuencia: descripción de la situación, análisis y propuestas para la acción. Consideramos en el trabajo que, para poder trabajar desde las necesidades y potencialidades de los sujetos en la estructura social (ámbito local-regional), necesitábamos la perspectiva dialéctica, con una visión estratégica construida de forma participada: hablamos de trabajar desde procesos y estrategias que sean permeables y dinamizadores de la iniciativa empresarial e institucional local, que abran espacios de reflexión y actuación en el nivel local (ciudad). Por lo tanto, es necesario también un análisis que debe de partir de la misma experiencia de los protagonistas.

Un análisis que tiene que partir desde la experiencia de los mismos protagonistas, con reflexiones prácticas, que hay que trabajar individualmente y colectivamente, en tiempo y espacios propios, como provocación para un aprendizaje desde la cotidianidad. Es, por lo tanto, una manera de conocer desde el mutuo aprendizaje y a partir de prácticas concretas donde se propone, se razona, se discute y se planifican estrategias, para construir desde la misma experiencia, y poder hacer accesible este conocimiento práctico y reflexivo del objeto de estudio no solamente a unos pocos colectivos (actores), sino también al resto de colectivos del ámbito territorial.

Así, el proceso abierto y en continuo avance que sigue el diseño de la investigación nos ha conducido finalmente hacia la dimensión dialéctica, que parte de la consideración del objeto a investigar como sujeto (protagonista de la investigación) y que considera que la finalidad de la investigación es la transformación social. A partir de la perspectiva dialéctica, entendemos que los resultados de una investigación, más todavía cuando tiene un carácter propositivo y una finalidad de aplicación, tienen que ser sometidos a un proceso de contrastación social. Pero si nos situamos en la perspectiva dialéctica, tenemos que ir más allá en el sentido de trascender la contrastación académica y de los investigadores, propiciando la devolución de la información a aquellos que están implicados en la investigación. Tal como señala Jesús Ibáñez, “en la perspectiva dialéctica la información pasa siempre al sujeto analizante: un grupo de discusión o una entrevista abierta se transforman a la perspectiva dialéctica si se comunica a la instancia analizante la información producida” (Ibáñez, 1993:79).

Esto último nos parece de gran importancia en dos sentidos: por un lado respecto de cuestiones técnicas y estratégicas como la validación (“no hay respuesta acertada sin la interpretación de los sujetos”, dice R. Villasante (2000:37 y ss.)) y la utilidad. La cuestión principal es conocer como ven los sujetos investigados el reflejo que se les presenta de su propia realidad, y comprobar qué están dispuestos a cambiar o no, para poder establecer, en última instancia, estrategias de actuación y acciones acordes a su realidad. Pero también, es importante en el sentido de la apropiación del saber y del poder, y de la construcción colectiva del conocimiento, tal como lo plantea la investigación participativa.

Existen muchas definiciones y diferentes escuelas y denominaciones en la literatura científica en relación a la Investigación Acción Participativa (IAP). Siguiendo a Alberich (2000:8), la investigación social participativa se puede definir “como un método de estudio y de acción que busca obtener resultados fiables y útiles para mejorar las situaciones colectivas, basando la investigación en la participación de los mismos colectivos a investigar”. La participación en la investigación de los mismos colectivos a investigar hace que pasen de ser objeto de estudio a sujeto protagonista de la investigación, al controlar e interactuar a lo largo del proceso investigador (diseño, fases, devolución, acciones, propuestas...) con la implicación y convivencia del investigador externo en la comunidad a estudiar... La IAP, por lo tanto, no rechaza el papel del especialista (profesional conocedor de las técnicas de investigación) pero sí que “plantea el para qué y para quién de la investigación como primer problema a resolver, rechazando que la devolución del saber obtenido en la investigación quede en exclusiva para el cliente que contrata” (Alberich, 2000:9).

Finalmente, ante la variedad de perspectivas teóricas disponibles en la indagación cualitativa, adoptaremos, en cierta medida, como también señala Patton, una postura basada en el pragmatismo:

“...ahora dejemos el mundo de la teoría y entremos en el mundo de la práctica y del pragmatismo. No todas las cuestiones están basadas en la teoría (...) no es necesario jurar lealtad a ninguna perspectiva epistemológica para usar los métodos cualitativos... Mientras que los estudiantes que escriben tesis y los académicos se preocuparán necesariamente de los marcos teóricos y la generación de teoría, hay un lado muy práctico de los métodos cualitativos que simplemente supone hacer preguntas sobre la gente y observar asuntos de interés en contextos reales en orden a resolver problemas, mejorar programas, o desarrollar prácticas” (Patton, 1990:89).

## 2.2 La perspectiva dialéctica: la investigación acción participativa (IAP)

¿Cómo situar a los actores sociales en una posición de constructores?, ¿cuándo el interés de la investigación no es el conocimiento por el conocimiento, sino la comprensión para la acción transformadora o la acción transformadora para la comprensión? Esta interpelación es la que nos conduce a introducirnos en la investigación con la metodología de la investigación acción participativa (IAP), puesto que genera un método de aproximación a la realidad que no pretende sólo observar para medir desde el investigador, sino transformar desde los agentes sociales. En este proceso tienen que ser los mismos sujetos investigados —junto con el equipo investigador— los constructores de la observación y

también de la toma de decisiones; con lo que se abre la posibilidad a los actores sociales de autogestionar los procesos de reflexión y de acción.

Los exponentes clásicos de la investigación-acción son (Salazar, 1992): Kurt Lewin, Solo Tax, Peter Park, Anisur Rahman o Fals Borda. En referencia a los exponentes clásicos, se trata de autores que provienen de diferentes disciplinas – psicología, antropología, sociología, economía, etc. - y más o menos heterodoxos de la Academia, debido a su compromiso con los procesos de cambio en países como en América Latina (Falso Ladra) o Asia (Anisur Rahman). En este sentido, resulta muy ilustrativo lo que dice Kurt Lewin sobre el marco de la IAP en un artículo del año 1946, titulado *La investigación-acción y los problemas de las minorías*, “Necesitamos saber si nos estamos moviendo en la dirección correcta y a qué velocidad actuamos. En el área de lo social no basta que las universidades produzcan nuevas percepciones científicas. Es necesario que también establezcan procedimientos de obtención de información dentro de las mismas agencias de acción social” (citado en Salazar 1992:18).

Cómo nos advierte Alberich (2007), la IAP no tiene como finalidad última el hacer a los actores ‘seudo científicos’, sino que los colectivos sociales conozcan de una forma más científica la realidad y entorno social que los rodea. Este autor lo ilustra con el símil que nadie pretende que seamos médicos, pero sí que conozcamos mejor el comportamiento de nuestro cuerpo, las posibles enfermedades que podemos sufrir y los posibles remedios, en términos de prevención básica. En esta línea, Moreno Pestaña y Espadas Alcázar (2002) señalan que la IAP no acaba una vez se han producido los conocimientos, sino que pretende actuar frente a las realidades sociales en un intento de transformarlas, en el que los actores son los verdaderos protagonistas, confiriendo al final un cierto sentido democratizador.

En este sentido, estamos de acuerdo con que, “una primera acepción del término dialéctica es la de ‘diálogo’. Al igual que en un diálogo hay dos argumentaciones, dos razones, que se contraponen, en la dialéctica hay dos ‘lógicas’, dos razones que se confrontan” (Rubio, M. J., 1997, citado en Alberich 2007:5). “La posición de sujeto en proceso (Ibañez) nace desde la actividad de conocimiento del sistema social, y la investigación le permite constatar que sólo transformando el sistema social seguirá siendo posible sobrevivir como sujeto”. Y esto con una clara intencionalidad de transformación de la realidad social, pues: “la investigación sociológica dialéctica ensaya, para intentar realizarse, sacar a los miembros de la sociedad de la posición individual y débil de ‘sujetos consumidores’, para colocarlos en la posición fuerte y colectiva de ‘sujetos productores’” (Gumpert, 1993, citado en Alberich 2007:5).

En esta línea, Fals Borda prefiere la sigla IAP en vez de IP (investigación participativa), porque es “preferible... especificar el componente de la acción, puesto que deseamos hacer comprender que se trata de una investigación-acción que es participativa y una investigación que se funde con la acción (para transformar la realidad)” (Rahman y Fals Borda, 1989:207). En los planteamientos del citado autor latinoamericano están vinculados dos ejes, conocimiento y acción, sistematizadas en la IAP.

Cómo también señala Ander-Egg (2003:4-5), al examinar los tres termas que componen esta denominación, investigación-acción-participativa, y su combinación, sus características básicas son:

- En cuanto que *investigación*, se trata de un procedimiento reflexivo, sistemático, controlado y crítico, la meta del cual es el análisis de algún aspecto de la realidad.
- En cuanto que *acción*, significa que la forma de realizar el estudio es ya en sí mismo una manera de intervención y que la finalidad de la investigación (en sí misma fuente de conocimiento) está orientada a la acción.
- Y para ser *participativa*, están involucrados tanto el equipo de investigación como los actores destinatarios de las actuaciones, no como meros objetos pasivos sino como sujetos activos que contribuyen a conocer y transformar la realidad de la cual forman parte.

Para Ander-Egg (2003), toda metodología y toda forma de acción participativa, como es la IAP, solamente puede aplicarse a una escala relativamente reducida (ciudad o comunidad como máximo; escala micro social), pues en escalas mayores - macro social - la participación se vuelve más difícil (y para lo cual ya existen otro tipo de metodologías y técnicas que no excluyen los procesos de participación) y porque una participación efectiva requiere que exista una proximidad vital. Comparte Ander-Egg con Fals Borda que la IAP es una herramienta intelectual al servicio del pueblo, destacando el componente de la acción en su denominación. Ander-Egg señala que la IAP es una metodología más entre otras posibles, no sustituye al resto otras formas de investigación igualmente necesarias, pero es una investigación con peculiaridades operativas sin método propio (aunque sí que atiende a las exigencias del “método científico”) y orientada a la acción y transformación social. Además le otorga, como dicen Moreno Pestaña y Espadas Alcázar (2002), un cierto sentido democratizador.

Para la dimensión dialéctica, se pretende, por un lado, hacer que los agentes implicados tengan capacidad para analizar y reflexionar colectivamente, en profundidad y de forma crítica sobre su realidad. Por otro, que los mismos agentes implicados se conviertan en sujetos activos protagonistas de la gestión y transformación de los asuntos que los afectan. Cómo dice Peter Park (1992:150) “la IAP comienza con un problema”.

Así pues, una de las aportaciones más útiles y características de la IAP es el aprendizaje que proporciona esta

metodología a los actores implicados porque, a través del hecho de conocer, participan también del ‘poder hacer’. La meta última de la IAP es conocer para transformar. Siempre se actúa en dirección a una finalidad o un “para qué”, pero esta acción no se hace “desde arriba” sino “desde” y “con” la base social, los actores implicados (*stakeholders*).

En la anterior línea, autores del Colectivo IOÉ (2003) destacan cinco líneas estratégicas en un conjunto de cuadro ideal de intervención que posteriormente se aplica en la práctica hasta donde sea posible<sup>9</sup>:

- Pasar de la relación sujeto-objeto (gestores - actores implicados) a la relación sujeto-sujeto, procurando todos adoptar una actitud de escucha, diálogo permanente, adaptarse al lenguaje de los destinatarios (sin argots técnicos y burocráticos) y abierto en función de qué sean las demandas de los agentes implicados.
- Partir de la génesis de las demandas de los agentes implicados (o afectados); los *stakeholders*. Se considera condición *sine qua non* para que sean los verdaderos protagonistas del proceso.
- Unir reflexión y praxis.
- Comprender la realidad social como una totalidad, concreta y compleja al mismo tiempo. En suma, abrirse a la interdiscipliniedad del conocimiento y aprovechar los diversos enfoques que se entienden como complementarios. “Algunos autores entienden esta forma de abordar la acción social como uno esfuerzo por conjugar los niveles micro y macro de la sociedad que estarían mutuamente implicados. Una articulación de lo micro y de lo macro supondría no sólo ‘actuar localmente y pensar globalmente’ sino desarrollar formas de intervención en los dos planos - evitando que se produzca la cooptación de lo micro por lo macro- y generar también una complementariedad horizontal entre los varios micro espacios a fin de reforzar la convergencia de los sectores de la sociedad afectados por problemas semejantes” (Colectivo IOÉ, 2003:8).

En este línea, autores como Manfred Max-Neef entienden que el problema de la articulación micro-macro todavía está para resolver en el ámbito teórico, si bien este se inclina por un tipo de interacción dialéctica entre ambas perspectivas: “una interacción dialéctica entre estados macro y comportamientos individuales, de tal suerte que, aún cuando se influyan recíprocamente, ni los unos ni los otros sean predecibles mecánicamente a partir de la sola observación de su opuesto. En otras palabras, lo que postulamos es que un determinado estado macro (político, económico, ambiental, etc.) influye en los comportamientos individuales, y éstos, a su vez, influyen en los cambios de estados macroscópicos. Pero como los sistemas humanos no son mecánicos, las interacciones no lineales entre los micro elementos de un sistema pueden dar origen a varios estados macroscópicos compatibles como las interacciones microscópicas” (1998: 119).

- Plantear la IAP como movilización entre los agentes implicados - o afectados - que puedan asumir un papel protagonista en el alcance de la sociedad y en la defensa de los intereses que los afectan de manera directa o indirecta. Que ellos mismos sean también los que aportan sus propias soluciones. Para Freire (1973) si el conocimiento no implica transformar la realidad no es verdadero conocimiento. En la IAP se reconoce y contempla la existencia del saber popular y, al decir de Ana Mercedes Colmenares (2012), es una metodología integradora del conocimiento y la acción.

### 3. ASPECTOS METODOLÓGICOS

Nuestra estrategia de investigación trae a la práctica una metodología con una clara dimensión propositiva y con intencionalidad dialéctica. Es por eso que basamos la investigación en la participación de los mismos colectivos a investigar. Pretendemos servir, desde la perspectiva participativa, de una nueva herramienta metodológica de estudio y acción - para transformar - que busca obtener resultados útiles para la toma de decisiones y mejorar situaciones colectivas en el ámbito local/regional. Y todo esto, desde los mismos interesados y a partir de sus recursos potenciales y endógenos.

#### 3.1 Metodologías participativas: la técnica de los grupos de trabajo

Con la mirada puesta en la IAP, utilizamos técnicas participativas mediante la realización de grupos de trabajo sobre la temática objeto de estudio. Lo primero que hay que acordar - como se hace en el contexto de cualquier ciencia - es que entendemos por ‘grupo de trabajo’. Entendemos aquí como grupo de trabajo al conjunto de personas asignadas o autoasignadas, según habilidades, conocimientos y competencias específicas (profesionales o expertos), para cumplir una determinada meta bajo la conducción de un coordinador (Alberich, T. et alí, 2009).

<sup>9</sup> Disponible: <http://www.colectivoioe.org/uploads/89050a31b85b9e19068a9beb6db3dec136885013.pdf> <consultado enero de 2016>.

Para el diseño de la muestra inicial de participantes en los grupos de trabajo nos planteamos incorporar los posibles puntos de vista según criterios no estadísticos, puesto que “no se trata de una muestra de temas o elementos sino de una muestra de relaciones” (Ibáñez, 1993). Como dice Villasante (2002:124) “la realidad no se algo preexistente que se pueda objetivizar y archivar como datos (...), sino construcciones siempre en proceso”.

La selección de participantes se completa paralelamente al desarrollo del mismo proceso de selección. Los participantes seleccionados nos van abriendo nuevas redes de contactos, puesto que nos facilitan informaciones muy valiosas para la selección de sujetos para otras colaboraciones y/o entrevistas posteriores. Así pues, para captar una muestra diversa de informantes clave para participar en el grupo de trabajo se utiliza también la estrategia de bola de nieve, en la cual el primer sujeto proporciona el contacto de otra u otras personas que también pueden aportar una opinión fundamentada y experiencia para el tema objeto de análisis.

Se tiene muy presente antes de aplicar cualquier técnica, los principios de intervención en grupo respecto al ambiente, liderazgo, cohesión grupal, flexibilidad, evaluación del proceso, etcétera. Puesto que si estos no están garantizados, habría que operar las estrategias oportunas, incluyendo la aplicación de técnicas u otro tipo de ejercicios grupales, para que los mismos estén garantizados. Pues coincidimos con Thelen (1964:170), cuando nos indica que: “una técnica no es en sí misma ni buena ni mala; pero puede ser aplicada eficazmente, indiferentemente o desastrosamente”.

Como dice Villasante (1995), desde la perspectiva dialéctica, independientemente de las técnicas que se emplean, se parte de conocimientos y posicionamientos diferentes. Y es que, en una asociación u organización de cualquier tipo, hay profesionales, dirigentes, vecinos, personas acostumbradas a hablar en público y otras que nunca lo han hecho. Es por esta razón que este autor señala que no se trata de una reunión (grupo de trabajo) entre iguales. Es más, el mismo Villasante nos dice que es importante partir de las desigualdades existentes que pudieran haber para transformarlas y conseguir finalmente, mayores cotas de igualdad de oportunidades.

Así pues, la técnica que utilizaremos será un proceso para llegar a una situación de mayor igualdad entre actores sociales que parten de conocimientos, experiencias y posicionamientos diferentes. Para tratar de llegar dentro de la diversidad a una posición de mayor igualdad en la cual encontrar soluciones en sus problemáticas. Además las propuestas que se derivan de su metodología se adecúan más y mejor a la realidad concreta, porque parten de las opiniones de los actores protagonistas (Villasante, 2002).

Las técnicas participativas son instrumentos que se utilizan en determinados procesos informativos y de toma de decisiones, y se aplican para adquirir conocimientos a partir siempre de la práctica. Es decir, de lo que la gente sabe, de las experiencias vividas y de los sentimientos que muchas situaciones originan, así como de los problemas y dificultades de nuestro entorno. Todas las técnicas tienen una aplicación variable y flexible, pueden ser adaptadas en función del tipo de grupo, de las necesidades, del momento en que se encuentra, de cómo se establezca el trabajo, de los objetivos marcados, y otros aspectos. Con su aplicación intentamos:

- Desarrollar procesos colectivos de discusión y reflexión
- Que los conocimientos individuales se intercambien y de este modo se enriquezca el grupo
- Que a raíz del trabajo en grupo se pueda trabajar desde un punto común de referencia
- Que el grupo pueda, a través del análisis, implicarse de forma más directa en nuevas prácticas

El objetivo de este análisis estratégico es el logro de un proceso ordenado y sistemático para:

- Identificar oportunidades, problemas y soluciones
- Definir acciones a emprender, sean correctivas o de nueva implantación
- Jerarquizar y dar prioridades
- Definir estrategias y políticas operacionales
- Precisar objetivos, y
- fortalecer o poner las bases de un sistema de planeamiento del tema objeto de análisis.

En este sentido, el interés que tiene la elaboración de las mesas de trabajo se fundamenta en:

- Hacer un esfuerzo continuo de reflexión para diseñar un plan director de ciudades intermedias
- Elaborar ese plan director a través de un proceso de concertación entre todos los agentes (institucionales y socioeconómicos) concernidos por la cuestión

Los objetivos de los grupos de trabajo son:

- Identificar colectivamente las fortalezas, potencialidades, limitaciones y oportunidades que presentan ambas ciudades para conseguir un reconocimiento, inserción y posicionamiento en el concepto de *smart*

- Definir colectivamente estrategias para enfrentar los desafíos y conseguir los objetivos

Así pues, el marco de la realización de los grupos de trabajo debe girar en torno a tres ejes importantes:

- Pensamiento creativo: el desarrollo de ideas y conceptos que superen la barrera de lo obvio y lo tradicional, buscando siempre alternativas en lo establecido y a las posibles soluciones. La fuente del pensamiento creativo es la imaginación.
- Pensamiento convergente: definición de iniciativas y priorización de acciones que tendrían que hacerse para conseguir, la meta de todos nuestros esfuerzos, una ciudad turística inteligente, sostenible, competitiva y de continuidad en el tiempo. Esto implica la evaluación conjunta de las iniciativas planteadas y el establecimiento de su grado de importancia y de dificultad que plantean, entre los grupos en la sesión de trabajo.
- Interpretación de los resultados: interpretación y reflexión de los resultados con el grupo en conjunto.

Las reglas son las de conseguir un debate colectivo abierto a diferentes actores y agentes del territorio, públicos y privados, basado en cuestionamientos sobre cada una de las propuestas (temas) que estos mismos propongan. El debate, a partir de los análisis desarrollados en las etapas metodológicas anteriores, tiene que situarse en el plano de las respuestas e investigación de salidas desde una actitud positiva, propositiva y con visión prospectiva. Los cuestionamientos –preguntas– planteadas que darán pie al debate sobre el modelo de *smart destination* y que dan cuerpo al plan director para ciudades turísticas inteligentes son: ¿qué hacemos?, ¿qué proponemos?, y, ¿por dónde empezamos?

Moderadores y relatores servirán de facilitadores en la sesión de trabajo de ambas ciudades. Serán profesionales de la *Escuela Politécnica Superior de Valencia* (UPV) y del *Research Centre for Spatial and Organizational Dynamics* (CIEO), los que coordinarán el trabajo en las sesiones. El proceso de participación se fundamenta en la creación de grupos de trabajo, coordinado cada uno por el moderador, que dinamiza el debate y ordena las propuestas. Como dice Rodríguez Porrás (2003:160), el moderador es “la persona responsable de que el grupo trabaje productivamente, al propio tiempo que conserva su propia unidad interna. El moderador tiene que cumplir, pues, dos clases de funciones integradoras. Ayudar al grupo a pensar metódicamente y cuidar de que las relaciones entre sus componentes no se deterioren por el ‘rozamiento’ generado por los procesos decisorios colectivos.” La función del moderador es clave aquí, puesto que es el encargado de facilitar los procesos que se producen dentro de la metodología participativa. Su papel principal consiste en promover la participación, la tarea reflexiva y el diálogo de todos los actores participantes incluidos en el proceso. Se trata de favorecer el debate abierto y participativo que incorpore la pluralidad, sin imponer nunca su visión de las cosas y su concepción de la realidad.

Las razones que traen al desarrollo de las sesiones de trabajo es ampliar el conocimiento sobre las ciudades turísticas inteligentes, así como estudiar y reflexionar sobre determinados efectos económicos y sociales de su posible desarrollo, en ciudades intermedias, tanto positivos como negativos. También la necesidad de instrumentar políticas integrales desde dentro, que atiendan de forma coherente estos efectos con objeto de potenciar los efectos positivos y reducir las distorsiones negativas. Lo que se pretende conseguir es la elaboración de un documento, a partir del trabajo realizado y de las ideas consensuadas por los agentes implicados de la ciudad, donde se recojan el desarrollo de propuestas y las líneas de actuación consensuadas. La meta de todos los esfuerzos es conseguir un plan director para ciudades turísticas inteligentes, con carácter sobre todo de continuidad, con una mirada desde dentro, y con un compromiso con la estructura social de quienes trabajan y viven en la ciudad.

### 3.2 La explicación de la dinámica e identificación de los actores (stakeholders)

La participación está abierta a grupos de profesionales en diferentes áreas del tema objeto de análisis y agentes socioeconómicos implicados en las políticas de desarrollo de la ciudad y colectividad civil, mediante carta de invitación previa. Las personas convocadas reciben una breve información sobre la metodología y lo que se va a tratar en el grupo de trabajo. Todos los participantes (asistentes), previamente a la sesión de trabajo, visualizan un breve diagnóstico para conocer la situación real y actual del tema objeto de estudio, así como su posible análisis y sus vinculaciones con los componentes económicos, sociales, ambientales y de infraestructuras en el territorio. A los asistentes se les solicita su participación personal en la sesión de trabajo aportando ideas e iniciativas, a partir de su conocimiento de la realidad objeto de estudio.

Y es que tampoco queremos profundizar mucho en los datos. Datos los justos para tener una idea de un primer diagnóstico del tema objeto de análisis. Pretendemos con esto encontrar ideas nuevas y frescas que no estén determinadas por nosotros como investigadores. Buscamos la espontaneidad, la frescura y la creatividad en las ideas. Adoptamos una postura basada en el pragmatismo por decirlo a la manera de Patton (1990). Así pues, el planteamiento de inicio de la sesión de trabajo una vez explicada la estructura de la misma es comenzar con la siguiente frase: propuestas y estrategias para un plan director para ciudades turísticas inteligentes: ¿qué hacemos?, ¿qué proponemos?, y, ¿por dónde empezamos?

Figura 1. La selección de los *stakeholders*

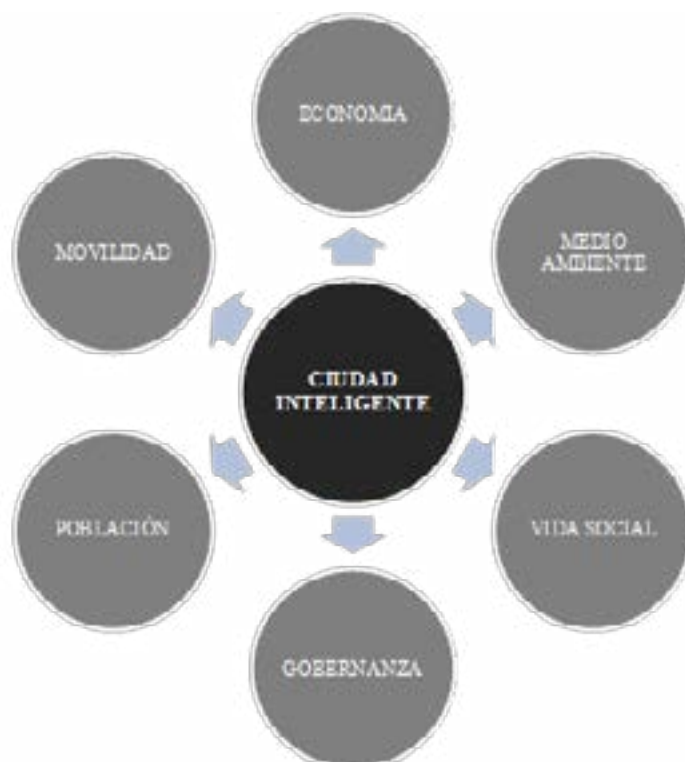


La selección de los participantes se realiza siguiendo fundamentalmente una estrategia de bola de nieve. La fase de realización de los primeros contactos con los *stakeholders* (figura 1) nos traerá a abrir nuevas redes de contacto, puesto que los mismos actores facilitan otras entidades y personas que podrían participar en el grupo de trabajo. Así mismo, también pueden participar representantes y profesionales expertos de fuera del municipio cuya aportación sea valiosa para el objeto de la investigación. Trabajamos con una metodología “flexible” y específica de participación ciudadana que consiste en una reunión organizada alrededor de un número de personas (pueden llegar a cincuenta) pertenecientes a las anteriores categorías sociales: miembros de asociaciones cívicas y de ONG’s, ciudadanos individuales, investigadores y técnicos profesionales, representantes del sector privado, representantes políticos y responsables de la toma de decisiones.

### 3.3 La identificación de las dimensiones de estudio

Según Giffinger (2007), las “ciudades inteligentes” pueden ser identificadas y clasificadas, según seis dimensiones principales: economía, movilidad, medioambiente, habitantes, forma de vida y gobernanza. La aplicación íntegra de todas estas dimensiones es lo que le hace a una ciudad convertirse en ciudad inteligente. Así pues, estas dimensiones conforman las líneas de propuestas a realizar por parte de los distintos actores en referencia al tema objeto de análisis. Los distintos actores en la sesión de trabajo realizan propuestas para cada una de las dimensiones planteadas (figura 2).

Figura 2. Las principales dimensiones de una ciudad inteligente



Fuente: elaboración propia, basado en Giffinger (2007)

### 3.4 Sesión de trabajo con las partes interesadas. Propuestas conjuntas y su evaluación

Se considera como escenario idóneo para llevar a cabo la sesión de trabajo, una sala con servicios totalmente adaptados a las exigencias de las necesidades del trabajo. En cuanto a la metodología, se ha tratado en anterior apartado, destacar que consta de las siguientes fases:

- Explicación de la dinámica de la sesión.
- Exposición de las reglas de la dinámica: máxima creatividad, no criticar ideas del resto de participantes, respetar el turno y la opinión.
- Estado de la cuestión: breve explicación de la situación actual sobre la cual se va desarrollar el trabajo.
- Después se pasa a la formación de grupos de trabajo entre los participantes. Identificación por cada uno de los grupos:
- Fortalezas y oportunidades de la ciudad alrededor del tema objeto de estudio
- Debilidades y amenazas al respeto
- Puntuación y valoración de las propuestas. Una vez planteadas – e identificadas - las distintas propuestas, se utiliza un breve cuestionario individual de trabajo dónde de forma anónima se recogen las puntuaciones y valoraciones a todas las propuestas planteadas por los distintos grupos. Cada participante realiza sus valoraciones (puntuaciones) de cada una de las propuestas formuladas y se obtiene unos resultados a partir de una serie de gradaciones. Seguidamente, se dividen las diferentes propuestas realizadas en las sesiones, a manera de conclusiones en base al grado de prioridad otorgado según las calificaciones realizadas por los participantes.

El resultado de las puntuaciones obtenidas de las distintas propuestas se trasladan a una matriz. La importancia de utilización de la matriz estriba a la hora de reflexionar sobre el grado de importancia de las propuestas planteadas y el grado de implementación (facilidad) de realización de las mismas. Así mismo, nos permite ordenar las propuestas en función de la prioridad o no de realización en pro de establecer las actuaciones básicas para el establecimiento de un plan director ‘tipo’ para ciudades turísticas inteligentes. La combinación de facilidad e importancia de una propuesta es lo que determina el tipo de acción a realizar con ella.

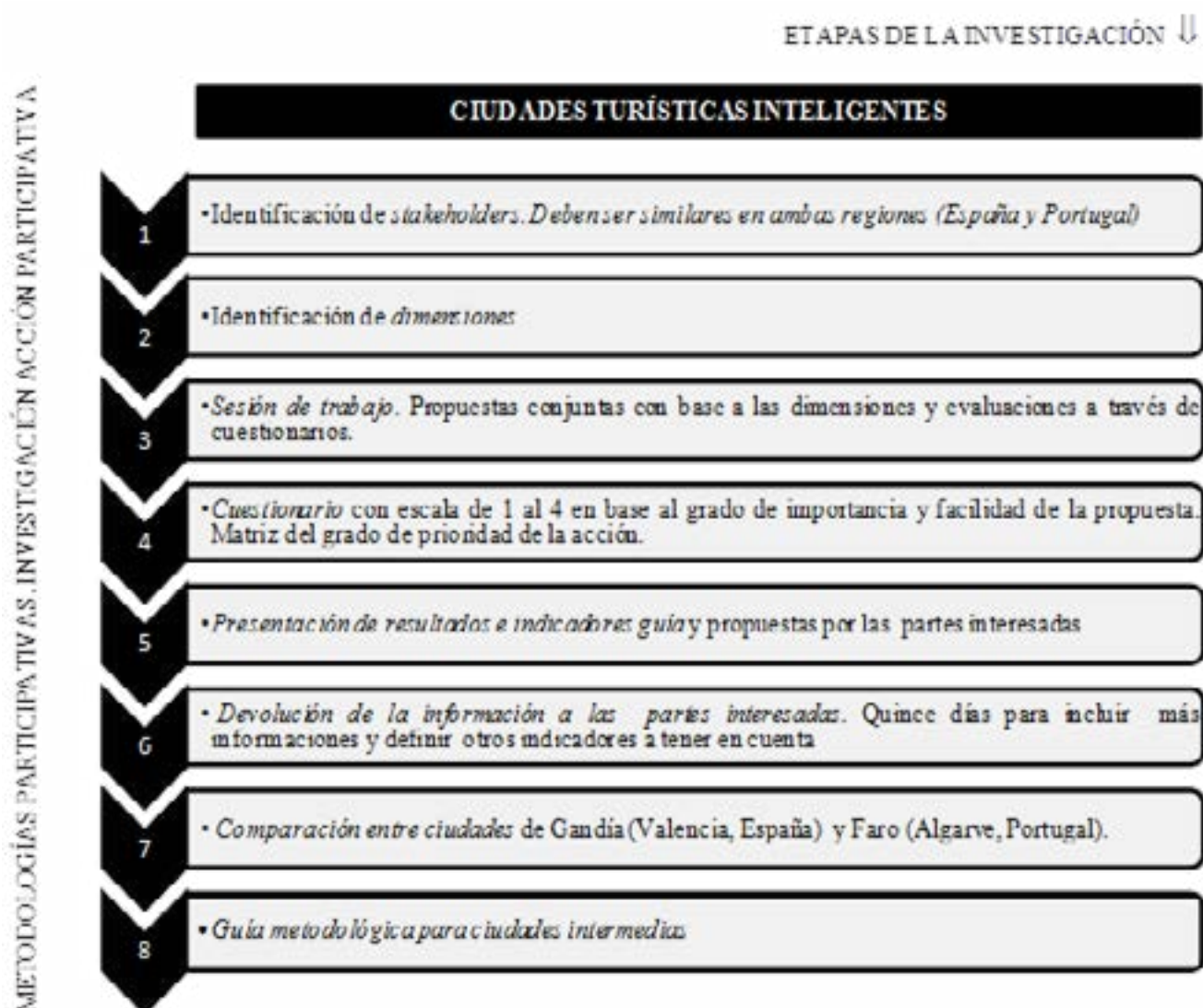
- Informe de devolución. Destacar que después de realizar el grupo de trabajo, tal como señalamos en este apartado, realizaremos un informe de devolución de información a los *stakeholders*. La metodología IAP rechaza que el saber obtenido quede exclusivamente en propiedad del especialista o profesional. Al contrario, propugna una devolución del saber a los sujetos de la investigación y que sea exclusivo de estos (Villasante 2000; Alberich, 2007). En este informe se incluirá la parte de conclusiones y propuestas que los afectan más directamente y las apreciaciones y sugerencias del grupo de trabajo respecto de las actuaciones que se proponen.

Las propuestas pueden complementarse posteriormente con otras propuestas por parte de una comisión que puede crearse para asuntos del *Destinos Turísticos Inteligentes* a partir del informe de devolución de la información. Probablemente, el nivel de definición de las actuaciones contenidas permitirá plantear diferentes alternativas y soluciones técnicas para conseguir los mismos objetivos. Sabemos pues que se tratan de recreaciones representativas de los objetivos a conseguir, que tendrán que ser objeto de posteriores revisiones en el momento de redacción de los proyectos técnicos, mediante los cuales se lleven a cabo las intervenciones (sobre todo en aquello referente por ejemplo a estrategias propuestas de tipo tecnológico y/o planificación urbana).

En este sentido, tienen que ser los proyectos técnicos específicos los que concretan la intervención en cada momento, en coherencia con la estrategia general de intervención municipal, y serán las comisiones que se puedan crear con este fin las encargadas de debatir y decidir la programación de las intervenciones, los agentes involucrados para llevarlas a cabo y su prioridad temporal. Y es que algunas de las actuaciones no tienen por qué afectar sólo a un sector o colectivo, sino a todo el conjunto de la estructura social.



Figura 3. Esquema resumen de las etapas de la investigación



## 4. PLANTEAMIENTOS PREVIOS AL ANÁLISIS Y PRIMEROS RESULTADOS

### 4.1 No partimos de la nada

La metodología planteada se encuadra en la investigación-acción-participativa (IAP), abierta al diálogo, desde una perspectiva dialéctica, donde los sujetos no son sólo objetos de investigación si no que son sujetos productores y reflexivos de su realidad concreta con una finalidad propositiva-transformadora. Y lo hemos planteado, en base a los grupos de trabajo previo diagnóstico mediante datos secundarios (revisión documental) de la realidad a investigar.

Así, en nuestra metodología de trabajo, hemos diseñado una herramienta que supone la inclusión de negociaciones y participación plural en el proceso de investigación, busca el aprendizaje mutuo mediante técnicas de investigación más nuevas (grupos de trabajo, en nuestro caso) sin rechazar la necesidad de utilizar otras técnicas de investigación clásicas (encuesta, etc.), si bien, con una perspectiva diferente que explora aquello existente, analiza sus posibilidades potenciales transformadoras y que plantea los procesos reflexivos de los sujetos como los verdaderos protagonistas - ¿quién sino? - de las propuestas de actuación y transformación. Mediante el uso de métodos mixtos (Creswell, J. y Plano, V., 2011) y metodologías flexibles como las que aquí planteamos, se pueden abordar científicamente muchos de los temas objeto de investigación, garantizándose los estándares de fiabilidad y validez de las decisiones adoptadas (Gómez, J.A et alí, 2010), posibilitando amplios efectos de amplitud y profundidad de entendimiento y la corroboración.

Así pues, por ejemplo, la metodología IAP ya se ha utilizado en empresas “para organizar y mejorar los procesos de formación o de organización interna que no suponen un cuestionamiento de las relaciones de producción o de la relación entre las clases sociales (capital-trabajo) pero sí pueden suponer uno avance en la democratización interna de

las relaciones laborales. En el mundo empresarial la IAP se ha aplicado como éxito entre otros en Detroit Diesel, Shell, Statoil y en España en el Grupo Mondragón y en DaimlerChrysler, por citar algunos ejemplos. El método consiste, básicamente, en plantearse un problema a ‘investigar’ con la participación de todos los actores involucrados diversas soluciones nos señala Bezos (2003) en el artículo precisamente titulado: “La formación basada en Investigación Acción” (Íbidem, 2007: 7-8).

Bezos (2003) explica, como ejemplo, de qué forma mediante la utilización de la metodología IAP los empleados de las empresas participan en sus propios procesos de formación continua, pues con una periodicidad anual se les suministra una encuesta para que participen sobre el desarrollo de su propia formación. Así mismo, la metodología planteada en este trabajo de investigación ya ha sido desarrollada tanto en el ámbito privado (empresarial) como en el ámbito público (administración local). Por un lado, ha sido utilizada por los autores, tanto en trabajos de tesis doctoral<sup>10</sup> como en una empresa valenciana del sector de la automoción (2014) - región valenciana - con el objetivo de optimizar los procesos de comercialización y líneas de trabajo futuras de la misma. Los empleados y empleadas de la empresa están participando actualmente en el desarrollo de todos los anteriores procesos a través de encuestas y grupos de trabajo, basándose en las propuestas y los resultados de la misma como orientación y guía de sus estrategias empresariales.

También ha sido utilizada como prueba piloto, en el marco de las ‘Jornadas de desarrollo local y territorio’ (2014) que tuvieron lugar en el municipio de Alginet (Valencia), donde se presentaron las líneas de trabajo resultante de esta metodología en un documento sobre *Emprendeduría y Nuevos Yacimientos de Ocupación*. La finalidad de este documento era que pudiera servir de guía no solamente a la Administración Pública - quién solicitó el trabajo de investigación - sino a los mismos ciudadanos, jóvenes que desean buscar una ocupación o formarse en una actividad que tenga futuro, parados que sienten la necesidad de reciclarse en una profesión nueva o incluso aquellas personas que teniendo una ocupación quieren mejorar en su profesión. En definitiva, se pretendió acercar al posible lector y lectora a estas actividades económicas que necesitan ser trabajadas para descubrir su verdadero potencial como Nuevos Yacimientos de Ocupación en el municipio, desde sus propios recursos y potencialidades endógenas, y lo mejor de todo, mediante la negociación y participación plural y reflexiva de los agentes implicados en estos procesos. A raíz del trabajo realizado, se ha creado una comisión de economía y desarrollo local, y se ha puesto en marcha de forma oficial el Comité Económico y Social (CES).

## 4.2 Beneficios y dificultades

Aunque la puesta en marcha de metodologías y procesos participativos como los que planteamos no resultan fáciles, el balance final de los mismos resulta del todo positivo. Entre los beneficios (o *ventajas*) derivados del desarrollo e implementación de esta metodología de trabajo señalar, entre otros:

- La generación y distribución entre la administración, ciudadanos y otros colectivos sociales y de índole empresarial (*stakeholders*) de una información más completa sobre la cuestión objeto de análisis (**conocimiento**).
- Se generan dinámicas de **confianza** por los acercamientos conseguidos y se refuerzan los sentimientos de pertinencia de una comunidad, de una empresa, etc.
- Mejora la **imagen** pública tanto de la empresa como de la administración local, superando otras maneras de hacer más convencionales y tradicionales para la toma de decisiones.
- Los procesos adoptados aumentan la **aceptabilidad social** de las conclusiones y de la implementación de las medidas resultantes, puesto que han sido creadas en el seno de un proceso participativo mediante el conocimiento, la reflexión, la proposición y el concierto de todos los agentes y actores implicados.
- Se originan **sinergias** - gracias al aprovechamiento y utilización de los recursos disponibles - donde los efectos colectivos son superiores a los efectos individuales, pues se comparten los conocimientos con personas (y colectivos) de diferentes perspectivas y niveles educativos. El aprendizaje es mutuo y se fortalece el capital social y empoderamiento de la sociedad civil en sentido amplio.
- Es un proceso **democratizador**, participativo y plural, donde los mismos agentes implicados se convierten en sujetos activos protagonistas de la gestión y transformación de los asuntos que los afectan, y que sin duda suponen avances en la democratización interna de las relaciones laborales y comunitarias.

Por otro lado, no somos “ingenuos”, y ya hemos señalado que no resulta tarea fácil y que tenemos que considerar la existencia de eventuales dificultades (o *desventajas*) que se nos plantean, y que suponen retos a superar en el futuro. Algunos de los principales retos son los siguientes:

<sup>10</sup> Sigalat, E. (2015): *Estrategias de desenvolupament local en el context de la globalització comercial. Un estudi de cas: Bellreguard (València)*. Tesis doctoral, Universitat de València.

- Obtención de resultados a **medio y largo plazo**. Algunos de los resultados pueden suponer cambios en la estructura social y comportar más tiempo y complejidad.
- Consecución de cotas de igualdad de oportunidades en la relación entre los actores sociales (*stakeholders*) que son diversos. Se parte de conocimientos, experiencias y posicionamientos diferentes. Desde esta diversidad, se tienen que realizar los grupos de trabajo u otras técnicas. Como una negociación entre casi iguales, como sostiene Alberich (2007). Una de las mayores dificultades con la cual se encuentra este proceso estriba como dice Luis Aranguren (2005:4) en que “**no hemos sido educados en la cultura participativa**”.
- Conseguir la **representación de todos los colectivos** de la ciudad **en justa proporción**, incluso de ciudadanos individuales proactivos, y por supuesto, estar abiertos de forma permanente a la participación de cualquier nueva incorporación a medida que se avance en el proceso de la investigación. De aplicarse en el ámbito empresarial, la representatividad de las áreas o departamentos de la empresa y de trabajadores, tiene que estar sujeta también a los anteriores planteamientos.
- Se tiene que contar con unos **medios materiales** (aunque mínimos) **y humanos** que posibilitan y hagan viable la metodología (Streibel, 2002; Porras, 2003).
- Durante el proceso nos tendremos que ajustar al ritmo de vida (y de funcionar), del municipio (o de la empresa), también las fases o técnicas a emplearse pueden variar al **adaptarse** a cada caso.
- Se ha evitar, por todas, que esta metodología pueda llegar a convertirse en un medio, programa o plataforma reivindicativa, y sea **monopolizada** por individuos o cualquier colectivo con intereses particulares.
- La **falta de voluntad de respetar lo acordado** y de implementación de las actuaciones, puede llegar a desalentar a sus participantes, desmotivar la futura participación y restar confianza y credibilidad al proceso. Y esto es válido tanto para el ámbito público como para el ámbito privado.

### 4.3 La cuestión de los primeros resultados

El hecho que los resultados de estos proyectos de investigación habitualmente se observen a medio y largo plazo hace que, como señala Miedes (2010), todavía siga siendo marginal su utilización, incluso en el campo de las ciencias sociales. La principal razón puede ser que la dinámica de investigar juntos - investigadores y actores desde la pluralidad - es complicada. Esto es debido, fundamentalmente, a la falta de instrumentos que fomentan, desarrollan y facilitan el aprendizaje cooperativo.

Actualmente, la fase de nuestra investigación está en la etapa de identificación de los *stakeholders en las ciudades de Gandia y Faro*. Con todo, esperamos poder disponer de los primeros resultados de la cuestión y poder debatir sobre todo ello, en un espacio de retroalimentación de conocimientos y comunidad de aprendizaje compartido como es el *1st INTERNATIONAL CONGRESS ON INTERDISCIPLINARITY IN SOCIAL AND HUMAN SCIENCES*.

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# ALCOHOLISM AND COPING STRATEGIES AMONG IPB STUDENTS

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## ABSTRACT

This study aimed to assess the alcohol consumption habits and the different coping strategies of a group of students from the Instituto Politécnico de Bragança - IPB (Polytechnic Institute of Bragança) with a sample made out of 126 of its students (n=126). For this study, which is descriptive-correlational and transversal, a socio-demographic questionnaire, the AUDIT (Alcohol Use Disorders Identification Test, Cunha 2002) and the Brief COPE questionnaire (Pais-Ribeiro, J. and Rodrigues, A. 2004) were used as evaluation instruments. Findings were that the majority of young students stated they do not have significant life problems, that they have good social supports and they do not consume alcohol in an inadequate way. Similarly, the coping strategies that they indicate as most frequent seem also to be the most adaptive, which may help to explain the fact that most do not perceive significant current problems and do not resort to alcohol in an inadequate way.

Keywords: Coping Strategies, Alcohol, Young Students.

JEL Classification: Y90.

## 1. INTRODUCTION

Excessive consumption of alcohol among college students has been the focus of major concern for decades (Wechsler, Dowdall, Davenport, and Castillo, 1995; O'Malley and Johnston, 2002; Pedersen and von Soest, 2013). The use of psychoactive substances, especially alcohol, is present in commercials, movies and other media, and the association of these substances to desirable factors such as pleasure, beauty, sexual success, power and others, explicitly or implicitly sets up an important risk factor and enabler of consumption (Pedrosa, Camacho, Passos and Oliveira, 2011). The university experience grants often the first opportunity to join a group of peers without family supervision, making them more vulnerable to previously forbidden experiments (Tapert, Aarons, Sedlar and Brown, 2001; Windle, 2003), particularly in the typical college festivals: initiation ritual, welcoming the freshmen, academic week, "ribbon burning" and other (Harford, Wechsler and Seibring, 2002).

Portugal ranks 14th, compared to 21 countries analysed in regards the number of college students who consume alcohol (Dantzer, Wardle, Fuller, Pampalone, and Steptoe, 2006).

The assumption at the core of these approaches that coping strategies are an essential basis and at the same time powerful mediating factors when it comes to making healthy decisions and consequently avoid health hazardous behaviours, in particular alcohol consumption, smoking and drugs that would be regarded as inadequate strategies that the subject uses to cope with adversity has grown (Kassel, Jackson, and Unrod, 2000; Vaughan, Corbin, and Fromme, 2009).

Alcohol is the substance most commonly used among young people (O'Malley and Johnston, 2002), resulting its excessive consumption potentially in negative consequences for the various areas of a person's life, from the physical and emotional health of their social sphere. Excessive alcohol consumption increases the risk of developing obesity, cancer, cardiovascular and hepatic diseases; it is associated with the decline in cognitive and executive functions; encourages aggressive behaviour and improper conduct; and exposes its consumers to risky sexual behaviours (Arria,

Dohey, Mezzich, Bukstein, and Van Thiel, 1995; Anderson, 1997; Smith, 2007; Chen, Rosner, Hankinson, Colditz, and Willett, 2011). Furthermore, alcohol induces in smoking behaviour (Dierker Lloyd-Richardson Stolar, Flay, Tiffany, Collins, Bailey, Nitcher, Nitcher and Clayton, 2006; Nitcher, Nitcher, Carkoglu, and Lloyd -Richardson, 2010).

The adverse effects produced by alcohol abuse tend to be masked due to the permissivity of consumption and socio-cultural beliefs rooted in today's society, which contribute to a certain predisposition to not recognise alcoholism, disregarding this problem often shrouded in an atmosphere of social acceptance and almost as a required habit (Landeiro, 2011).

Baer, MacLean and Marlatt (1998, cit in Vasconcelos-Raposo, Gonçalves Teixeira and Fernandes, 2009) recognised that the type of alcohol consumption in adolescence tends to be episodic and occasional in nature, where regular and/or chronic ingestion patterns assume a considerably lesser expression. Anchored to this finding other authors report that teens drink predominantly in recreational and hedonistic environments connected with celebration, in events related to the social gatherings, festivity and entertainment (Anderson, 1997; Mackintosh, Hastings, Hughes, Wheeler, Watson and Inglis, 1997).

Despite that some personal characteristics help to explain excessive alcohol consumption, the biggest argument provided in these situations are primarily social and environmental influences that are felt. Namely the fact that alcohol is widely available in academic parties contributes to a large extent for its consumption as a socially accepted and expected behaviour, compared to an environment in which the offer is not available like this (Dierker *et al.*, 2006).

Alcohol intake, is greatly due to the fact that individuals have the belief that this relieves negative emotional states, working as a coping strategy, although maladaptive (Cooper, Russell Skinner, Frone, and Switch 1992; Kassel, Jackson, and Unrod, 2000; Filho and Teixeira, 2011), often used to cope with the stress felt by consumers (Rodrigues, Salvador, Lourenço and Santos, 2014), aiming to “escape” from day-to-day problems, or simply for becoming more disinhibited socially (Sher and Rutledge, 2007; Vaughan, Corbin, and Fromme, 2009). A national study sponsored by the University of Aveiro concluded that alcohol consumption translates often in an avoidance coping strategy - those who consume more alcohol perceive less stress - establishing itself as a maladaptive strategy (Rodrigues, Salvador, Lawrence and Santos, 2014).

The word “coping” does not have an exact and direct translation into Portuguese, however, it is used as “ways to deal with”, or “mechanisms that people usually use to deal with stress-inducing agents” (Ramos and Carvalho, 2007). Lazarus and Folkman (1984) pioneered the coping theory, relating coping processes as a response to stress in order to reduce their adverse properties. The choices of these strategies, which may be adaptive or maladaptive, depend on the personality archetype of each individual as well as the previous experiences, resources and strategies they had. According to them, coping has two main functions: 1) coping focused on emotion, which is the emotional regulation through efforts to think and act properly (e.g.: discuss ones problem with another person); 2) coping focused on the problem, which reflects the change in individual-environment relationship, establishing appropriate action plans that enable people to cope with stress inducing situations (Ramos and Carvalho, 2007).

The choice of a particular coping strategy comes from a phased cognitive process: the subject performs a primary evaluation (the situation can be perceived as good or bad, as challenging, harmful or threatening, according to the meaning it gives it), followed by one secondary assessment if the situation is perceived as stressful (in which the individual makes an assessment of the resources it has to deal with the situation and studies its coping strategies), and finally, after focusing its strategies on emotion or the problem, performs a reevaluation (the subject evaluates the efforts mobilised to deal with the anxiety generating situation) (Ramos and Carvalho, 2007; Araújo, Pansard, Boeira and Rocha, 2010). Indeed, coping can be understood as: “Constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus and Folkman, 1984, p.141). In a research carried out by Ramos and Carvalho (2007), which assesses stress levels and coping strategies of university students in Coimbra, it was concluded that the students surveyed had low stress levels and do not tend to use inadequate coping strategies, instead they demonstrate awareness of the most adaptive and suitable ones.

Focusing now on the above mentioned study, our goals are to assess levels of alcohol consumption and coping strategies of young students; compare the levels of alcohol consumption and coping strategies on students who claim to have some problems in life that affect their daily well-being and the ones who refer not having them.

Based on this theoretical framework, which contains information and concepts that underlie the operationalization of the variables under consideration, a methodological summary and exposition of statistical results and their discussion will follow, in order to make a few explanations and closing remarks.

## 2. METHOD

### 2.1 Study type

A descriptive and correlational study (insofar as it is intended to describe how the studied variables behave and correlate in this sample), with a transversal design (collection carried out in a single moment).

### 2.2 Participants

To carry out this research a non-probabilistic sample was collected, chosen by convenience, of 126 participants, young students of the IPB, from the different years of three courses: pharmacy, gerontology and nursing.

### 2.3 Instruments

In the present study, we used three questionnaires: the socio-demographic, the Brief Cope and the AUDIT.

The socio-demographic questionnaire prepared for this study includes relevant demographic questions such as gender, age, marital status, year and course as well as some broader issues that prove relevant to this research, including whether they have or not a significant problem in life that affects their daily wellbeing of the young (who answered "Yes", should tick the experienced problems from the various defined options), perceived social support (on a scale of 1 to 6, where 1 is very weak and 6 excellent), and evaluation of dysfunctional alcohol consumption by relatives of the respondent.

The Brief Cope (Carver, C., 1997; Adaptation by Pais Ribeiro and Rodrigues, 2004) consists of a questionnaire of 28 items, which evaluates the coping strategies that the subject uses, with a Likert type response pattern, ranging from 0 to 3 (0 – I never do it; 1 - I do sometimes; 2 - I do frequently; 3 - I almost always do). This instrument derived from a previous, more extensive, version.

The AUDIT (Alcohol Use Disorders Identification Test - WHO) is a tool developed by the World Health Organisation, which includes 10 questions with answer options 0-2 or 0-4, depending on the question. This is a monitoring tool, which explores the subject's alcohol consumption, as well as problems arising from this. It can also be graded following a rating by dependency zones: Zone I (low risk) - 0-7 points; Zone II (risky use) - 8-15 points; Zone III (harmful use) - 16 to 19 points; IV zone (probable addiction) - 20-40 points. From the identification of the risk zone, it becomes possible to offer customised professional guidelines focussed on individual consumption patterns (Moretti-Pires and Corradi-Webster, 2011).

## 3. RESULTS

### 3.1 Sample's characterisation

The study participants are mostly women (112 women (88.9%), 14 men (11.1%), the average age is 20.6 years, with a minimum age of 18 years and maximum of 33 years with a standard deviation of 2.14 years, the participants are mostly single (60.3%) and/or are in a love relationship (37.6%).

The most represented course is nursing with 63.5% of the respondents, followed by Gerontology (24.6%) and the least represented is Pharmacy (11.9%). Similarly, the 3<sup>rd</sup> year is most represented in the sample (43.7%), followed by the 2<sup>nd</sup> (31%) and 1<sup>st</sup> (25.4%).

Most young students said that at the time of response to the survey, they didn't perceive any problem in their life (physical, psychological or social) that harmed their daily well-being (69.8%); however, from the total number of respondents, the most mentioned problems relate to Stress and Anxiety (20.6%), Family Problems (11.1%) and Demotivation (7.9%). If we only consider the group of 38 individuals who reported problems, 26 refer feeling stress and anxiety problems.

Respondents rate their social support as good (49.2%) or very good (30.2%), and none labelled it as poor or very poor.

When asked about the existence of household members with inadequate alcohol consumption behaviour, most respondents answered negatively (86.5%). Of those who answered affirmatively, their responses focussed on some family figures such as the father (5 responses) and uncles (12 replies).

### 3.2 Results | alcohol consumption

With regard to alcohol consumption as measured by the AUDIT, the results obtained through descriptive statistics allow us to create a profile of the young students, where the majority of the sample data is aggregated:

- Consume alcoholic beverages 1 to 4 times per month (58%);

- When they drink, they drink 1 to 2 alcoholic beverages (47.6%);
- Almost never drink 6 alcoholic beverages on a single occasion (68.2%);
- Do not have difficulties to stop drinking when they wish (> 90.5%);
- As a rule, they don't jeopardise the completion of tasks and obligations (> 83.3%);
- As a rule, they don't have a need to drink first thing in the morning to cure a hangover (> 91.3%);
- As a rule, they have no guilt or remorse feelings from having drunk (> 77.8%);
- Usually don't have memory loss from drinking (> 70%)
- Do not get injured or collaterally injure someone because of having been drinking (90.5%)
- 95.2% report never having been called to attention by family members or professionals because of excessive drinking.

### 3.3 Results | coping strategies

The coping strategies most used by the surveyed young students, focus on Reflection and Active Confrontation, which is to think of the best way to handle with the situation as well as about possible solutions to the problem; Redirection of thought / Auto-Distracton Strategies - to redirect attention to other activities or thoughts, such as shopping, watching TV, reading, going to the cinema, among others; and Positive Revaluation, which implies refocusing and see the positive side of the situation.

Therefore, the less used coping strategies by respondents appear to be the use of substances (turn to alcohol, drugs, pills); Give up / Disinvestment, which implies giving up or withdraw efforts of trying to solve the problem; Denial, which entails the attempt to reject the reality of the stressful event.

### 3.4 Results | Pearson correlations

There is a positive correlation (0.056) between the existence of problems in life and alcohol consumption, however, this correlation is not statistically significant (sig. = 0.537).

We also verified the existence of a negative correlation (-0,247), which is statistically significant (0.005) between the existence of problems and the use of the substances (such as alcohol) to cope with the situation, that is, as coping strategy. A negative correlation between variables indicates that Y tends to decrease with the increase of X: much trouble, less consumption of alcohol. Students who reported having problems in life do not resort to alcohol as a way to face adversity (of 38 students who reported problems in life, 28 never do). Instead, those who say they have no problems in life, at the time of the sample collection, tend to consume alcohol more frequently.

## 4. DISCUSSION

In short, most of the young students stated they had no meaningful problems in life and that they had good social support. With regard to alcohol, the majority of young students claimed to have contact with these beverages but not in an excessive or dysfunctional manner in relation to the frequency and quantity. In effect, responding to the first two objectives of this study, the surveyed young students seem to apply appropriate coping strategies that may explain the fact that most do not perceive significant current problems and do not resort to alcohol in an inadequate way.

Anchored in the existing set of theoretical assumptions, the explanation for these results could be the fact that the consumption of alcohol for many young students is episodic and occasional in nature and in festive atmosphere (Anderson, 1997; Mackintosh, Hastings, Hughes, Wheeler, Watson and Inglis, 1997; Rey Calero and Calvo Fernández, 1998; Baer, MacLean and Marlatt, 1998 cit in Vasconcelos-Raposo, Gonçalves Teixeira and Fernandes, 2009).

Although some personal characteristics contribute to excessive alcohol consumption, mainly socio-environmental influences appear to be in its genesis (Dierker *et al*, 2006; Mosque, Bucarechi, Castel, and Andrade, 1995). Thus, life problems that cross our day-to-day - family problems, self-esteem problems and interpersonal problems, among others - are the source of alcohol consumption as an inappropriate coping strategy. Thus, the fact that most of the sample under study has denied significant problems in life at the moment, can explain to a large extent the tendentious regimanted and occasional pattern of alcohol consumption.

The results show us that the young students who say they have no problems in life are those who tend to consume alcohol more frequently compared to those who report having a problem. As an explanatory basis, we can think that as human beings, when faced with problems that interfere with our wellbeing, we tend to feel less desire for socialising, to go out to have fun and drinking alcohol, which consequently is less available. Instead, students with problems tend to concentrate their efforts on finding solutions to their problems and reflect on how to best deal with them.

In parallel, the promotion/education for health has persisted, both in research as well as in regards to the definition of prevention and intervention strategies, which, somehow, can contribute to the awareness and responsibility of



young students in monitoring alcohol consumption.

Ramos and Carvalho (2008), while studying coping strategies and stress in a similar sample, found that students do not tend to use negative coping strategies, instead relying more often on adaptive strategies, not perceiving significant stress levels.

Finally, we leave food for thought for what may have influenced the results, which lies in the fact that this sample has been collected in late September and early October, so an early and adaptation phase for students, less conducive to festivities and alcohol consumption.

A constraint of our study is that the sample is made up almost entirely of women. This is due to the composition of the courses that represent the sample, which mostly comprise females. It is our goal in the future to increase the sample size of this study in an attempt to balance the representation of gender.

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# IDIOSYNCRATIC PSYCHOLOGICAL ASPECTS IN ENTREPRENEURSHIP

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## ABSTRACT

Entrepreneurship is having the courage to transform an idea in reality and with it achieve personal, financial and recognition satisfaction. The psychological ability to handle failure has proven essential in success.

We analysed the importance of idiosyncratic psychological aspects in the success of entrepreneurs through an observational study accompanying 20 entrepreneurs from the idea presentation phase to company incorporation.

During the observation period 4 distinct psychological phases of the entrepreneurs were observed, being it possible to describe them as follows: absorption of information and knowledge; application of the gathered knowledge to their specific cases; frustration generated by criticism, namely from investors who didn't recognise the value of their projects; realism and implementation of the project.

Having passed more than 6 months after the analysis period, one can verify that the entrepreneurs who have travelled the 4 phases are today developing their projects being that the remaining ones are in a similar situation as at the end of the initial two months.

Conclusion: The ability to cope with frustration and rejection is a determinant factor in the success of the entrepreneur. The ability to learn from rejection, more than resilience help the entrepreneur to proceed.

Keywords: Entrepreneurship, Idiosyncrasy, Coping.

JEL Classification: L26, L31, M13.

## 1. INTRODUCTION

Entrepreneurship has become a common word in many European countries in part due to a low economic growth and high and continuous levels of unemployment. This environment increases an effort to stimulate entrepreneurship as a road to economic growth and job, many times self-employment, creation (Acs, 1992; Carree and Thurik, 2003, 2006; Beck *et al.*, 2005). This has driven, amongst others, the several economic policy makers across Europe, including the European Commission, to actively promote entrepreneurship (OECD, 1998; European Commission, 1999, 2004).

But what differentiates entrepreneurs from the rest of us? The word entrepreneur implies certain psychological traits and attitudes but also values of an individual motivated to initiate a business project with all associated difficulties and risks. Although there are arguments to defend that using traits to characterise entrepreneurs is not appropriate (Gartner, 1988), there exists a fair consistency in the literature investigating the entrepreneurial in the definition of characteristics that distinguish entrepreneurs from non-entrepreneurs. Hisrich (1988; 1990) in his research on entrepreneurial behaviour notes that the entrepreneur is characterised, as someone who shows initiative and creative thinking, is able to organise social and economic mechanisms to turn resources and situations to his or her practical account, and accepts risk and failure as part of being an entrepreneur.

The most important contributions for entrepreneurship research came from economics, psychology, and sociology. Schumpeter and later McClelland, normally named as the fathers of the field of entrepreneurship research, took a psychological perspective, with individuals being the major objects of entrepreneurship research. However, during the

period 1980-2005 this changed in mainstream entrepreneurship research. During this time period the objective was to explain entrepreneurship by using economic and strategy theories (Kirchhoff 1991). More recently, the importance of a psychological perspective, as “entrepreneurship is fundamentally personal” has gained importance in research again (Baum *et al.* 2007).

However, the lack of a solid theoretical foundation has been responsible for the fragmentation of research on entrepreneurship, often resulting in studies that examine the same or similar issues very much limited to a certain disciplinary perspective ignoring other perspectives. It is only recently that scholars have begun to address the need for integrative typologies and paradigms that can provide a coherent platform for diverse research efforts (Hisrich, 1990; Lumpkin and Dess, 1996; Wortman, 1987). More recent theoretical work in entrepreneurship shows the awareness that there is a need for frameworks that will facilitate the synthesis of existing research and the generation of new studies that address the gaps (Lumpkin and Dess, 1996; Van de Ven, 1992; West, 1997).

On the other hand some may argue that setting up a business is a process as recognized by some authors (Low and MacMillan, 1988; Bull and Willard, 1993) and a distinction between stages such as conception, gestation, infancy, adolescence, maturity, and decline has been established (Reynolds, 1997; Reynolds and White, 1997). Often these stages of conception, gestation, and infancy are mentioned as the dynamics of entrepreneurship while the stages of adolescence, maturity, and decline are mentioned as the level of entrepreneurship (Sternberg and Wennekers, 2005). The expression nascent entrepreneurship applies to the combination of gestation and infancy (Reynolds *et al.*, 2005). Other research makes a distinction between opportunity recognition and opportunity exploitation stages (Saravathy *et al.*, 2003). Distinguishing between the stages continues even after a business is established (Gartner and Carter, 2003). Finally, in this line of rationale, determinants are not necessarily the same across the stages of the entrepreneurial process (Davidsson, 2006; Reynolds, 2007).

Given the aforementioned overview of some of the most relevant literature in this field, over the last decades several studies were performed with the objective to identify the entrepreneur’s psychological profile and traits. However, many of these studies were either performed in a pre-entrepreneur phase, i.e. to identify potential entrepreneurs in, for instance, academic environment, or already in a “post-entrepreneur” phase, i.e. already after the entrepreneur having incorporated a start-up or many times having already reached a certain level of success.

As these two situations don’t explain certain traits and psychological aspects during one of the most critical stages of entrepreneurship, we have used a case study to start identifying patterns and similarities in behaviour and coping strategies of Portuguese entrepreneurs.

According to Baron (2007), entrepreneurship is a process with three phases: a) the prelaunch or opportunity identification phase in which the entrepreneur identifies viable and feasible business opportunities, (b) the launch or development and execution phase in which the entrepreneur assembles the necessary resources for starting a venture, and (c) the post-launch phase in which the entrepreneur manages the new venture in such a way that it grows and survives.

Our study focuses mainly on the first two of these phases and in this paper we focus ourselves mainly on the first phase.

## 2. METHOD

As already mentioned, over the last decades many studies on entrepreneurship and psychological traits have been performed in several countries and several sectors of activity. However, many of the existing scientific studies were carried out in the United States of America and other Anglo-Saxon countries, imposing immediately difficulties for carrying out similar studies in Portugal without the necessary adjustments, namely for the following reasons:

1. The recentness of studies in the field of entrepreneurship;
2. The lack of a start up tracking system;
3. The little information about start ups and their development;
4. Major differences in culture;
5. Major differences in financial support.

The abovementioned points can be divided in two types of difficulties. The first three items of the list are just a matter of timing. Portugal only recently started to look at entrepreneurship as something specific and therefore missing data can be overcome over time and is just a statistical handicap. However, the last two items of the list are not just a matter of timing but are much more decisive. As such, we analysed some features that make these last two items decisive for analysing behaviour and idiosyncrasy.

One of the major differences between the majority of the existing studies and this study in particular is that we

cannot say that an entrepreneur is the same thing in all parts of the world. As entrepreneurship is closely related to several culturally defined aspects, such as the propensity to risk, the meaning of failure or the comfort with exposition, an entrepreneur behaves automatically differently depending on his cultural heritage and on the place where he or she develops a project.

If we take the entrepreneurial Valhalla of Silicon Valley, a question many times asked to entrepreneurs is “How many times have you gone bankrupt before?” For most Continental Europeans this may sound like something very bad, but the truth is that in Silicon Valley terms, having gone bankrupt means that you are entrepreneurial and not afraid of taking risks, a trait highly appreciated over there.

Having said that, transposing the methodologies, described in the aforementioned studies, to Portugal is difficult as entrepreneurship as a field of study is still very recent making it therefore hard, not to say impossible, to find data and cases that cover the several stages of new enterprises. Given this limitation, we used a start-up and acceleration contest to start to gather information for our study. As such we focussed our research on the first phase of an entrepreneurial venture, i.e. the three stages of “from idea to business plan to venture”.

Our study, exploratory and observational, was carried out in a real situation where a group of approximately 20 entrepreneurs, representing 10 projects, had to develop a business plan from their idea and incorporate their start-ups in a three-month period. These 10 projects on their turn were selected out of a group of over 30 projects from an idea contest.

The aforementioned group of over 30 projects went to a series of crash courses in entrepreneurship that lasted approximately 4 weeks. These crash courses focussed on the following: Design Thinking, Business Model Generation, Business Model Environment and Value Proposition Design culminating in several presentations to a group of consultants and other jury members.

It was in this first phase that several idiosyncratic psychological aspects became clear in the larger group of entrepreneurs, the 30 plus projects, and also subgroups became defined according to how they coped with the pressure and stress of the several tests.

The first step was to select a small group of variables that could be observed. These first variables were: how did the entrepreneurs cope with criticism; how did they absorb information; what was the importance they gave to what they were learning; what was their capacity to transmit their ideas and finally; what was their capacity to change their project when needed. These variables were also observed in the subsequent phases.

We gathered our information through observation and daily interaction with the focus group for a period of approximately 2 months of work (the total period was close to three months).

The project for start-ups, sponsored by one of the major entrepreneurial and business associations in Portugal, took place in the first half of 2015 and started with a list of 74 ideas. From these ideas 30 were selected through a desktop selection by a jury based on sent in information about each idea and also a presentation video of each set of entrepreneurs. The initial data set was composed by the answers and information delivered to the following list of questions on each project:

**Table 1 – Idea contest questionnaire and information request**

1.	Name of the Project
2.	Explain in detail what are the objectives of the project.
3.	What do you consider to be innovative, interesting or different
4.	Contact name
5.	Email address
6.	Phone number
7.	Skype address
8.	Your function in the project
9.	Present a one minute video presenting the team members
10.	Detailed CV's of each team member
11.	How many promoters does the project have
12.	How long have the promoters been working together as a team
13.	Competences and experience of the promoters
14.	How many researchers/engineers are on the team

15.	Links to webpages demonstrating relevant actions developed by your team
16.	Do all promoters have time to participate in the programme
17.	In case you are selected do you commit yourselves to work full time on your project without any other external commitments
18.	Present a one minute video on your product or prototype
19.	What is the URL to your demo website
20.	Who are your potential customers
21.	How do you intend to reach those customers
22.	Who are your competitors
23.	How is your project different from what your competitors offer
24.	What is your most recent product or main objective of your business
25.	What is your project's next goal and how long do you expect it will take to reach
26.	Do you have any registered Intellectual Property
27.	How much money have you invested in the project until now
28.	In one sentence explain your projects
29.	How much investment do you need to develop your project

Source: Project team - 2015

Each project had on average between 2 to 3 entrepreneurs. A jury of 9, based on the answers and information on the abovementioned questionnaire, graded each project on 4 variables. The variables, graded from 0 to 5, where 0 meant, “non existing” and 5 “clearly existing”, were the following:

- Innovation and differentiation potential of the project/idea
- Promoters’ potential and commitment level
- Potential to attract investment
- Internationalisation potential

The selection was made based on a scale that added the points of each project in each of these 4 variables and averaged by the total number of jury members. As such, each project could have a maximum of 20 points (5 points maximum for each of the 4 variables). The average for the 74 projects was 8.5 points with a standard deviation of 3.99. The minimum points of any single project were 0 and the maximum attained was 16. Of the 30 selected projects, the lowest grading projects received an average of 9.67 points.

**Table 2 – Average points per project obtained through desktop selection**

Project number	Average points	Project number	Average points	Project number	Average points
1	4,67	26	0,00	51	14,33
2	9,00	27	6,67	52	7,00
3	12,00	28	8,67	53	3,33
4	0,00	29	7,33	54	8,33
5	9,00	30	12,00	55	6,00
6	10,00	31	5,33	56	7,00
7	11,67	32	8,67	57	8,00
8	13,33	33	2,00	58	4,00
9	10,67	34	6,67	59	3,00
10	10,67	35	9,00	60	10,00
11	9,67	36	11,33	61	5,67
12	7,33	37	7,67	62	15,33

13	13,33	38	11,33	63	14,67
14	9,33	39	14,67	64	11,67
15	9,67	40	10,33	65	12,00
16	15,00	41	12,67	66	7,67
17	13,33	42	2,33	67	3,00
18	16,00	43	1,00	68	3,00
19	11,67	44	3,00	69	9,00
20	10,00	45	7,67	70	5,33
21	14,00	46	5,33	71	7,33
22	9,33	47	12,00	72	8,33
23	9,33	48	11,33	73	2,33
24	7,00	49	9,67	74	2,67
25	14,67	50	3,67		

Source: Project Team - 2015

The 30 selected projects then went through three crash courses, of one week each. The three crash courses covered the following topics:

1. Design Thinking: The first step towards defining the idea in terms of business viability. Design thinking, unlike analytical thinking is a process, which includes the development of ideas, with very few or almost no limits through a “brainstorming” phase. The main objectives are to incentivise input and participation and to reduce the fear of failure or error.
2. Business Model Generation: Using the Business Model Canvas and Business Model Generation Tools (Osterwalder and Pigneur, 2010) a Business Model is designed using the input from the previous step.
3. Business Model Environment and Value Proposition Design: The continuation of the previous step, including now also exogenous factors that can influence a business model, using several tools and models (Osterwalder and Pigneur, 2010)

All these crash courses were accompanied and coordinated by a group of highly experienced consultants who spent full days with the entrepreneurs.

The majority of the entrepreneurs were from areas not related to economics or business management and therefore not trained in finance.

This first phase was important to see how potential entrepreneurs react to defining their projects using several tools and techniques and also how they incorporate new techniques into building their projects.

All projects worked under the same rules and all knew what the objective was, i.e. working towards a pitch – a short presentation – to a jury responsible for choosing the 10 projects that would continue to the second stage of the programme. The prize for passing to the second phase was a monetary amount, sufficient to incorporate the new company but also several other benefits that would support the 10 finalists in the development of their project for a period of one year after inception.

What could be observed in this phase was rather surprising and went against initial expectations. What was observed was that specially the projects that seemed most solid in a first presentation and which had the most confident, at first sight, entrepreneurs were the projects that evolved less during the crash courses, mainly because of their lack of flexibility to hear third party comments and recommendations.

It was also at this stage that we could identify traits that made us conclude, although still in a very early phase, that some determinants of their success in walking the right path were how they coped with criticism, how they absorbed information, the importance they gave to what they were learning, their capacity to transmit their ideas and finally their capacity to change their project when evidences showed that they were not on the right path.

Also at this stage we started to observe behaviours in what concerns the capacity to handle frustration generated by criticism, namely from investors – specifically invited to give their opinion on the projects still in a very early stage – who didn't recognise in the entrepreneur's opinion the value of their projects and finally to analyse their project with realism.

### 3. RESULTS

During the observation period, corresponding partly to the first phase of the project – when the 30 projects were still in the race – but mostly to the second phase of the project – 10 finalists only – 4 distinct psychological phases of the entrepreneurs were observed that can be described as follows:

Phase 1 – During this period most of the entrepreneurs acted like true “information and knowledge sponges”. They were eager to learn, most probably because of the excitement of having it made to the 10 finalists, and communication with them was extremely easy and productive. The comments from the entrepreneurs at this moment showed excitement, curiosity and this phase was very much characterised by wanting to be the best of the group. In table 3, one can observe that all entrepreneurs had high success factors and all clearly achieved the objectives.

Phase 2 – This was the period in which the entrepreneurs had to apply the gathered knowledge to their specific cases. This phase was the one where frustration first appeared, as it became clear to most entrepreneurs that within their teams they lacked several skills needed to develop their projects. This was particularly true for skills in the financial area. As this was for most of the entrepreneurs also the first moment that their projects suddenly turned into numbers, an additional stress and frustration factor was introduced as the numbers not always confirmed what they initially thought. This mainly because most entrepreneurs expected certain profits and in most cases over valued revenues and under valued costs. Nevertheless, all projects overcame this phase and with more or less detail were able to present a business plan including financial data. One other interesting observation was that during this phase suddenly collaboration between entrepreneurs started and a group spirit arose. As can be observed from table 3, in this phase already a clear distinction started to exist between entrepreneurs and their abilities to cope with frustration and only one of the groups of entrepreneurs that scored low in this phase was able to recover confidence in the next phases. In this particular case we have to add that one of the entrepreneurs of this group that recovered in subsequent phases was suffering from physical pain during this phase 2, which most probably explains in large extend the low scoring of that particular group.

Phase 3: This was the period of the highest frustration generated by criticism, namely from investors who didn't recognise the value of the projects. Most entrepreneurs believed before entering this phase that having figured out their financial data and having written their business plans, i.e. applied what they had learned, that everybody, especially investors, would have the same view and would have the same faith in their projects. However, as is normal in these cases, each person looks differently at a particular project, and any type of criticism at this phase proved to be extremely hard to accept by the entrepreneurs. This was specially the case, as mentioned by several of them, as each comment was seen as a personal attack as their projects had now grown into their “child”. In this phase the aforementioned group spirit took new heights and in most cases all shared each other's pain, which proved to be extremely important for most entrepreneurs to overcome the frustration, as they would later confess. From table 3 we can observe that none of the projects that had a low scoring was able to recover in the next phase.

Phase 4: After receiving the criticism of the previous phase, most entrepreneurs ended up accepting the same and incorporating the suggested changes, or in some cases finding the answers for the raised questions, in their business plans. In a certain sense there was a return to phase 1 except for the overexcitement that was replaced by realism, analytical views and pragmatism. Simultaneously this also marked the return of optimism but in much more realistic parameters than in phase 1. On the other hand, the needed pragmatism made also all entrepreneurs focus very much on their own projects and the group spirit of phases 2 and specially 3, born out of collective frustration and fears, faded away in this phase. However, three out of the ten entrepreneurial teams were not able to overcome this phase with a good scoring which reflected, as can be see further on, on the projects viability.

After ending these stages of their initial entrepreneurial adventure, all 10 projects incorporated their respective start-ups, which also marked the end of the support, which they had had from full time consultants.

Over 6 months have passed and we still have regular contact with the entrepreneurs and we continue to follow the development of their ventures and personal development. From what we observe it becomes clear that entrepreneurs who have been able to go through and finish the 4 phases and above all have turned their dreams into realism and pragmatism, are today developing their projects. The ones that weren't able to advance through all the phases and



specially the ones that were not able to complete phase 4 and in a certain sense got stuck in phase 3 continue in a similar situation as at the moment of incorporating their company.

At this moment, and although the sample is not yet representative nor is the timespan between project and present time to evaluate the project's outcome as a business, a trend can be observed from the below data:

**Table 3 – performance in each phase and present situation of the projects**

Project nr.	Phase 1	Phase 2	Phase 3	Phase 4	Present status
1	5	5	4	5	Developing
2	5	3	2	3	On hold
3	5	3	5	5	Developing
4	5	4	5	5	Developing
5	4	5	4	5	Developing
6	4	3	2	3	On hold
7	4	4	4	4	Partly developing
8	4	2	2	2	Stagnated
9	5	5	4	5	Developing
10	5	5	5	5	Developing

Source: Project team – 2015 and 2016

In the above table the scale for each phase ranges between 1 and 5, where 1 means, “didn't achieve any of the objectives and didn't progress to the next phase” and 5 “achieved all objectives of the phase and successfully progressed to the next phase”. As can be seen from the above table there is in this sample group a clear correlation between the successes the entrepreneurs had in phases 3 and 4 and the present status (2016) of the project.

These projects, and several others from other initiatives will continue to be followed and we feel confident that similar results will support these initial findings.

## 4. CONCLUSIONS

Based on the observations, entrepreneurship has a lot to gain if besides technical assistance also coaching and psychological assistance is provided. This is of particular importance if we take the several entrepreneurial initiatives that exist on governmental and regional level which normally focus on technical support and should therefore take other kinds of support into consideration if positive results want to be potentiated. Also the several incubators and accelerators that exist in Portugal, focus normally on technical support as well as housing support but rarely on coaching or any type of psychological support. However, some initiatives, like for instance Mentor – Rede de Apoio ([www.redementor.pt](http://www.redementor.pt)) has some initiatives that already go in that direction.

From our study, the most important conclusion is that the ability to cope with frustration and rejection appears to be a determinant factor in the success of the entrepreneur and will be further analysed with a broader base of analysis (more entrepreneurs and longer analysis period). The ability to learn from rejection, more than resilience helps the entrepreneur to proceed.

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# MANAGEMENT OF PRESENTEEISM. THE EFFECTS ON PRODUCTIVITY OF A FOOD PROCESSING COMPANY

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## ABSTRACT

Presenteeism consists in going to work without conditions to produce, which can have a much higher impact than absenteeism on the productivity of an organisation. Presenteeism translates in both physical as psychological perturbations. It is a difficult to quantify reality, as is its translation into direct and indirect costs within the organisation.

Our goal was to analyse the effects of presenteeism on the productivity of a company in the food-processing sector through a descriptive and transversal study of exploratory nature. The Stanford Presenteeism Scale SPS-6 (validated by Ferreira *et al*, 2010) and a semi-structured interview were used.

Most of the workers referred having already gone to work feeling ill at least two days in the last year, mentioning that their health condition affected their performance, made them feel desperate and lacking pleasure from work. Management mentioned that presenteeism has a direct impact on productivity without, however, being able to quantify the true costs.

Presenteeism is a reality in organisational scenarios, exceling in the educational and health sectors. We underline the importance of making organisations aware of the psychosocial risks and the importance of having healthy leaderships, work stress control and the presence of clinical psychologists and professional coaches.

Keywords: Presenteeism, Productivity, Work Stress.

JEL Classification: D29, M19.

## 1. INTRODUCTION

Presenteeism can reduce the productivity of companies in at least one third (Hemp, 2004). Given that it is an invisible problem (idem, 2004), it is believed that presenteeism can cause greater loss of productivity than absenteeism (Collins *et al*, 2005), partly because in the future it can lead to the increase of the latter ( Bergström *et al*, 2009. Janssens *et al*, 2013). For this reason, mangaing the consequences is considered a competitive advantage for the companies (Hemp, 2004; Johns, 2010).

Johns (2010) had noted that studies on presenteeism tend to be carried out based on two main approaches: on the one hand, studies have been concerned especially in studying the causes of presenteeism, focusing on the analysis of the factors that cause job insecurity that can trigger it (eg, Simpson, 1998;. Virtanen *et al*, 2003); on the other, they have been concerned especially in studying the consequences of health problems in productivity (eg, Koopman *et al*, 2002). The focus ranges from the description of presenteeism as the effect of changing contexts to the analysis of the consequences of presenteeism on productivity. Johns (2010) advocates the integration of these two perspectives.

For the description of the context - in particular the analysis of associations between the frequency of presenteeism and socio-demographic characteristics of workers and the description of presenteeism levels as a function of the activities performed by workers - and the study of presenteeism effects on worker productivity and the performance of the company - by analysing the consequences of presenteeism and the effects of these preventive measures – it is intended to outline the integration of the two perspectives identified by Johns (2010) in this study.

### 1.1. The impact of presenteeism on productivity

Whereas the work capacity is greatly affected by the state of health, it is licit to admit that worker productivity is impaired when there is a health problem (Schultz and Edington, 2007). The health problems of workers are reflected in the failure to meet organisational objectives (Daniels and Harris, 2000) in particular in the inability to fully contribute with added value to the general wealth (Brouwer *et al*, 1997a; Brouwer *et al*, 1997b; Brouwer *et al*, 2002), questioning their integration in the context of organisational citizenship (Daniels and Harris, 2000). Even the (simple) health risks cause the decrease in production capacity of workers (Schultz and Edington, 2007).

In a systematic review of the literature conducted in 113 studies on presenteeism, it was concluded that “there is empirical evidence that workers who go to work despite being ill (...) are characterized by a substantial reduction in productivity compared to those who are not sick (...). Additionally, there is the possibility of presenteeists spreading their diseases to other workers increasing the negative impact on the business’ productivity” (Schultz and Edington, 2007 cited in Arnold, 2014, p. 2). These conclusions are shared by several authors (e.g.Pauly *et al*, 2008; Bergström *et al*, 2009; Merrill *et al*, 2012.).

Despite the increased attention given to the problem by researchers, there is little empirical data to accurately calculate the costs for businesses through the loss of productivity of the employees due to presenteeism (Mattke *et al*, 2007). In part, this is explained by the fact that presenteeism is an invisible phenomenon, which hampers the assessment of the costs (Hemp, 2004).

The difficulty of measuring presenteeism’s impacts on productivity can be explained in part by the difficulty in assessing presenteeism costs related to health care and related periods of friction, where there is the need to compensate for the loss of productivity, which may include measures that may be through replacing the worker or even by increasing the work force. The difficulty in assessing presenteeism costs due, in part, to the complexity of the associations between the direct medical costs and indirect costs (Koopmanschap and Van Ineveld, 1992). Presenteeism is a reality in the scenario of organisations, exceling in the education and health sectors. We underline the importance of making organisations aware of the psychosocial risks and the importance of having healthy leaderships, work stress control and the presence of clinical psychologists and professional coaches (Van Ineveld, 1992).

While it is difficult to objectively measure the impacts of presenteeism on the productivity of workers and enterprises (Hemp, 2004; Johns, 2010), it is believed that adding the total loss in worker productivity, presenteeism accounts for 77% and absenteeism for 23% (Merrill *et al*, 2012).

Goetzel *et al*. (2004) showed that the costs associated with presenteeism vary depending on the health problem, but, overall, presenteeism costs are higher than health care, accounting for between 18% and 60% of total costs, depending on the health problem. Cooper and Dewe (2008) estimate that the costs associated with presenteeism are about 1.8 times higher than the ones associated with absenteeism. In accordance with Goetzel *et al*. (2004), Schultz and Edington (2007) also reported that the costs associated with presenteeism exceed the costs of health care. Also, according to Burton *et al*. (2004), the costs of presenteeism are two or three times higher than the costs of medical care.

In a study realised by BankOne at Lockheed Martin (quoted in Hemp, 2004, p. 6), the health conditions that cause major productivity losses have been identified (see Table 1).

**Table 1 – Relationship between health problems and the average productivity break**

Health problem	Prevalence (%)	Average productivity loss (%)	Annual total costs (dollars)
Depression	13,9	7,6	786,600
Arthritis	19,7	5,9	865,530
Back pain	21,3	5,5	858,825
Asthma	6,8	5,2	259,740
Gastric reflux	15,2	5,2	582,660
Dermatitis	16,1	5,2	610,740
Migraine	12	4,9	434,385

Influenza	17,5	4,7	607,005
Allergies	59,8	4,1	1,809,945

(Fonte: Hemp, 2004, p. 7)

From the table one can see that the psychological problems - depression - are causing major productivity losses, although seventh in position in the list of the prevalence of health conditions listed by Hemp (2004, p. 7). In the antipodes, the most common health problems - allergies - are causing a lower average decline of productivity. Along with depression, musculoskeletal problems - arthritis and back pain complete the podium of the most common health problems, and as a whole, are responsible for the average loss of 11.4% of productivity, whereas the three most common problems reach 15.5% of average loss of productivity. On the other hand, the least common problem - asthma - is responsible for the next average loss of productivity value associated with musculoskeletal problems. In nominal terms, higher losses occur in the most common health conditions. Lockheed Martin has annual losses of more than \$ 3.5 million related to allergies, arthritis and back pain. In the group of nine health conditions accounted for, the company spends more than six million and eight hundred and fifteen thousand US dollars per year (BankOne, quoted by Hemp, 2004, p. 7).

Organisational costs related to the poor health of employees as well as to the management of risk factors include high medical expenses, expenses related to incapacity for work and expenses related to compensation to employees (Goetzel and Ozminkowski, 2008). Apart from these, there is a danger to register an increase in absenteeism and relapse in the health of workers and also to the health problem affecting the performance of other workers as a result of infections (*idem*).

As can be seen, the measurement of productivity losses is confused with the measurement of presenteeism costs. Both problems have different natures, although concomitant, but rigorous analysis of the effects of presenteeism on productivity requires formalising a standard measure (Brouwer *et al.*, 2002; Hemp, 2004) that allows including in the area of the signification of the concept the issue of costs. The effects of this standardisation deficit of presenteeism measuring instruments have been studied, for example by Brouwer *et al.* (2002), which compared the methods of Osterhaus, Van Roijene and the QQ method. The authors denoted that the measurement of the costs associated with presenteeism differs greatly between the methods. Apart from this impediment for accurate measurement of losses in productivity due to presenteeism and the fact that this is, as stated, an invisible problem (Hemp, 2004), there is the issue that most empirical studies support their diagnosis on self-assessment by workers, which may exaggerate the effects of their health problems on their performance (Podsakoff *et al.*, 2003). More, productivity losses are not limited to the consequences of a given disease or morbid symptoms - they can lead to other problems, as we saw when examining the correlation of presenteeism and how Brouwer *et al.* (2002) recognize, in particular, changes in socio-economic and organisational contexts.

The issue of measuring the effects of presenteeism on worker productivity is subject to a high interest by researchers. The lack of a standard measure is related to the analysis perspective of the phenomenon. Besides the differences resulting from the two predominant approaches - the epidemiological one and the one based on productivity - there are still differences in what concerns the inclusion of indirect costs in the calculation of productivity losses from presenteeism (van Roijen *et al.*, 1995). The inclusion of these costs in presenteeism studies is due to the close relationship between this problem and absenteeism, which implies the recognition of decentred worker expenses - such as the costs associated with periods of friction.

Due to the close relationship between presenteeism and absenteeism, it is considered that the former can happen before and after the stages of absence (Brouwer *et al.*, 2002). In both cases there is a loss of productivity, since, at first, the worker is working at a sub-optimal level (Koopmanschap and Van Ineveld, 1992; Merrill *et al.*, 2012) and the second is absent, forcing the delegation of tasks of this worker or even a temporary or permanent replacement.

## 1.2 Preventive strategies of presenteeism

The costs for organisations, health problems and risk behaviours “include high costs of medical treatment and the level of disability and sickness compensation, absenteeism and high turnover of workers and decreased productivity (...)” (Goetzel and Osminkowski, 2008). For this reason, presenteeism is a problem whose impacts are of great interest to minimise by enterprises’ human resources managers (D’Abate and Eddy, 2007).

In addition to the consequences for employers, presenteeism also has consequences for each individual and for other consumers (Weinstein *et al.*, cited in Brouwer *et al.*, 1997; Cooper and Osminkowski, 2008). These are some of the reasons that justify the need to predict professional performance problems (Campbell, 1990).

The difficulties in objectively assessing presenteeism costs (Prasad *et al.*, 2002;.. Lensberg *et al.*, 2013) limit the ability of managers to formulate strategic plans aimed at minimising the effects of presenteeism in the company’s performance (Fleishman and Harris, 1988; Arnold *et al.*, 2005; Aronsson and Gustafsson, 2005; Munro, 2007; Cancelliere *et al.*,

2011; Johns, 2011). Such difficulties are important issues with which the management of organisations struggle (Loeppke *et al.*, 2009).

Given the difficulty of objectively calculate the effects of presenteeism on the productivity of workers and companies, managers have adopted various preventive strategies in an attempt to decrease the extent of presenteeism. A recent review of the effects of health promotion programmes in the workplace suggests that these may positively affect presenteeism and help identify risk factors associated with it, thus contributing to improve employee and company performance (Cancelliere *et al.*, 2011). The implementation of prevention plans suggests similar results. Loeppke *et al.* (2010), denoted that nearly half of the employees who showed high health risk passed to moderate and/or from moderate risk to reduced risk due to their participation in a prevention plan with a duration of one year.

To deal with presenteeism “involves identifying its potential causes, design and implement interventions to prevent or reduce and monitor and evaluate these interventions” (Merrill *et al.*, 2012). The concerns of businesses in relation to presenteeism go through 1) determine the prevalence of diseases and medical problems that undermine performance, 2) calculate the size of the related productivity break with the existence of these medical problems and 3) tackle the productivity break in effective ways, with reference to the cost/benefit ratio (Hemp, 2004, p. 1). However, it was found that the first two points are not really easy to meet. In determining the prevalence of presenteeism, problems regarding measurement occur due to the diversity of the existing steps. As to the assessment of the productivity break dimension due to presenteeism it was found to be very difficult to know the exact degree in which the various diseases decrease productivity (ditto), since presenteeism affects not only the amount of work (people can work more slowly or have to repeat tasks) but also its quality (can make mistakes more often or make more serious errors) as recalls Hemp (*idem*, p. 2).

The focus of the problem lies in the relationship between professional and personal lives of workers - marked by the change in perception of time, distinguished between “free time” and “working time”, the imposition of temporal discipline by employers on employees in the spirit of industrial capitalism, as discussed in the classic work of EP Thompson (1967) - and highlights the centrality of subjective well-being (Diener, 1984; Daniels and Harris, 2000) as support for the development of human capital in the context of work (Demerouti *et al.* 2008). The integration of personal and professional life is considered to be the basic strategy to adjust the employee to the organisational environment (Greenhaus *et al.* 2003; Polach, 2001, 2003), as advocated by the theory PO Fit (Personal-Organisational Fit), developed by Kristof (1996) from the theory PE Fit (Personal-Environment Fit), firstly presented by Cobb *et al.* (1963).

Studies suggest that health promotion programmes and prevention of risk and disease must be holistically inspired and integrated (Pronk, 2013), in a sustained manner, with methodologies of psychological factors (Cooper, 2007, 2008; Cooper and Dewe, 2008) and organisational potentiation (eg, Kirsten, 2010) in a logic of adjustment between individual behaviours and environmental constraints, in accordance with the concept of self-efficacy stimulated by the change of psychological processing of these constraints, a notion considered central in the theory of behavioural change of Albert Bandura (1977) whose provisions are considered essential prerequisites to “attack” the problem of presenteeism (Goetzel and Osminkowski, 2008).

An ecological approach to work and health is therefore critical (Stokols *et al.*, 1996; McAlister *et al.*, 2008). Steultjens *et al.* (2012) add that presenteeism may be reduced by a combination of individualised promotional programmes, monitoring of health risks, the implementation of a leadership promoting organisational health at work and respect for a culture of support in the workplace. Indeed, as mentioned, policy and organisational support are predictors of attitudes towards work, the performance of the professionals and organisational citizenship behaviours (Randall *et al.*, 1999).

In this sense, according to Goetzel and Osminkowski (2008), programmes should integrate some key components: a) health education, b) links to the services and tasks related to employees, c) environments that promote and improve health, d) integration of health prevention in the organisational culture, e) monitoring of employees with appropriate follow-up treatments.

Overall, presenteeism combat programmes are guided by the principles of the behavioural change theory (*idem*), by changing the attitudes of individuals as a means to control the risk factors for health (Cooper and Dewe, 2008). In order for the ecological imperative for this change to be effective, “organisations must look at both the inside and outside when they decide to develop intervention strategies. Partnerships between employers, employees and suppliers and health care provisioning agencies should be developed, to capture the necessary expertise (*ibid*, pp. 523-4).

The integration of the internal and the external to the organisation scales, enhanced by the articulation of expertise in disease/risk factors prevention and health promotion, allows developing preventive behaviours in the three possible levels of prevention. In the first level of prevention, the target audience are healthy workers. The strategy at this level involves the change of lifestyles considered risky by promoting exercise, a healthy diet, controlling weight and stress management, among other measures (Goetzel and Osminkowski, 2008, p. 304). At the second level, the target audience consists of individuals considered at risk due to their unhealthy lifestyle (eg, smoking, sedentary,

who have unhealthy diets, ...) and the measures include blood pressure control, providing support to stop smoking, the removal of barriers to obtaining regulatory weight drugs, the implementation of fitness programmes with cardio-respiratory training exercises, etc. Finally, in the third level of prevention, the focus is on individuals already suffering from diseases or disorders and the measures fall into disease management or control programmes in order to delay or prevent its progress.

In an empirical study in small companies with workers with high health risk habits (high rates of obesity and smoking), Laing *et al* (2012) found evidence of the effectiveness of prevention programmes based on physical activity and communication of information related to health and associated behaviours.

When prevention and health promotion programmes in the workplace are designed properly, health and employee productivity can be increased and the costs associated with health care, disability and compensation/subsidies of the disease can be reduced, resulting thus in the guarantee of return on investment (Goetzel and Osminkowski, 2008; Baicker *et al.*, 2010).

In a review of the results of health promotion programmes in the workplace, Aldana (2001, cited in Goetzel and Osminkowski, 2008) found an effective average gain of \$3 per 1 invested. In 34 studies analysed, the author found positive results in 28. In a review of 44 studies on the effects of health promotion programmes related to specific diseases and the return on investment, Goetzel *et al.* (2005) concluded that, overall, the investment had resulted in gains in productivity of workers who suffered from these conditions. In another study, Chapman (2005, cited in Goetzel and Osminkowski, 2008) concluded that participants in health promotion programmes showed levels of absenteeism and medical care 25% to 30% lower than workers who did not participate in the programme.

These suggestions seem to support the importance of motivational strategies to increase - both in quantity and quality - performance as Locke (1968) had advocated. The leadership philosophy here plays a decisive role, as it reflects the mutual trust between employer and employee, ensuring the continuity of the subjective principles framed by the psychological contract between them (Fleishman and Harris, 1962, 1988; Avolio and Locke, 2002; Aselage and Eisenberger, 2003; Bierla *et al.*, 2011; Gilbreath and Karimi, 2012).

However, despite these results, "many employers are reluctant to provide sufficiently intensive and comprehensive programmes because they are not convinced that these programmes can reduce risk factors for employees and bring a positive return" (Cooper and Osminkowski, 2008, p. 305).

Cooper and Osminkowski (*idem*) listed the main barriers to the implementation of health promotion programmes in the workplace. According to the authors, the reasons for employers not to invest in risk prevention programmes and health promotion at work are: the idea of its implementation requires interference in the private lives of employees; the fact that the programmes are understood as unconnected, as they refer to a purpose that is not central to the function of the organisation; the fact that they understand that the work schedule programmes can distract employees from their duties; the claim that there are no real reasons to justify implementing the programmes; the difficulty of perceiving immediately gains from implementation of programmes; the difficulty in isolating the most effective elements of the programme; the fact that the programmes can have an impact on return on investment only in the medium and long term; and lack of resources to implement the programmes, especially in small and medium-sized enterprises.

Although these barriers hamper the broad effective implementation of risk prevention and health promotion programmes, there are however important reasons that lead employers to invest in this strategy. Goetzel and Osminkowski (*ibid.*, p. 305) report that "there is an increase of interest in seeking such services, especially HRAs (Health Risk Appraisals), education programmes for health, health decision support tools, coaching, improving health and other services of preventive care within the context of a more holistic way to manage the health of employees and the associated costs."

The reasons given by employers to implement risk prevention and health promotion programmes focus on the above mentioned principle of "good health, good job." According to the enthusiastic employers of programmes, "the healthy worker has the potential to improve corporate profits and help achieve other organisational goals [so that] the health promotion objectives can be aligned with the goals of the organisations. (...) The organisational policies and social norms can help target certain behaviours and discourage others, financial or other incentives may be introduced for workers to participate in the programmes" (*ibid.*, p. 306).

Benchmarking studies have identified the most promising practices to combat presenteeism. Through the review of literature on the subject, Goetzel *et al* (2007, p. 111) concluded that the more effective relationship management practices between health and productivity include (1) the integration of these management practices in the organisation's operations, simultaneously with (2) analysis of individual, environmental, political and cultural issues affecting the relationship between health and productivity, (3) focusing on various health issues, (4) the adjustment of the programmes to specific needs, (5) the encouragement of high employee participation, (6) rigorous evaluation of programmes, and (7) communicating the successful results to key stakeholders.

In another review, Goetzel and Osminkowski (2008, p. 306) add to these practices, (8) needs assessment, (9)

the support for self-care and self-management, (10), the inclusion of various risk factors in the programme, (11) providing easy access to programmes and perform effective monitoring thereof, (12) allowing the variety of modes of involvement/participation by employees (13) ensure sufficient duration of programmes, (14) develop a culture of health, and (15) include incentives for participation.

Goetzel and Pronk (2010, p. S224) also add the need for (16) commitment of organisations to programmes and (17) collection of the state of the art of the theory and interventions based on empirical evidence on the effectiveness of programmes. O'Donnell *et al* (1997 cited in Goetzel and Pronk, pp S224-S225), identified nine characteristics of the most effective programmes: the programme's link to the organisation's objectives; executive support in programme management; efficient planning; employees' participation; wide variety of programmes offered; effective identification of individuals at high risk; incentives for participation; accessibility to the programme; effective communication and evaluation of effectiveness.

In summary, the effectiveness of risk prevention health programmes and the promotion of healthy behaviour depend on the commitment of both workers and organisations, and involve management practices supported in programme monitoring and motivation by encouraging participation. The ultimate goal is to change risk behaviours. Programmes "ingrained (grounded) in behaviour theory, implemented effectively using principles based on evidence, and measured exactly, are more effective to improve the health of workers and their performance. These results may help to increase the competitiveness of organisations and potentially improve their position in the community" (Goetzel and Osminkowski, 2008, p. 310). However, as reminded by these researchers, "we have to learn more about the mechanisms and processes that facilitate behaviour change among workers as well as about those who are not effective" (*idem*).

## 2. METHODOLOGY

For this study case we departed with the following starting question:

What is the impact of the effects of presenteeism on the productivity of Carnes Landeiro S.A. and how are they managed?

This study's overall objective was to describe the phenomenon of presenteeism in the company "Carnes Landeiro, S.A." and analyse its effects on employee productivity and overall company performance.

Specifically, the intention was:

- Describe the extent of presenteeism and its effects on the performance of the company's employees;
- Know the effects of presenteeism in the overall performance of the company;
- Investigate prevention strategies and presenteeism remediation measures of the employees applied by managers of the company and analyse its effectiveness.

Type of study: An exploratory, with descriptive character and with a cross application blended methodology case study. Whereas the purpose of this work is to increase the empirical knowledge about presenteeism and the consequences on productivity in the context of workers' production conditions, it is assumed that this research is oriented to the practical, according to the classification of case studies operated by Dul and Hak (2008).

### 2.1 Sample characterisation

The sample corresponds to approximately 70% of the employees of Carnes Landeiro S.A. The highest percentage of respondents (27.1%) was between 39 and 45 years of age, immediately followed by the ones between 32 and 38 (22.9%). On the whole, half of the sample is between 32 and 45 years of age.

Most workers (81.4%) are male, and 68.6% are married. About a third of respondents (30%) have qualifications at the 2<sup>nd</sup> cycle of basic education, followed closely by those who have the 3<sup>rd</sup> cycle of basic education (27.1%). There is still a significant percentage of workers with the 1<sup>st</sup> cycle of basic education. The types of contracts they have are divided between indefinite contracts (64.3%) and fixed-term contracts (35.7%) with no workers in part-time or any other type.

The highest percentage of workers has their activity in the distribution section (18.6%). In addition to this activity, workers are mainly distributed in the slaughter (17.1%), secretarial / accounting (14.3%), packaging (11.4%) and cutting (10%) sections.

### 2.2 Presenteeism measuring scale

We used the Work Limitations Questionnaire (WLQ-8), built by Lerner *et al.* (2001) and the Stanford Presenteeism Scale (SPS-6) formulated by Koopman *et al* (2002), both in their reduced versions, which are the most used (Ferreira



*et al.*, 2010). These instruments have been translated into Portuguese and validated (Martinez *et al.*, 2007, Ferreira *et al.*, 2010), showing a high inter-items internal consistency (alpha Cronbach of .897 and .798, respectively).

Also a semi-structured interview about prevention strategies/remediation of presenteeism in Carnes Landeiro S. A. was performed to a director of the company.

### 3. PRESENTATION AND DISCUSSION OF RESULTS

Data from the questionnaire indicate a prevalence of 40% of presenteeism in Carnes Landeiro S.A. Of the 70 respondents, 28 reported having gone to work at least one day in the last year even when not feeling in their best abilities. As this is the value that interests to our analysis all the following data refer to the 28 workers who revealed the existence of presenteeism in the company. This procedure is justified by the simple fact that the issues related to presenteeism were only answered by workers who claimed to agree with the proposition: "In the last 12 months I came to work, at least once, although not feeling in good health".

Due to this reduction in the sample, the scale showed a reduced internal consistency value ( $\alpha = .4905$ ). This does not mean, however, that the scale is not reliable for measuring presenteeism. In fact, it was noted that the instrument's authors (Koopman *et al.*, 2002) found a high consistency value ( $\alpha = .80$ ), and the same happened with the researchers who translated and adapted it to the Portuguese reality (Ferreira *et al.*, 2010), which found an alpha value of .798. The relatively low value of alpha found in our study is explained, therefore, not by the inadequacy of the scale to measure the construct, but the small sample size, which, moreover, is common in case studies centred on a single study unit like this. Thus, the results reflect rigorously the measure of presenteeism at Carnes Landeiro S.A.

The prevalence of episodes of presenteeism in Carnes Landeiro S.A. has values close to the ones found in the study of Eurofound in 35 European countries (Arnold, 2014). Aronsson *et al.* (2000) found similar values in a sample of 3,500 Swedish workers, while other studies show quite higher prevalence (Aronsson and Gustafsson, 2005; Elstad and Vabo, 2008 cited in Bergström *et al.*, 2009b). The results of our study support the argument that presenteeism is a common problem.

The data suggests that workers experience problems in managing difficulties related to their tasks and reach desperate situations in specific situations, in addition to not taking pleasure from work. They somehow control these problems through managing the required concentration and energy levels to fulfil the tasks, from the easiest to the most difficult, allowing them to complete their tasks and thus achieve the objectives of their functions.

The scores obtained in the two dimensions - complete the work / avoid distraction - indicate that the dimension "avoid distraction" collects more agreement to the proposals presented to workers (score = 285) than the dimension "complete the job" (score = 275). This slight difference refers to two issues: first, there is not a substantial difference of opinion between the aspects related to work (supporting the requirements related to the job) and aspects related to the employee (supporting personal requirements); second, despite the small difference, this means that workers tend to agree with the propositions that firstly legitimise their decision to go to work despite feeling ill (personal requirements). Indeed, workers agree that their health problems complicate the management of the difficulties inherent to their work inhibiting them from taking pleasure from work and enhancing the feeling of despair in face of the need to realize the tasks. Nevertheless, they can complete the difficult tasks and focus on achieving goals, referring also that they manage to have enough energy to complete the work. The articulation of this ambivalence of attitudes shows that the decision of employees to go to work sick is closely linked to their perception of the ability to fulfil the tasks, or the perceived control of their health (cf. Wallston *et al.*, 1987).

As the perception of ability to work is analysed subjectively, it can be considered that personal characteristics are preponderant in presenteeism, as shown in several studies (Johns, 2011). The perceived health control or internal locus of health control (cf. Wallston *et al.*, 1987) induces workers to understand that the difficulties imposed by the disease do not prevent them to stay in the workplace. Being one of the leading personal correlates of presenteeism (Johns, 2011), the locus of health control triggers the main feature of this phenomenon: the idea that the discomfort does not prevent workers from directing themselves to the workplace. Indeed, as observed, the workers share the idea that their disease does not affect the performance of tasks or the achievement of the objectives of their work, revealing what Tennen *et al.* (2003) define as dispositional optimism.

Our study does not allow us to observe the dynamics (Johns, 2010) of the interference of both kinds of demands in the process, for example, the evaluation of the constraints imposed by organisational policies and the job policies in general, which carry the workers to choose to go to work rather than to be absent from the workplace. The reason for this limitation is due to the fact that we have focused the analysis predominantly on the effects of presenteeism on productivity, evaluating their causes just by calculating the relationships between variables and socio-demographic characteristics of workers.

It was found that presenteeism is not verified in all activities performed in the company. In the slaughter, meat processing and storage sections no workers were registered who had gone to work in the last year while feeling sick.

Interestingly, the activities with the highest prevalence in absolute numbers are shipping and distribution, both with five workers who refer having gone to work being sick. Interestingly, because, in the case of a cattle slaughtering and meat processing company, it may be supposed that these activities, the main ones, could be more demanding, especially the slaughter activity. Interestingly, too, because the activities where there are higher incidences of presenteeism refer to tasks that are downstream of the production process and transformation which is the core competence of Carnes Landeiro S.A.

#### **4. RESULTS OBTAINED IN THE SEMI-STRUCTURED INTERVIEW ON THE STRATEGIES OF PREVENTION/REMEDICATION OF PRESENTEEISM IN CARNES LANDEIRO S.A.**

The managers of Carnes Landeiro S.A do not overlook the problem of presenteeism. In order to understand the company's position on this problem and to know how it is managed, an interview with one of the company's representatives was performed. Daniela Pinho, the person in charge of human resources was interviewed.

She was asked about what were the effects of presenteeism on the overall performance of the company. The manager did not provide quantitative data on these effects, but said that the company understands presenteeism as the presence with negative effects. Daniela Pinho adds that presenteeism reveals itself as much more expensive than absenteeism. It is a non-productive presence and can obstruct the work of others, i.e. the company accumulates damage due to be paying a worker, who is not just unproductive as may also not let others work.

The company applies various preventive measures in order to minimise or prevent the effects of presenteeism of the workers' productivity. The management reports that there are medical consultations at work and curative medicine twice a week at the company's office. Medical care also involves medical examinations in the reception of new workers. In addition, an aptitude form at the time of admission is required from the employee. Fitness is also evaluated with periodic forms, occasional forms after disease, after accident, at the employee's request, at the request of their department, for change of function and for change in working conditions.

In addition to the requirements and medical attention, the company follows an enforcement discipline of PPE (Personal Protective Equipment) and CPE (Collective Protection Equipment). These devices have the function of protecting the workers from possible risks to their health and their safety.

Also the communication between workers and management is facilitated and a mutual aid culture is promoted. Other measures include the development of people with polyvalent skills to be able to perform more than one function and job rotation or the ability to direct one person to another function if signs of illness are shown (but still allowing the person to continue in the company).

If the worker is in a situation of disease, either by absence or because remaining in the workplace, the company applies remediation measures that pass through the appointment of persons to replace an operator in case of absenteeism or delay in carrying out the tasks. In the event that an operator gets sick during working hours, the company previously appoints a person responsible for evaluating the employee's status and decide whether to send him home or to place him to do another task.

On the whole, the measures applied in Carnes Landeiro S.A. are considered effective. The human resources manager mainly emphasises the existence of medical surveillance at work with periodic reviews and a curative medical surveillance. However, she believes that productivity in the workplace is also a worker's responsibility, emphasising that there must be individual and collective will to make us productive workers. This desire is stimulated with constant training, good working conditions (PPE and CPEs), and ease of communication, mutual support and versatility.

In our study we highlighted the description of the impact of presenteeism's effects on the productivity of Carnes Landeiro S.A. and analyse how they are managed.

The description and analysis of the effects of presenteeism and its management by the company gave place to the formulation of two propositions, which are confronted by the data in the following paragraphs.

##### **a) The impact of presenteeism's effects are registered in the company's productivity breaks**

The management of the company revealed that presenteeism produces impact on the company's productivity. As mentioned in the literature on the subject (eg, Prasad *et al.*, 2002; Hemp., 2004; Lensberg *et al.*, 2013), the fact that the manager has not indicated the concrete costs of presenteeism for the company reveals that they are difficult to evaluate. But she acknowledged that presenteeism's impacts on productivity are more significant than absenteeism, which is in line with the conclusions reached by Hemp (2004), among others.

Presenteeism is understood in the company as an obstruction to the work of employees who do not have health problems, and since this obstruction interferes with the productivity of these, the losses in the global production of the company are inevitable. In the case of Carnes Landeiro, SA, the effects of "contagion" of presenteeism are of

particular relevance, since the work is organised in sequence. In these cases, operation at a sub-optimal level by a given employee is reflected in the productivity of the entire chain, since it can slow down the process in its entirety. This aspect is quite important in the case study and can add information to studies whose empirical dimension is developed in production systems of the same type as what characterises Carnes Landeiro S.A.

These data support the proposition that presenteeism is reflected in productivity breaks both individually as on a global company level, being in line with the results found in numerous studies, as can be seen from some systematic reviews on the relationship presenteeism-productivity (Schultz and Edgington, 2007; Johns, 2010).

### **b) A break in productivity due to the effects of presenteeism mobilises the company's executives to implement measures to minimize its effects**

Despite the difficulty in measuring the effects of presenteeism on the productivity of employees and the company as a whole, the fight against presenteeism is a reality in Carnes Landeiro S.A. Most of the measures implemented in the company are of a preventive nature.

The use of personal and collective protective equipment reflects the follow-up of the safety standards at work required for the elimination of environmental risks where workers perform their activity. The use of PPE and CPE is duly included in the various applicable European regulations (Directive 89/686 / EEC of 21 December, as amended by Directives 93/68 / EEC, 93/95 / EEC and 96/58 / EC) and the national legislation transposing these regulations to the Portuguese reality (Decree-Law No. 128/93, of 22 April, Decree No. 1131/93 of 4 November; Decree-Law No. 139/95 of 14 June; Decree No. 109/96, of 10 April, Ministerial Order No. 695/97 of 19 August and Decree-Law No. 374/98 of 24 November).

In addition, the company develops skill development programmes supported by training activities directed to the promotion of behaviours that enhance quality, safety, hygiene and safety in the workplace. These programmes are based on a philosophy of optimising communication among workers and between them and the board of directors, in order to cultivate behaviours of mutual help. The mutual aid is enhanced through training specifically aimed at the multi-tasking of functions. This versatility is particularly important when there are cases of presenteeism, allowing the replacement of the sick worker without losing the required technical efficiency.

Remediation strategies focus on the clinical evaluation of the worker's state of health, which may dictate the need for him to go home and being replaced by another worker.

Overall, presenteeism (and, by extension, its effects on productivity) is tackled by an integrated plan that combines comprehensive health promotion programmes and assistance interventions to risk cases. The company's management reveals that the programmes have had good results.

The promotion of responsible behaviour (including the use of protective equipment) and informed performance (for technical training) and the promotion of mutual help and collaboration among workers and between them and the board of directors indicate a concern for technical and psychological training and for minimizing the risks associated with work by preventing accidents. Therefore, such programmes require cooperation between management and workers, considered a key assumption in combating the effects of presenteeism on the productivity of companies (Goetzel and Pronk, 2010). Intervening on both psychological and environmental levels, the programmes developed in Carnes Landeiro S.A. therefore attack the correlates of presenteeism related to the job requirements and personal requirements, showing a holistic inspiration in the direction recommended by Pronk (2013). Methodologies that intervene both on psychological and environmental levels proved to be the best in several studies of the problem (Cooper, 2007, 2008; Cooper and Dewe, 2008; Pelletier, 2009; Kirsten, 2010).

Based on the company manager's testimony, the prevention plans have positive effects in combating presenteeism. The same result was found by Loepke *et al.* (2010). Similarly the implementation of remediation plans also prove to be effective. Cancelliere *et al.* (2011) reached the same conclusion. In fact, to combat presenteeism the programme implemented in Carnes Landeiro SA brings together the key ingredients to be successful, as reported in the literature (eg Goetzel *et al.*, 2007, Goetzel and Osminkowski, 2008), i.e. it integrates health education, it is in close connection with the services and duties of the employees, it affects the environment (through PPE and CPE), including the prevention of risk in the organisational culture, it monitors the health of employees and it monitors these through appropriate treatments. A programme to combat presenteeism designed in these terms may limit the occurrence of sub-optimal levels of performance and can reduce the costs associated with health care, spilling over its effect on guaranteeing the return on investment, as shown by several studies (Goetzel *et al.*, 2005; Goetzel and Osminkowski, 2008; Baicker *et al.*, 2010)..

The results of our study confirm that the fall in productivity due to presenteeism mobilises the executives of Carnes Landeiro S.A. to implement measures to minimize their effects. The effectiveness of the implemented measures is recognised by the manager. Combating the effects of presenteeism on the company shows that the board of directors is aware of the problem's presence and its effects on worker productivity and shows that the management of these effects is the best way to minimise losses due to the disease in the workplace.

## 5. CONCLUSIONS

The difficulties in objectively assess the costs of presenteeism (Prasad *et al*, 2002;.. Lensberg *et al*, 2013) limit the ability of managers to formulate strategic plans aimed at minimising the effects of presenteeism on the company's performance (Fleishman and Harris, 1988; Arnold *et al*, 2005; Aronsson and Gustafsson, 2005; Munro, 2007; Cancelliere *et al*, 2011; Johns, 2011). Such difficulties are presented as important issues with which the management of organisations struggle (Loeppke *et al*, 2009).

On the whole, the measures applied in Carnes Landeiro S.A. are considered effective. The manager of human resources mainly emphasises the existence of a medical surveillance at work with periodic reviews and a curative medical surveillance. However, she believes that productivity in the workplace is also a worker's responsibility, emphasising that there must be individual and collective will to make us productive workers. This desire is stimulated with constant training, good working conditions (PPE and CPEs), and ease of communication, mutual support and versatility.

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Presenteeism is a reality in the scenario of organisations, exceling in the sectors of education and health. We stress the importance of awareness among organisations about psychosocial risks, the implementation of healthy leadership, control of work-related stress and the presence of clinical psychologists and coaching professionals.

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# PEOPLE MANAGEMENT: PRACTICES, ORGANIZATIONAL COMMITMENT AND JOB SATISFACTION OF NURSING PROFESSORS

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## ABSTRACT

Higher education has changed over time by trying to respond to the new challenges of contemporary society. The redefinition of the roles played by institutions and people who are part of them, necessarily leads to a new policy and institutional practice design that proactively contributes to the overall development of society. In this sense, the organization of higher education institutions is important, as well as the kind of relationships that are established there. The aim of this study is to assess the relationships between people management practices, organizational commitment and job satisfaction, as perceived by nursing professors in public schools of higher education in Portugal and Brazil. It is a quantitative research, using an online questionnaire, which uses descriptive statistics to characterize the respondents, confirmatory factor analysis to validate the structure of the scales applied to measure the three constructs and structural equation modeling to confirm the research hypotheses. The results show that the perception of people management practices contributes positively to organizational commitment and to job satisfaction, and that these two constructs are positively correlated.

Keywords: People Management, Organizational Commitment, Job Satisfaction, Structural Equation Modeling.

## 1. INTRODUCTION

The mutations present in today's society, dominated by the economic, financial and social crisis, lead to further rationalization of all resources and the reinventing of a means responsive to the needs of people. In fact, there is a paradigm shift in the economic and social level that is necessarily reflected at the educational level. Professors must be prepared to respond well to the current level of their relationships at school and challenges in people policy management.

The paradigm shift in higher education requires a transformation in nursing education and the roles of professors in teaching, research, production and in the dissemination of knowledge level, leading, according to Mestrinho (2008), from changes in educational practices and ways of conceiving and performing the work of the professor.

The competitiveness between institutions is increasingly prominent worldwide, leading institutions that centralize the focus on processes to redirect them towards the results. In this context, many times, employees are challenged to perform tasks for which they were not trained, undergoing constant changes (Kurcgant and Siqueira, 2012).



Nursing professors are struggling with the effects of changes in higher education; evaluating the effectiveness and efficiency of education organizational systems, the demand for quality indicators of excellence, partnerships between schools/universities/work contexts and the adequacy of regulatory observatories of institutional dynamics (Magalhães *et al.*, 2005).

Concerns of nursing professors include socio-professional changes that fall within nursing education in the field of policy, regulation education and educational decision-institutional decision, which justifies greater attention to people management policies and the commitment and satisfaction of social transformations in organizations. These changes, of influencing challenges in performing daily tasks and can produce satisfaction in some and dissatisfaction in others (Spector, 2004).

The overall objective of this research is to investigate the relationship between the perception of people management policies, organizational commitment and job satisfaction of professors in higher education in the public nursing schools in Portugal and Brazil.

As specific objectives, we aim to:

- Compare the level of perception of people management policies, the level of organizational commitment and the level of job satisfaction of professors in public nursing schools in Portugal and Brazil;
- Evaluate the influence of perception management policies on organizational commitment and job satisfaction;
- Assess the relationship between organizational commitment and job satisfaction.

The present study aims to contribute to the advancement of studies in the area of people management with an innovative way of measuring policies for managing people through the diagnosis of the studied institutions. The study will contribute to better decision-making by managers in order to improve individual satisfaction and commitment, leading to the achievement of more relevant organizational results. Rowe, Bastos and Pinho (2013) demonstrate the lack of scientific studies on work commitment among professors, especially in higher education.

In order to achieve the objectives outlined we will start the theoretical framework based on the research of policies for people management, organizational commitment, job satisfaction and higher nursing education. Afterwards the method including the characterization of the research, the definition of the sample, the instruments used and the procedures of data collection and analysis will be presented. Finally, the results and its discussion will be presented, which will foster the findings of our investigation, safeguarding the contributions and recommendations for future research.

## 2. LITERATURE REVIEW

### 2.1 Perception of people management policies

Given the importance of people management policies for organizations in recent years, increased academic output on the subject has been found. According to Demo *et al.* (2013), some authors have been discussing the competitive advantages arising from people management at the international level. The area of people management is critical in the development of sustainability concepts and practices, since it will translate into gains in competitiveness according to Pfeffer (2010). Moreover, Katou (2012) noted that people management policies have a positive effect on organizational performance evaluated by attitudes such as satisfaction, commitment, and motivation, as well as, employee behaviors (absence, turnover, disputes).

In the study we use the term people management policy in the sense that defines the theoretical and practical framework built to enable the achievement of the objectives and purposes of the organization, functioning as action and thought guides in the area of people management.

Demo *et al.* (2013), as well as Demo *et al.* (2011), report that it is relevant to the organizations the strategic studies on policies for managing people, highlighting the need to conduct more studies on the subject, since some policies, though strategic, are still very little researched. There are also gaps in the literature regarding the development and validation of tools and the conduction of theoretical essays suggesting the relation of policies and practices of personnel management to other variables of organizational behavior, and a combination of different methodological perspectives to analyze with greater control its effects on the well-being of employees and organizational outcomes.

This paper adopted the method proposed by Demo *et al.* (2011), considering the people management policies presented in Table 1.

**Table 1. Policies for People Management**

Policies for managing people	Description
Involvement	Articulated proposal of the organization with theoretical and practical constructs to create an emotional bond with its employees, contributing to their well-being, in terms of recognition, relationship, participation and communication.
Development Training & Education	Articulated proposal of the organization with practical and theoretical constructs, to provide employees with a systematic acquisition of skills and encourage continuous learning and knowledge production.
Work Conditions	Articulated proposal of the organization with practical and theoretical constructs, to provide employees with good working conditions in terms of benefits, health, safety and technology.
Rewards	Articulated proposal of the organization with practical and theoretical constructs, to reward performance and the skills of employees in terms of pay and incentives.

Source: Adapted from Demo *et al.* (2011)

## 2.2 Organizational Commitment

Mowdey *et al.* (1979) and Mowdey *et al.* (1982), in addition to being pioneers in the study of organizational commitment, also gave rise to most studies in this area. These authors emphasize the affective nature of the process of identification of the individual with the goals and values of the company; considering organizational commitment as the identification and involvement of the individual with particular company strength. They characterize commitment as a strong belief and acceptance by the individual's values and goals of the organization; a desire to exert considerable effort on behalf of the organization; and a strong desire to remain a member of the organization. Organizational commitment has been one of the most studied constructs over the past decades in many areas of knowledge. According to Siqueira and Gomide (2004), its multidisciplinary character triggered the emergence of various conceptions about the subject. Yet because of this range of approaches related to the construct Bastos (1993) states that there is no consensus in the literature with regard to its conceptualization, as well as, the proposed measures are also varied.

According to Siqueira and Gomide Júnior, (2004), while affective commitment includes affective links with the organization and is within the scope of affectivity, both continuance commitment as the norm represent particular cognitive dimensions of the relationship between employee and organization. Siqueira (2000) suggests that continuance commitment can be seen by the act of the employee to remain in the organization from the motivation of individual perceptions of costs/losses resulting of the investment from the shutdown of the organization. That is, the organization will have the employee while she is attractive to him. The same author states that the employee's beliefs about the social debt to the organization, or need to return a favor integrate the normative organizational commitment.

Thus, Demo *et al.* (2013) employees who have a high level of normative commitment feel trapped in the organization that, in turn, has different ways to make its employees feel unable to leave it. In these organizations, there is considerable contact between organization and employees in a similar way to a family with rules of conduct and very strong mission to bring the employee to the conviction that the organization needs them to continue succeeding. In other words, employees who are normatively committed to continue working for the organization have a sense of debt or further obligation. Hence if the employee remains in the organization because he feels morally bound to it or to colleagues, the presence of normative commitment is present.

In the present study, we used the focus of organizational commitment, contemplating the three most studied bases, namely, affective, continuance and normative, according to the definitions of Siqueira (2008), shown in Table 2.

**Table 2. Dimensions of Organizational Commitment**

Dimension of Commitment	Description
Affective	Individual's identification with the goals and values of the organization. Scientific equivalent of "wear the organization".
Continuance	Product of rewards and costs perceived by the employee in the condition of the integral part of the organization.
Normative	Set of normative pressures of social norms that define the relationship of the employee with the company.

Source: Adapted from Siqueira (2008)

## 2.3 Job Satisfaction

There are many definitions of job satisfaction, and we can categorize them according to different perspectives. Some authors refer to satisfaction as an emotional state, feelings or affective responses, (Ferreira and Neves, 2001), according Locke "*Job satisfaction*" can be defined as a positive emotional state resulting from the evaluation of the work or labor experiences of each. Other authors define the concept of job satisfaction as a general attitude towards work. This perspective considers the study of satisfaction within the work attitudes.

Over the past 20 years, according to the literature research on job satisfaction have evolved a lot. According to Lino (1999), several reports have identified different types of instruments for measuring job satisfaction, and found some of the instruments developed specifically for Nursing: Job Satisfaction Index; Job descriptive Index; Job Satisfaction Tool; Nursing Job Satisfaction Scale; McCloskey/Mueller Satisfaction Scale; Perception of the Nurses' Workplace Questionnaire; Satisfaction with the Clinical Ladder Scale; Work Quality Index; Job Satisfaction Questionnaire.

Although there is no consensus on which tool to use and in which environments, it is considered that the most appropriate instrument is one that can be used in a variety of places and cultures and that allows comparisons (Siqueira and Kurciant, 2012).

The interest in studying the concept of job satisfaction comes first, the need to understand the consequences of job satisfaction, both in terms of aspects such as productivity, efficiency, relationship between colleagues, if the work to translate the form affective responses to dissatisfaction. And on the other hand the need to understand the consequences of satisfaction for employees in terms of health and well-being and if the work if translate the form of active responses of satisfaction.

According to Ferreira (2014), the study of human behavior in organizations has found job satisfaction as one of the significant determinants of the behavior of employees, establishing different criteria of action of individuals at work and resulting in high productivity, high performance and low rates of absenteeism and turnover.

Also according to the same author, developing organizational strategies through policies and practices of personnel management that consider the values and professional skills to making employees more satisfied and involved with their work is a constant and growing challenge of managing organizations at all times.

## 2.4 Relations between perception policies for managing people, organizational commitment and job satisfaction

There is a consensus in the international literature than the perception of people management policies impact positively both satisfaction and the commitment, according to Guest (1987), Guest and Conway (2011) and Katou (2012).

Abreu *et al.* (2013) found that type of employment (company staff or contractor) had the greatest impact of affective and normative commitment, while service time and education level are the most significant contributors to continuance commitment. Gender and job level were found to have limited implication for commitment. The results demonstrate that the company response to structural reform had the long-term positive effect of binding employees to the organization.

For Meyer and Smith (2000), assessing the impact of people management policies on organizational commitment has not received the attention it deserved, given the shortage of studies on this subject.

However, in general, the evidence allows us to conclude that the people management policies contribute to increase the commitment of employees to the organization, and this can lead to job satisfaction.

Allen *et al.* (2003), referenced by Alfes *et al.* (2013), showed that perceptions of supportive HRM practices such as participation, reward fairness, and growth opportunities, contributed to the development of perceived organizational support, which mediated their relationship with job satisfaction and organizational commitment.

Conway e Monks (2009), referenced by the same authors, studied 288 employees in three Irish financial services firms and found that attitudes toward HRM practices had a greater impact of affective than on other forms of commitment, regardless of context, and also established links between perceived HRM practices, intent to quit, and job satisfaction.

It is also noted that the results obtained in this study corroborate the interdependence between commitment, satisfaction and well-being at work, as suggested by Smith (2008), besides confirming the influence of commitment on job satisfaction observed in previous studies such as Meyer (1997), Cohen (2000) and Rego (2002).

The organizational commitment has influence both in well-being as job satisfaction and should be considered in making decisions regarding management policies. In this sense, university administrators should pay special attention to the affective commitment of their professors, since this affects all dimensions of well-being at work, plus most of the factors of job satisfaction.

In the study by Xavier (2005) the results demonstrate to prevail in the sample the affective bond of commitment

and greater satisfaction with work colleagues. The affective commitment was positively related to all aspects of job satisfaction

Meyer et al (2002) argue that despite the affective commitment to correlate strongly with satisfaction, these constructs are distinguishable. It is also not possible to verify causal relationship between these variables, it is important to understand both constructs. Therefore, the relationship between job satisfaction and organizational commitment is correlation (Meyer *et al.*, 2002; Mathieu and Zajac, 1990; Siqueira and Gomide, 2004).

Based on the literature review it was possible to establish the following research hypotheses:

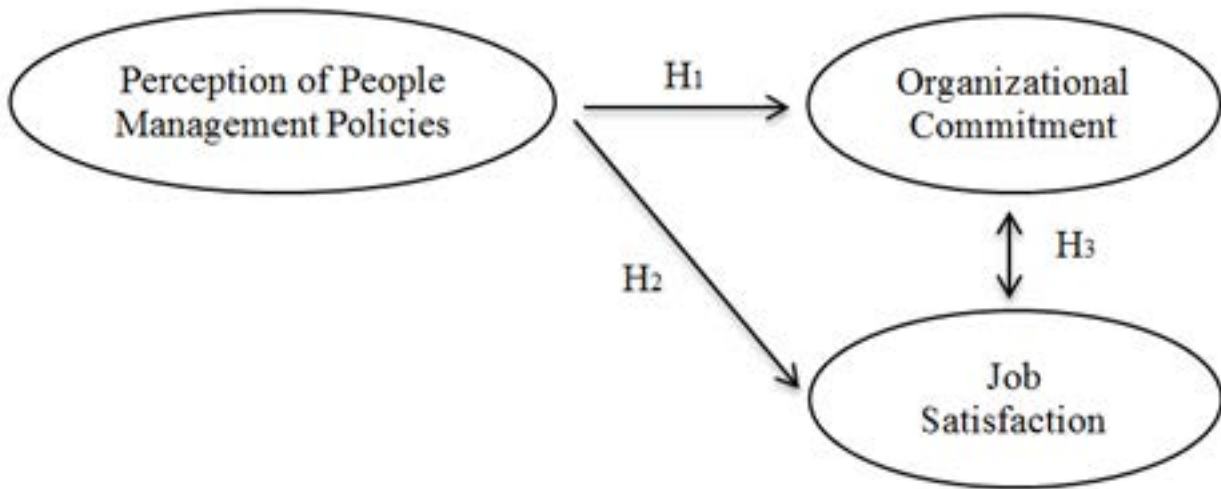
*Hypothesis 1: The people management policies are predictors of organizational commitment.*

*Hypothesis 2: The people management policies are predictors of job satisfaction.*

*Hypothesis 3: Organizational commitment and job satisfaction are positively correlated.*

The hypotheses are illustrated in Figure 1.

**Figure 1. The relations between constructs and the hypothesis**



Source: Made by author

### 3. METHODOLOGY

This research is descriptive, exploratory and transversal, with quantitative nature. The population is all the professors in nursing career of Public Nursing Schools in Portugal or Brazil. The survey sample consists of 130 professors who responded to the online questionnaire sent to the entire population. 69 of the respondents live in Brazil and 61 live in Portugal.

#### 3.1 Instruments and data collection

To measure organizational commitment, the scale developed by Meyer, Allen and Smith (1993) for identification of affective organizational commitment (6 items), continuance organizational commitment (6 items) and normative organizational commitment (6 items) were used. The items are presented in Table 3.

**Table 3. Organizational Commitment Scale**

Affective commitment
I would be very happy to spend the rest of my career with this organization
I really feel as if this organization's problems are my own.
I do not feel a strong sense of "belonging" to my organization.
I do not feel "emotionally attached" to this organization.
I do not feel like "part of the family" at my organization.
This organization has a great deal of personal meaning for me.

<b>Continuance commitment</b>
Right now, staying with my organization is a matter of necessity as much as desire.
It would be very hard for me to leave my organization right now, even if I wanted to.
Too much of my life would be disrupted if I decided I wanted to leave my organization now.
I feel that I have too few options to consider leaving this organization
If I had not already put so much of myself into this organization, I might consider working elsewhere.
One of the few negative consequences of leaving this organization would be the scarcity of available alternatives.
<b>Normative commitment</b>
I do not feel any obligation to remain with my current employer
Even if it were to my advantage, I do not feel it would be right to leave my organization now.
I would feel guilty if I left my organization now.
This organization deserves my loyalty
I would not leave my organization right now because I have a sense of obligation to the people in it.
I owe a great deal to my organization.

Source: Adapted from Meyer, Allen and Smith (1993)

As regards the assessment of job satisfaction, the Job Satisfaction Scale developed by Siqueira (2008), with 15 items spread over five dimensions, were used. The Table 4 shows the items and the dimensions.

**Table 4. Job Satisfaction Scale**

<b>Satisfaction with the nature of the work</b>
With the degree of interest that my duties arouse.
With the ability that my job absorb me.
With the variety of tasks I perform.
<b>Satisfaction with the boss</b>
With an understanding between me and my boss.
With the way that he treats me.
With the professional capacity of my boss.
<b>Satisfaction with my colleagues</b>
With my colleagues' collaborative spirit
With the kind of friendship that my colleagues show for me.
With confidence I can have in my colleagues.
<b>Satisfaction with salary</b>
With my salary compared to how I work..
With my salary compared to my professional capacity
With my salary compared to my efforts at work.
<b>Satisfaction with promotions</b>
With the number of times I have been promoted in this company.
With the way this company conducts his personal promotions.
With opportunities to be promoted in this company.

Source: Siqueira (2008, p. 272)

To measure the perceptions of people management policies, the Perception of Personnel Management Policies Scale (PPMPS), developed and validated by Demo Scale (2008), with 19 items, divided by four dimensions (according to Table 5), were used.

**Table 5. Perception of Personnel Management Policies Scale (PPMPS)**

<b>Involvement</b>
The organization I work seeks to meet my expectations and aspirations to define my activities.
The organization I work seeks to know my skills to set my activities.
In the organization I work, my suggestions / complaints are considered.
The organization I work recognizes the work that I do and the results that I have (through praise, internal matters in newspapers etc.).
The organization I work encourages my participation in decision making and problem solving.
The organization I work promotes social events to integrate their employees (like get-togethers, sporting events etc.).
The organization I work is concerned to disseminate important information to the performance of my job (as organizational mission, organizational values, goals, expected results, new products / services etc.).
The organization I work usually treat me with respect and attention.
<b>Development Training &amp; Education</b>
The organization I work invested in my development enabling my participation in external events (such as conferences, seminars, etc.).
The organization where I work makes me attend into external training and lectures to my professional development.
The organization I work invested in my development by sponsoring partial or total language courses.
<b>Work Conditions</b>
The organization where I work take cares about my safety (as internal circuit TV, restricted access to facilities, existence of an internal committee to accident prevention, maintenance of safety equipment such as fire extinguishers, lighting of stairways, emergency exits, nonslip floors, etc.).
The organization I work for has communication channels to disseminate information and stimulate communication (such as intranet, periodic meetings, company newsletters, panels electronics, etc.).
The organization I work cares about my health and my well-being in work (examples: fresh air, good lighting, comfortable facilities, quality of life programs, disease prevention programs, and stress at work employees and service centers. etc.)
The organization I work provides the materials, and appropriate technology equipment for the effective discharge of my function.
<b>Rewards</b>
The organization I work offers compensation compatible with my skills and training / education.
The organization where I work is concerned to offer me a compatible remuneration like offered on the market (public or private, depending on the case) to my function.
The organization I work for, has a career / career progression clearly defined and known by all.
In the organization I work, I get incentives (such as promotions / commissioned jobs, profit sharing, stock options, bonuses / awards / gratifications etc.).

Source: Adapted from Demo (2008)

Finally, a section on the demographic data was included. The instrument of data collection (structured questionnaire with closed questions) was sent electronically to all departments of the nursing public schools, requiring all professors to answer, as well as the application for permission to conduct the survey, emphasizing that the data are confidential and anonymous and only for research use.

### 3.2 Data Analysis

Data analysis included descriptive and inferential statistics, confirmatory factor analysis (CFA) and structural equation modeling (SEM).

Descriptive statistic techniques, including frequencies tables, crosstabs and descriptive measures, such as minimum, maximum, mean, mode, median and standard deviation, allowed characterize the sample and describe the perception of people management policies, the organizational commitment and the job satisfaction of the nursing professors inquired.

Then, factorial analysis was applied to each scale. This multivariate technique aims to reduce the number of variables in a smaller number of factors. These factors are a linear combination of the original variables (Hair *et al.* 2005). There are two types of factor analysis: exploratory factor analysis (EFA), which is applied to uncover the underlying structure of correlation of set of variables; and CFA, which is specially used to test hypothesis proposed by theories.

Marôco (2010) states that AFC is used to assess the quality of adjustment to a theoretical model and structural equation modeling is a technique used to test the validity of theoretical models of causal or hypothetical relationships

between variables. In the AFC, it was verified the convergent validity, measured by the average variance extracted (VEM), which must be greater than 0.5; the factorial validity, verified when the factor loadings are greater than 0.5; discriminant validity, which is verified by comparing the VEM of the factors with the square of their correlations, VEM must be greater than the square of the correlation; and the composite reliability, which must be greater than 0.7. The adjustment and the modification indexes were also verified to analyze and, if necessary, readjust the models. In this article, CFA were used to validate the scales in the population of professors in public nursing schools and obtain the factor loadings that were used as weights in the calculation of means that reflect the levels of each dimension of perception of people management policies, organizational commitment and job satisfaction. These levels were compared between Portugal and Brazil using t tests, which allowed achieves the first specific objective.

To evaluate the influence of perception management policies on organizational commitment and job satisfaction (second specific objective) and assess the relationship between organizational commitment and job satisfaction (third specific objective), structural equation modeling were used.

The structural equation models (SEM) are very popular in the Social Sciences, in that we are witnessing an increasing interest in measuring techniques and that most of the theories is formulated in terms of constructs (latent variables), using measures (indicators) to represent them. SEM show how the indicators reflect the construct and evaluate the relations between constructs (Kelloway, 1998). The choice of this method was mainly due to his ability to adjust and validate complex models with intermediate relationships, multiple groups and observable and latent variables.

A SEM consists of two models: a structural model, composed by the set of equations that define the relationships between the latent variables; and the measure model, consisting of the set of equations that define the relationships between the latent variables and the measurement variables (Kelloway, 1998).

Statistical data analysis was done using the softwares IBM SPSS (Statistical Package for Social Sciences) and IBM SPSS Amos (Analysis of MOment Structures), versions 22.0.

## 4. RESULTS

### 4.1 Characteristics of respondents

The age of the respondents ranged from 28 to 64 years, with a mean of 47.69, standard deviation of 9.61 and median and mode equal to 50 years. The time of career ranged from 1 to 38 years, with a mean of 16.22 and standard deviation 10.32. 78% are women and 74.8% are married. 56.69% of professors teach in a Graduate Program and 48.03% have a management position.

As for education level, 53.7% of Brazil's professors have PhD, this percentage being 48.3% in Portugal. It is noted that 16.4% of Brazilian professors are post-doctors, in contrast to only 1.7% of post-doctors in Portugal.

### 4.2 Analysis of the constructs

The validation of the scales was made by confirmatory factor analysis. Three items of the commitment scale were excluded because they were not significant. The skewness and kurtosis values showed the multivariate normality of the data and outliers were not found in the final models.

It was also observed that the models obtained composite reliability, validity discriminant and convergent validity in the model of the AFC of all constructs.

Given the large number of measured variables compared with the size of the sample, it was decided to determine a measurement variable for each dimension of each construct, which represents the weighted average of the respective indicators.

In most of the dimensions of constructs examined, the Brazil professors have higher values than those of Portugal. Means, standard deviations and p-values obtained by the t-test are given in Table 6.

At a 5% significance level, only the mean of the satisfaction with promotions differ significantly between the two countries. Brazil's teachers are more satisfied than those in Portugal. This result was predictable given that in Portugal professors have been their careers stagnated in recent years.

At a 10% significance level, there are significant differences in the continuance commitment (higher in Brazil) and in the perception of people management practices related to working conditions (higher in Portugal).

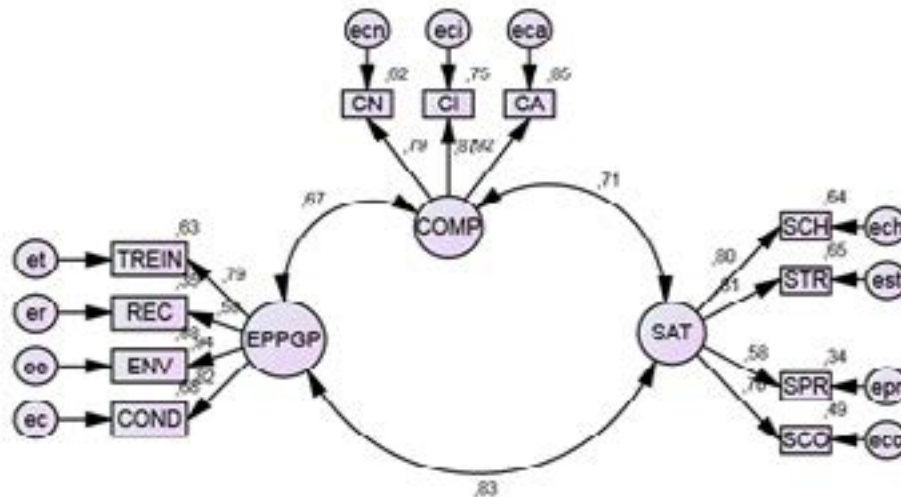
**Table 6. Comparison of the means of the constructs in Portugal and Brazil**

Construct	Country	Mean	Standard deviation	P value (t-test)		
Commitment	Normative	Brasil	2,900	,8450	0,667	
		Portugal	2,971	1,0011		
	Continuance	Brasil	3,448	,6726	0,084	
		Portugal	3,161	1,0980		
	Affective	Brasil	2,773	,6333	0,423	
		Portugal	2,673	,7645		
Perception of Personnel Management Policies	Boss	Brasil	5,207	1,5358	0,351	
		Portugal	4,949	1,5761		
	Nature of the work	Brasil	3,133	,6215	0,300	
		Portugal	3,016	,6547		
	Salary	Brasil	3,692	1,6763	0,299	
		Portugal	3,386	1,6288		
	Promotions	Brasil	3,840	1,3747	0,000	
		Portugal	2,750	1,2641		
	Colleagues	Brasil	4,031	1,0976	0,850	
		Portugal	4,068	1,0807		
	Satisfaction	Training	Brasil	3,092	1,1269	0,732
			Portugal	3,020	1,2221	
Rewards		Brasil	2,357	,9651	0,535	
		Portugal	2,252	,9354		
Involvement		Brasil	2,658	,7402	0,913	
		Portugal	2,643	,8121		
Work Conditions		Brasil	2,745	,9952	0,059	
		Portugal	3,093	1,0615		

Source: Authors

One AFC was performed to the general model with all constructs, as shown in Figure 2. Satisfaction with salary was removed from the model by having a factor loading lower than 0.5, and having a very high covariance with the rewards of PPMPs scale. All relations in the model presented in Figure 2 are statistically significant. The adjustment indices were good (CFI = 0.933; PCFI = 0.696), or tolerable ( $X^2 / df = 2.44$ ; GFI = 0.875), according to Marôco (2010).

**Figure 2. Global confirmatory factorial analysis model**



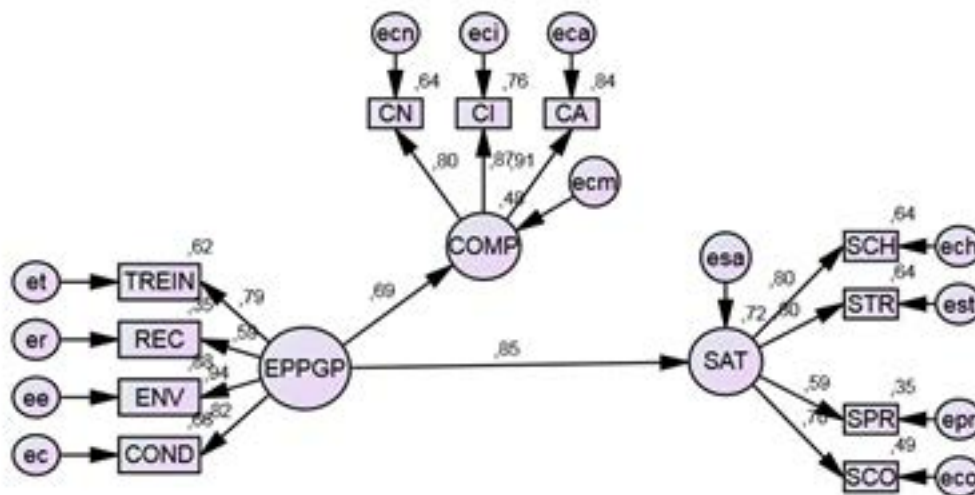
Source: Authors



All correlations between constructs were significant, allowing validate the hypothesis 3 that job satisfaction is positively correlated with organizational commitment, as defended by Meyer *et al.* (2002), Mathieu and Zajac (1990) and Siqueira and Gomide (2004).

Hypothesis 1 and 2 were validated by the structural equation model presented in Figure 3, verifying that the Perception of Personnel Management Policies impact significantly and positively on job satisfaction and organizational commitment. The adjustment indices were good (CFI = 0.926; PCFI = 0.707), or tolerable ( $\chi^2 / df = 2.557$ ; GFI = 0.863), according to Marôco (2010).

Figure 3. Structural equations model



Source: Authors

## 5. CONCLUSION

The results of this research allow meet the defined specific objectives and validate the hypotheses drawn.

The first specific objective was to compare the level of perception of people management policies, the level of organizational commitment and the level of job satisfaction of teachers in public nursing schools in Portugal and Brazil. In general, the levels are higher in Brazil. However, at a 5% significance level, there were only significant differences in satisfaction with promotions (higher in Brazil).

The second specific objective was to evaluate the influence of perception management policies on organizational commitment and job satisfaction. The structural equation model led us to conclude that these influences are positive and significant, validating research hypotheses 1 and 2.

The last objective was to assess the relationship between organizational commitment and job satisfaction. It was achieved through the global model of confirmatory factor analysis, validating the third research hypothesis.

Regarding the organizational implications of this study, the results show that the perception of people management practices positively affects job satisfaction and organizational commitment of professors. Therefore, investments of universities that want to keep their committed and satisfied professors should give importance to people management practices, particularly in regard to the involvement, training, development and education, working conditions and rewards.

As the research limitation is considered the sample size, which was conditional on the voluntary response of teachers to the online questionnaire.

In future research, we intend to study the influence of sociodemographic characteristics of professors on their job satisfaction, organizacional commitment and perception of people management practices. To this goal, we intend to use multivariate techniques such as MANOVA and Classification and Regression Trees.

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# LEARNING SPACES OF INTERDISCIPLINARY KNOWLEDGE: TOWARDS SUSTAINABLE DEVELOPMENT

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## ABSTRACT

Drawing on the recognition that science refers to various ways of knowing (among them the “soft” or social sciences), and that both “hard” and “applied” sciences may be included into the sphere of humanities (because they involve human situatedness), this article argues for the key ethical role that academic spaces of interdisciplinary learning can assume in the future of our societies. Accordingly, it examines the theoretical approaches, methodologies, and dissemination strategies of a Science-Art-Philosophy Laboratory recently created at the Center for the Philosophy of Science, University of Lisboa. In recent decades techno-scientific innovation has generated astounding economic growth, leading to a mounting investment, both public and private, in the research and production of patents, and a corresponding decline of funding towards research and education in the fields of the humanities and social sciences. Although techno-science commands recognition because of its prodigious power of performance, it should not turn into a privileged area of knowledge dictating human progress. In effect, not only do the humanities and social sciences hold a pivotal role in assessing the ethical, social, and environmental problems that accelerated scientific advancement has tended to aggravate, but they also prove indispensable towards a dialogue on the future scenarios of human development.

Keywords: Interdisciplinary Learning, Academic Institutions, Applied Arts and Sciences, Pure Arts and Sciences, Philosophy of Art and Science.

JEL Classification: Z11.

## 1. INTRODUCTION

As early as the fifteenth century, artists, scientists and philosophers recognized that there is an essential interconnectivity between academic fields. Accordingly, they advocated that we should study the philosophy and science of art, as well as the art and philosophy of science, so as to improve human knowledge and wellbeing.

Remarkably, five hundred years later in academic institutions we are witnessing a renewed divide between the “two cultures”, as proclaimed by C. P. Snow’s thesis in 1959, when he argued that the “culture” of science contains a great deal of rigorous argument, of a higher conceptual level than that of the traditional humanities. This divide, between the arts, humanities and most social sciences on one side, and the “hard” sciences on the other has in fact been encouraged by political and financial structures, in the name of “innovation” towards ever-increasing economic growth.

In this article I argue that although science and technology command recognition because of their prodigious power of performance—as manifest through the combined advancements of ICT, robotics, bio and nanotechnology—they should not turn into a privileged area of knowledge dictating human progress. In effect, not only do the arts, humanities and social sciences hold a pivotal role in assessing and interpreting the ethical, social, and environmental problems that accelerated scientific advancement has tended to aggravate, but they also prove indispensable towards a wider debate on alternative future scenarios of human development.

## 2. SCIENCE-TECHNOLOGY VS. ARTS-HUMANITIES?

In the early twenty-first century Professor of Literature Stanley Fish remarked: “If there is to be a Brave New World in higher education, it doesn’t look as if the humanities and the arts will be a significant part of it,” once we confirm how “all the emphasis” is being placed “on science, partnerships with industry and advances in technology.” In effect, as of the mid-twentieth century, especially after WWII, the field of science gained a primacy over the arts

and humanities. Particularly in the last decade, we are witnessing an economic push to increase science, technology, engineering and math majors at the university (so called STEM), and a mounting investment, both public and private, for the invention of techno-scientific patents, with a corresponding decline of funding towards research, education and creativity in the fields of arts and humanities.<sup>11</sup>

In order to understand why the arts/humanities are not considered lucrative by current economic standards, I suggest we first grasp what may distinguish them from science. The word science derives from the Latin *scientia*, which is a translation of the Greek term *episteme*, meaning the study of the eternal order of things or the pursuit of knowledge. Significantly, since the first century BCE and until the seventeenth century, science belonged to the umbrella of Humanities, or to the Liberal Arts, so-called because they were designed to cultivate the knowledge of “free men” (non-slaves). The Liberal Arts comprised the study of nine subjects: music, geometry, architecture, astronomy, medicine, grammar, rhetoric, logic and arithmetic (Burguete & Lam, p.40). During those eighteen centuries, scientists were actually called “natural philosophers,” since they wondered about and studied *natural* phenomena.

With the “mechanical philosophy” initiated by Descartes in the seventeenth century, a new concept of science emerged: that of a discipline based on hypotheses and probability, required to report observed results through quantitative methods. Because Cartesian dualism placed the mind in a position of hierarchical superiority over and above nature and materiality, including the nature and materiality of the body, the foundations of knowledge itself became indifferent to any considerations of subjectivity (Bleeker, p.149). Gradually, science divorced itself from the arts and humanities, to finally develop into a specialized field and autonomous profession for the last 150 years.

But just as the sciences were once deemed liberal arts, the disciplines that presently make up the field of arts/humanities may be considered sciences. Already in the fourth century BCE, Aristotle recognized various approaches to the investigation of nature—including poetics and metaphysics—each of which may justifiably be called science. “In other words, ‘science’ is an analogical term, to be recognized in its diversity and complementarity” (Weisheipl, p.XXI). In that vein, it is now common to address the social sciences and a few humanities as “soft sciences.” Most recently, in 2011, Chinese physicist Lui Lam claims that all quests for knowledge are efforts to understand Nature, its human and nonhuman systems, and that therefore all these quests, including literary fiction and the fine arts, fall into the science domain (Lam, 2008).

The fact that Sciences were once considered Humanities, and that the Arts and Humanities may now be viewed as Sciences, suggests an urgent interdisciplinary change in the curricula of academic institutions.

### 3. ARTS ≠ SCIENCES OR APPLIED ARTS/SCIENCES ≠ PURE ARTS/SCIENCES?

If both arts and sciences are ways of knowing, perhaps the difference between them lies in their distinct objectives and methodologies. Accordingly, it is said that scientists have the goal of advancing knowledge through rigorous and rational arguments, by testing hypotheses, and thereafter sharing, reviewing and revising their discoveries; whereas artists want to achieve original works through their individual subjectivity, intuition and emotion.

These disparities are not applicable, however, once we verify that there are major differences between applied science and basic-theoretical-pure science; and equally profound contrasts between the applied arts and the free or “fine” arts. A similar difference exists between *tekhne*, techniques or methods for effecting practical results; and *poiesis*, a term in ancient Greek at the root of the word “poetry”, a verb that meant creating, producing, transforming, and therefore referred to all forms of artistic creativity. In effect there may be greater affinities between so-called pure science and pure art. As mathematician François Lionnais noted, theoretical or “creative” science is driven by curiosity and a “love of play” that encourages inventive thought; like art it wonders at objects and phenomena and “cannot be attained in a climate completely devoid of emotion.” (Lionnais, p.73) In the same vein, according to the Romantic theory of art, artists are often gifted with “internal powers” that enable them to imagine and create worlds that do not exist—thereby pointing to the potential otherness of reality and to an endless capacity for change and transformation. Free art, or non-applied art, is a form of philosophical and historical action (Behler, 1993); unlike the applied arts such as advertising, fashion and automotive design, it has no instrumental purpose, and seldom is economically “useful.”

In our times, however, whenever we talk of scientific “innovation” as crucial towards prosperity in a highly competitive world ruled by the logic of capitalism, we are typically referring to technoscience, an applied science that relies heavily on technology and which has acquired a central role in human progress. As physicist Lévy-Leblond claims, nowadays there is a dangerous tendency to identify scientific research with industrial innovation; as a result, even pure science and conceptual knowledge are being devalued. Most scientific research today is tool-driven rather

<sup>11</sup> As E. Wilson states, in 2014, for the first time in 400 years of its functioning, Harvard University has more students enrolled in science than in the humanities. In the U.S. since 2011, President Obama’s *Educate to Innovate* initiative has provided billions in additional federal funding for science, technology, engineering, and mathematics (STEM) education programs across the country. See Burke, Lindsey M., and Jena Baker McNeill. “Educate to Innovate: How the Obama Plan for STEM Education Falls Short”. *Backgrounder*, No. 2504, Heritage Foundation, 2011. Regarding the steep decline of funding for the Arts and Humanities since 2009, see “Trends in Arts and Humanities Funding 2004-2012,” in <http://www.researchtrends.com/issue-32-march-2013/trends-in-arts-humanities-funding-2004-2012>. Accessed 13 March 2016.

than theory-driven.

Technoscientific innovations are usually considered value-neutral, since produced within a rationale solely guided by efficiency; however, their independence from social, economic, and political agendas should be contested. In effect, although science is considered exact because it supposedly excludes human morals and biases from its method, the technological products of science have profound and widespread effects upon our development, in its social, ethical, environmental and biological dimensions.

To provide an example, I was recently at an international conference concerning the future of education in Portuguese-speaking African countries, in which a large number of presentations proposed that the mere introduction of ICT devices in schools might generate literacy and support inclusive growth. Although ICT's potential of renovating economies is unquestionable, we seem to be forgetting that its devices (PCs, tablets, mobile and smart phones) are generally expensive; have to be replaced and upgraded very often; that the production of their components requires large amounts of fresh water and minerals, including rare metals; and that they account for 70% of the overall toxic waste currently found in landfills (OECD report 2015). E-waste is expected to continually increase, because people are upgrading their mobile phones, computers, televisions, audio equipment and printers more frequently than ever before.

Furthermore, the normative use of these ICT devices involves a set of assumptions about the nature of knowledge and intelligence, encouraging rapid and distracted sampling of small bits of information from many sources, and hindering our capacity for contemplation and reflection. Their ethic of knowledge is an ethic of speed and efficiency, of optimized production and consumption. Likewise, ICT technologies have marked implications on the sense of collective life and urban community; unless concerted action is taken, these technologies are actually intensifying the gap between younger and older generations, urban and rural dwellers, between the rich and the poor (WEF Global IT Report 2015, p.26). In short, ICT technologies are not by themselves the solution towards literacy in Africa.

#### 4. TOWARDS INTERDISCIPLINARY KNOWLEDGE

Contemporary science lacks an essential component common to the arts, humanities and social sciences, namely the critical dimension, which enables a reflection of its ethical value, social significance and environmental impact. It is in this respect, I hold, that academic institutions can assume a key ethical and social role in our technological-economic development, by implementing programs of interdisciplinary education and research.

An interdisciplinary approach is paramount in the case of academic institutions since their relationship with the corporate sector has become increasingly tight during the last two decades, with industries funding scientific research, and universities providing business profit through their inventions (Garcia & Martins, p.400). As Sheldon Krimsky notes, the classical idea of the university as an organization where knowledge is being pursued disinterestedly, or as a public resource to seek and find solutions for collective problems, is giving way to a notion of the university as engine of industrial productivity and as strategic resource towards national defense. Once universities abandon their distinctive mission of providing public and universal knowledge and instead start serving special interests that neglect ethical concerns with individuals and social cohesion, they lose their unique status in our culture, "in which case democratic societies will have to invent substitute institutions to replace the loss (Krimsky, 1988).

Because we still strive to maintain the classical mission of academia,<sup>12</sup> at the University of Lisbon in Portugal, the Research Center for the Philosophy of Science (CFCUL) promotes interdisciplinary research and training, as well as activities that disseminate interdisciplinary knowledge for a wide-ranging audience. Established in 2003, and having recently been awarded financial support for its strategic program until 2020, this research unit is chaired by Professor Olga Pombo, a philosopher specialized in epistemology and interdisciplinary studies, and involves a team made up of integrated members and associates from other national and international institutions.<sup>13</sup>

The Research Center comprises five major Research Groups (RG): Epistemology and Methodology (Logic and Methodology; Philosophy of Mathematics; Evolutionary Epistemology; Science and Communication); Philosophy of Natural Sciences (Philosophy of Space, Philosophy of Quantum Physics; Emergence and Relational Metaphysics); Philosophy of Life Sciences (Bioethics; History and Philosophy of Medicine; Philosophy of Biology); Philosophy of Human Sciences (Science, Ethics and Politics; Science and Society, Philosophy of Human Technology); Science and Art (Body, Territory, Cartography, Image, Science-Art-Philosophy Laboratory). The research results are circulated within the scientific community through national and international seminars, conferences, and residencies; by means of books and papers published in its own international peer-reviewed journal of open access, *Kairos* (established in 2010). Additionally, ongoing interdisciplinary findings are disseminated to a wider-ranging public through summer

<sup>12</sup> The term University derives from Medieval Latin *universitas*, referring to "a whole, aggregate, a number of persons associated into one body, a society, company, community, guild"; from *universus* "all turned into one."

<sup>13</sup> Currently, the CFCUL has about one hundred and fifty associates, comprised by integrated researchers and professors (65), non-integrated national scholars (22), non-integrated international scholars (37), Ph.D. students (20), Master students (6), and permanent academic/administrative personnel (3).

schools, workshops, talks and exhibitions.

The fact that the center is affiliated with the Faculty of Sciences rather than with a philosophy department has facilitated cross-fertilization between disciplines, and side-by-side work with scientists from a wide disciplinary spectrum. Thus, a major achievement of the center has been the approval of an “International Doctoral Program in Philosophy of Science, Art, Technology and Society” in a competitive national call launched in 2012 by the Portuguese Foundation for Science and Technology (FCT). Based upon an interdisciplinary notion of Philosophy of Science, and merging 12 faculties from 4 different universities, this doctoral program provides a unique opportunity for students to develop their doctoral studies along interdisciplinary research lines.

Philosophy of science allows us to discover the correlations between scientific laws and the social order that discovers them; it helps to situate ideas historically, to explain how they arose and why people accepted them and acted accordingly. Through an interdisciplinary literacy in arts-sciences-humanities we may understand that there is no such thing as a single science that reveals a uniform truth about the world, or act as guide in matters of reality. Science does not speak with a single voice; different sciences have vastly different ideologies, stemming from ideas that result from historical accidents, social forces, the intelligence of individuals and even the idiocy of others (Feyerabend, p.54-5).

The concept of interdisciplinarity is obviously not new, and has enjoyed great popularity among scholars and funding institutions in recent years. However, at least in Portugal, disciplinary boundaries are still very resilient in higher education structure and culture. In order to promote interdisciplinarity in academic institutions we need to gather strong support from the university leadership, to safeguard long-term funding, to adjust administrative procedures, to encourage teachers to make their teaching interdisciplinary, and to gradually redesign the curricula by means of introductory courses (Muhar, Visser and Breda, 2013). By allowing students to integrate knowledges produced in different disciplines but applied to issues they face in common, University assumes a role in solving complex real world problems (Ling, 2012). Even when exclusively regarding science education, “specialization must be complemented, or even in some cases replaced, by an interdisciplinary understanding able to grasp the configurations, groupings and multiple perspectives that science must invoke towards a deeper knowledge of its objects of study” (Pombo, p.21).

Like the “hard” sciences and the techno-sciences, the arts, humanities, and social sciences are significant pathways toward knowledge. By providing literacy across disciplinary boundaries, educational institutions can foster a community of shared knowledge, contribute to the development of active citizenship, and dynamically engage a diversity of audiences towards sustainable development.

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# INTERDISCIPLINARY RESEARCH IN SOCIAL SCIENCES: A TWO WAY PROCESS?

Jorge André Guerreiro

*But because the distributions and partitions of knowledge are not like several lines that meet in one angle, and so touch but in a point, but are like branches of a tree that meet in a stem, which hath a dimension and quantity of entireness and continuance before it come to discontinue and break itself into arms and boughs.*

Sir Francis Bacon – The Advancement of Learning, 1605

## ABSTRACT

Interdisciplinary research in social sciences has become a rather popular theme of discussion, having garnered the attention of researchers, not in small part due to the increasing interest of policy makers and public institutions in this kind of approaches. Discussion and mention of interdisciplinary social research has been more prevalent in literature since the late 90s and has steadily increased to this day. Yet, for all the popularity that such approaches have attained, they are hindered by the ongoing process of fragmentation and specialization in social sciences, in what some authors designated as taxonomic splitting run amok.

This order of events may bemuse many, as it may seem paradoxical the way in which social sciences are experiencing a specialization trend, more acute in degree than ever before, at the same time that enterprises, public institutions and governments tend to require interdisciplinary solutions and transdisciplinary teams working for them.

This presentation will address the process of academic fragmentation within the social sciences and their history, the growth of interdisciplinary trends in social research and propose an explanation for how this came to pass, concluding with the answer to the question of “can we consider interdisciplinarity a new paradigm in social sciences?”

Keywords: Interdisciplinarity, Social Sciences, Epistemology, Social Research, History of Social Sciences.

## 1. INTRODUCTION

Interdisciplinary research became a popular approach in social sciences around the turn of the century, having its roots originated however in the 1970s (Hoffmann-Riem *et al.*, 2008). The new challenges that the world was then and is still now facing went beyond the traditional logics of research and eluded many universities and research centers alike, who were perhaps still too attached to their traditions and canons (Cronin, 2008; Jabareen, 2009). There are even those who blamed the lack of progress in some fields of human knowledge as a result of the inability of researchers and scientists to adapt and rise to the new challenges of the post-modern world (Wilson, 1999).

Often other designations will be used instead of interdisciplinary or interdisciplinarity, as transdisciplinary, multidisciplinary or even pluridisciplinary, this stressing the lack of a defined understanding of what inter, trans, pluri or multidisciplinary are exactly. But in spite of the several names used, their focus remains the same and I shall use the term interdisciplinary unless I am specifically referring to an author who uses one of the aforementioned terms.

But what is interdisciplinary research? As Brewer (1999: 328) puts it, “interdisciplinarity generally refers to the appropriate combination of knowledge from many different specialities – especially to shed new light on an actual problem.” Cronin (2008: 3), in turn, says that “transdisciplinary research is a new field of research emerging in the «knowledge society», which links science and policy to address issues such as environmental degradation, new technologies, public health and social changes.” The argument presented by Cronin is also visible in Berma and Sulehan’s (2004) thesis of how developmental studies in the current world need to be multidisciplinary, pointing globalisation, the fall of the Soviet Union and the growing difficulties in differentiating between first, second and third world countries as arguments for abandoning the mono-disciplinary fundamentalism.

In a surprising way, interdisciplinarity received its most important support not from the academic world but rather from policy-makers, public institutions, enterprises and other organizations, that soon realized that common solutions weren’t enough for the new problems that had to be solved, as “transdisciplinary orientations in research, education

and institutions try to overcome the mismatch between knowledge production in academia, on the one hand, and knowledge requests for solving societal problems, on the other” (Hoffmann-Riem *et al.*, 2008: 4).

Thus the demand for interdisciplinary research teams, studies and projects became a staple in many areas, especially in the public sector, where decision-makers preferred transdisciplinary solutions presented by multidisciplinary research teams, as Hoffmann-Riem *et al.* (2008: 3) state: “research is becoming an integral component of innovation and problem solving strategies in the life-world, affecting not only the private sector, public agencies, and civil society, but also personal life.” Taking such arguments into consideration, one could easily make the case for interdisciplinary research being a new paradigm in social sciences. But is this truly the case?

## 2. THE FRAGMENTATION OF SOCIAL SCIENCES

Academic institutions, as Wilson (1999) points out, tend to narrow research fields and multiply their departments. Meanwhile the world remains one and many problems could be more effectively studied by interdisciplinary approaches than by being studied in an isolated manner by different academic disciplines, many of them often reaching the same exact conclusions. It is also of little help the fact that several academic disciplines prefer to create their own concepts instead of using already established ones, often the name being the sole difference between them. Wilson (1999: 198) goes to the length of blaming social scientists for this, pointing out that “split into independent cadres, they stress precision in words within their specialty but seldom speak the same technical language from one specialty to the next.”

An argument is thus formulated: have the universities’ departments and the divisions in social sciences gone too far? There are authors who state that the process of compartmentalization is unnatural, since the world is not fragmented, further arguing that knowledge shouldn’t go to such lengths in the divisions artificially created by scientists and researchers, like Wilson (1999: 8), who says that “the ongoing fragmentation of knowledge and resulting chaos in philosophy are not reflections of the real world but artifacts of scholarship”, or Brewer (1999: 327) who points that “disciplinary specialization has costs, too, not the least of these being more fragmented knowledge and knowledge which informs realistic problems only with great difficulty”, or even Hoffmann-Riem *et al.* (2008: 4), who state that “the pursuit of research within university departments has given rise to the ongoing specialisation of disciplines and thematic fields with fuzzy, somewhat arbitrary, shifting boundaries.”

Before such considerations it does indeed make sense that fields where decision-making is so important, like politics and businesses among others, would choose to rely on interdisciplinarity in order to find better solutions to their challenges. But one question remains: why and when did social sciences became so fragmented? There isn’t a simple and quick answer to this question, as it often happens in such cases where the history of social institutions is discussed and deconstructed. But we would do well to at least reminisce about the events that lead to fragmentation of social sciences discussed until now.

Lattuca (2001: 1) opens her discussion about the creation of interdisciplinarity in the context of universities by stating that “in Cartesian fashion we use our analytic skills to divide the world into smaller and smaller units, hoping that in understanding the parts we will eventually understand the whole.” This does appear to be the rationale of the academic world, as disciplines and specializations tend to multiply incessantly.

Another perspective into this question is presented by Clark (cit in Becher & Trowler, 2001: 45) “It is around the disciplines that faculty subcultures increasingly form. As the work and the points of view grow more specialised, men in different disciplines have fewer things in common, in their background and in their daily problems. They have less impulse to interact with one another and less ability to do so.” The arguments for these apparent divisions are further elaborated upon by Lattuca (2001: 2)

Academic departments that followed disciplinary lines provided a seemingly logical arrangement of scholarly activity. Disciplinary associations served to connect scholars to one another and to advance their given disciplines. Over time, however, it became clear that departments and disciplines had some drawbacks. The exponential growth of knowledge in the twentieth century revealed how disciplinary cultures and perspectives could discourage inquiries and explanations that spanned disciplinary boundaries. Disciplines, it now seems clear, are powerful but constraining ways of knowing. As conceptual frames, they delimit the range of research questions that are asked, the kinds of methods that are used to investigate phenomena, and the type of answers that are considered legitimate (Lattuca, 2001: 2)

Of the several points presented, one is of key use to us, namely, the idea that disciplines – or rather disciplinarity itself –, became a trap, hindering the process of discovery and knowledge production in cross-disciplinary fields or even in areas where monolithic thinking is overemphasised instead of creative and innovative approaches. Thus the

difficulty of some departments and disciplines to deal with the range of issues that arose in the turn of the century, as mentioned before.

Returning to the mono-disciplinary fundamentalism argument that Berma and Sulehan's (2004) used, this is more than a case of groupthink or even canonical behaviour on the part of researchers. It has become the *modus operandi* of social (and other) sciences. Yet, many authors have disapproved this state of things, even going to the extent of labelling the latter years of the twentieth century and the following ones as the post-disciplinary era, a time of pluralism in both theories and methods, as opposed to the before years when macro grand-scale theories and quantitative methods dominated social sciences (Delanty, 2006). This has resulted in what many call social theory, instead of sociological theory, anthropological theory, political theory or even social-psychology, in a deliberate attempt to sever ties with the monistic periods of social research and present their research interests and work as a product of a pluralistic stance regarding knowledge and the scientific method.

### 3. INTERDISCIPLINARY SOCIAL SCIENCES

Despite the popularity that interdisciplinarity has garnered, it still remains somewhat unclear to some extent, what constitutes an interdisciplinary study, research or project. Common sense would tell us that solely by thinking about the name itself we should be able to figure out that interdisciplinarity means *between disciplines*, this meaning that an interdisciplinary study would make use of contributions from various disciplines and fields of knowledge. While this is not far from truth, we would be rather dismissive if we took this notion and ran with it, instead of looking for a more systematic answer. This has been the challenge that Pohl and Hirsch Hadorn (cit in Hoffmann-Riem *et al.* 2008: 4) attempted to solve. They state that transdisciplinary research “aims at identifying, structuring, analysing and handling issues in problem fields with the aspiration (a) to grasp the relevant complexity of a problem (b) to take into account the diversity of life-world and scientific perceptions of problems, (c) to link abstract and case-specific knowledge, and (d) develop knowledge and practices that promote what is perceived to be common good.”

By now it has become clear that authors who theorize about interdisciplinary (and all its synonyms) all agree that, as an approach, it has arisen to face issues our world in the latter stages of modernity, or, if one prefers, of postmodernity. This is precisely the focus of Mittelstraß's (cit in Hirsch Hadorn *et al.*, 2008: 20) understanding of transdisciplinarity, as a “form of research that transcends disciplinary boundaries to address and solve problems related to the life-world.”

But interdisciplinarity's importance is still somewhat ignored in the academia, often being dismissed as the recent buzz-word used in corridors, conferences and scientific events as a mean to make research often sound more interesting and relevant than actually is, especially when we take into consideration the attraction that it has to policy-makers, organizations, entrepreneurs and politicians. But Hirsch Hadorn *et al.* (2008) firmly disagree with this idea, stating that interdisciplinarity is one of the major changes that the relationship between science and the life-world has experienced, putting it in the same level of relevance as the enlightenment and the separation of sciences and philosophy, and the emergence of social sciences and humanities as their own disciplines, separated from the natural sciences.

The idea that knowledge plays a major role in progress is not even remotely new. We but only have to look at the Industrial Revolution, the rise of capitalism and the role that science played to acknowledge the contributions of science. Interdisciplinarity follows this premise, attempting to have science again help shape the future, relying deeply on the principles of sustainability, development and betterment of humanity as a whole. And the cooperation between disciplines – the post-disciplinary orientation that marks it – is of central relevance to this effort.

### 4. CONCLUSION: THE TWO WAY PROCESS

Having addressed the fragmentation and over-specialization in social sciences, and the rising in popularity of interdisciplinary approaches to social sciences, as well as its origins, we have elaborated enough about both processes. But how then does this constitute a two way process? In other words, how can on-going fragmentation, division and specialisation coexist with an ever increasing demand for interdisciplinarity?

This question is difficult to answer. There is no empirical data about interdisciplinarity available, especially in the Portuguese academic world. There are several research centers that present themselves as interdisciplinary, but an exhaustive revision of their projects and publications shows that often the works will be authored by individuals with the same or similar backgrounds, rather than by cross-disciplinary teams. In other words, most research centers are interdisciplinary only in the sense that they are composed by researchers and scientists from different academic backgrounds, and not in the sense that their research, projects and works are done with the resource to interdisciplinary approaches.

The reason why I look at the academic world for answers is because it is them who has failed to supply the type of research that institutions have been increasingly demanding. We could further elaborate on the motivations and reasons for policy-makers, enterprises and other organizations to be more interested in interdisciplinary researches and studies than before, but not only would that be outside the line of thought present in this presentation, as it would prove a lengthy exercise for this already long discussion. Plus, I also believe that academic institutions need to take this new demand into consideration and adapt so they can be capable of supplying the life-world with solutions, suggestions or recommendations that are built in an interdisciplinary approach.

On the other hand, many disciplines or fields that recently emerged and are still on an early stage of constituting themselves, or going through the process of establishing themselves, are adapting interdisciplinary principles (Lattuca, 2001). Such is the case of cultural studies, ethnic studies, or fields where cross-disciplinarity are prevalent, as in urban studies, public policies, bioethics, ecology, biopolitics, etc.

Returning to the question that prompted this presentation, “can we consider interdisciplinarity a new paradigm in social sciences?”, the answer, as we have been discussing it until now, is both affirmative and negative. While the interdisciplinary approach to social sciences is growing steadfast and changing the relations between universities and public institutions, policy-makers, enterprises and other organizations, this hasn’t yet manifested into a substantial transformation in the knowledge-production sphere of our world. But having to compromise with one answer, I would then say no, interdisciplinarity is still ways from constituting a new paradigm in social sciences.

Universities share many characteristics with other organizations, with resistance to change being one of the notable ones. While we can see a growing number of research centers, projects, departments and even courses affirm themselves as interdisciplinary or multidisciplinary, in the end, they don’t truly reflect that principle. An interdisciplinary research center will most times end up being an institution that has researchers from several disciplines, rather than utilizing cross-disciplinary methods and approaches. An interdisciplinary project might end up being implemented by people with different academic backgrounds that, despite having different perspectives and experience, will converge towards a specific discipline and perspective rather than avoiding the benchmarks of research in their own field.

Still, the interdisciplinary approach to social sciences is a subject that deserves more research and should be studied more attentively by scientists and researchers. More than an academic institution assuming itself as interdisciplinary, it should firstly define *how* it will be interdisciplinary, towards *what* ends and by *which* means. In the words of Hoffmann-Riem *et al.* (2008: 5) “the doors of laboratories and libraries must be opened and researchers have to step into problem fields and engage in mutual learning with people in the life-world. In doing so, academic standards of knowledge production and quality control criteria are sacrificed.”

I agree then with Hoffmann-Riem (2008: 5) when they stress that “it is necessary to develop a state of the art and to define quality criteria that are appropriate for transdisciplinary forms of research.” Indeed, even if one would venture into an interdisciplinary research project, how would one do so? By relying on contributions from different areas of human knowledge? By using mixed methods and methodologies? By forming a team consisting on researchers and scientists from different fields? There is a considerable lack of frameworks to interdisciplinary approaches – and in this I’m not sure if this is not an advantage and positive point, rather than being a vulnerability or weakness.

In the end, the only certain I retain is that being interdisciplinary by aggregating individuals from several academic disciplines and fields is to interdisciplinary what putting all the ingredients in a bowl together is to a cake. Interdisciplinarity must begin with the dissolution of the barriers between scientific fields, the collapse of walls between academic departments, and, above all else, the deconstruction of mono-disciplinary fundamentalism.

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## INTERDISCIPLINARIDADE E FORMAÇÃO DOCENTE: PRESSUPOSTOS DE UM NOVO PARADIGMA

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### RESUMO

É conhecimento comum a constatação de que o mundo passa por um momento de profundas transformações, com uma crise profunda e generalizada, crise paradigmática, que se deve, entre outros fatores, a problemas cada vez mais globais, interdependentes e complexos. Na contramão dessas mudanças, o que constatamos em relação à educação, prende-se com a persistência de um modo de conhecimento que ainda privilegia os saberes disciplinares, fragmentados, quantificadores e compartimentados. Desse modo, entendemos que a busca pela qualidade do ensino, voltado para a construção da cidadania e para as novas necessidades do conhecimento, exige repensar a formação inicial e continuada dos professores, já que a estes se impõe o desafio de superar os conceitos tradicionais. A partir desta constatação, colocamos a seguinte questão: Como pode o professor atender a essas demandas se ele mesmo foi formado/educado dentro dos limites de um paradigma cartesiano e tradicional? A presente comunicação, parte, assim do pressuposto de que a adoção de uma atitude interdisciplinar e transdisciplinar na formação docente, aplicada com o intento de resgatar valores essenciais do ser humano, como a individualidade e a experiência de vida, pode contribuir para a união de saberes na busca de soluções mais adequadas às atuais questões educacionais.

Palavras-chave: Formação Docente, Interdisciplinaridade, Transdisciplinaridade, Pensamento Complexo.

### ABSTRACT

Today is unquestionable that the world is going through a moment of profound transformation, with a deep and widespread crisis, a paradigmatic crisis, which is due, among other factors, the increasingly global, interdependent and complex problems. Against these changes, what we see in relation to education, has to do with the persistence of a mode of knowledge that still favors disciplinary, fragmented, quantifiers and compartmentalized knowledge. Keywords: teacher training; interdisciplinarity, transdisciplinarity. Thus, we understand that the pursuit of quality of education, aimed at the construction of citizenship and the new needs of knowledge, requires rethinking the initial and continuous teacher training, since these imposes the challenge of overcoming the traditional concepts. From this evidence, we put the question: How can the teacher meet these demands if he himself was trained within the limits of a Cartesian and traditional paradigm? This communication part, so the assumption that the adoption of an interdisciplinary approach in teacher training, applied with the intent of rescuing essential human values such as individuality and life experience, can contribute to the unity of knowledge in search for appropriate solutions to current educational issues.

Keywords: Teacher Training, Interdisciplinarity, Transdisciplinarity.

JEL Classification: I29.

## 1. INTRODUÇÃO

*Num mundo em que ninguém mais parece entender ninguém, torna-se imprescindível que abandonemos a rotinização e as falsas seguranças de que ainda se vangloriam nossas disciplinas isoladas e nos entreguemos ao sonho da aventura transdisciplinar (...).*

(Japiassu, 2006, p. 17).

As problemáticas advindas dos malefícios da globalização levaram a questionamentos sobre mudanças, na educação mundial e brasileira, parece-nos consenso a assertiva de que estamos vivendo uma época de conflitos cada vez mais globais, interdependentes e planetários, em que as fronteiras do conhecimento se deslocam continuamente, dando origem as questões até então insuspeitas, e onde a resolução de um problema acaba por ocasionar o aparecimento de novos enigmas. Na contramão dessas mudanças, o que constatamos em relação ao ensino trata-se da persistência de um modo de conhecimento que ainda privilegia os saberes disciplinares, fragmentados, quantificadores e compartimentados; em que a reflexão crítica é progressivamente substituída pela história, interpretação e/ou comentário; e que tenta sacrificar a aptidão natural do ser humano de religar os conhecimentos, já que, segundo Japiassu (2006, p. 18), “o ato de unir (conjunção) é primeiro; o de separar é derivado e resultante”.

A formação técnica do professor tem sido pautada na racionalidade técnica. Esta é uma concepção epistemológica da prática, herdada do positivismo, que prevaleceu ao longo de todo século XX, servindo de referência para educação e socialização dos profissionais em geral e dos docentes em particular, gerando uma crise da lógica formal, cujo contexto a organização do ensino como prática educativa provoca não apropriação dos conceitos, isolando-os numa rotina de introdução, generalização, abstração dos conceitos, caracterizada como memorizante, que busca respostas aprendidas.

Na realidade, precisamos abrir as portas das gaiolas epistemológicas em que, como humanidade, nos metemos nos últimos séculos e fugir de um paradigma tradicional que tenha compromisso apenas com o passado, com as coisas que não podem ser esquecidas. Precisamos fugir de propostas educacionais que enfatizam o conformismo, a subserviência e a passividade, que não percebem o lado construtivo e criativo do erro e a capacidade do aprendiz de ser autor de sua própria história e gestor de sua própria vida. (Moraes, 2010, p.54).

A sociedade atual necessita de uma profunda mudança na visão do pensamento e do conhecimento humano, uma mudança de paradigma que ajude a “compreender o ser, a existência e a vida” (Moraes, 2010). Um conhecimento que segundo Boaventura dos Santos (2003), seja prudente, que auxilie na compreensão da dinâmica da vida, da interdependência entre sociedade, indivíduo e natureza, que possibilite no mesmo espaço, o diálogo, um saber articulado, integrando realidade e razão contribuindo na explicação dos fenômenos complexos, para uma vida mais decente.

Observa-se que, durante os últimos séculos, foi formulado e implantado um modo de educar que privilegia o aspecto racional do homem, o que tem servido de base para a formulação da metodologia de ensino intitulada Didática Tradicional. No entanto, Santos, A. (2003) adverte que, hoje, há indícios suficientes para permitir outra interpretação do homem, uma vez que, sendo o sujeito em si uma complexidade, este não se reduz a uma única dimensão, nem tão pouco seu estudo a uma só disciplina. Dessa forma, o panorama que se apresenta é o homem visto como um paradoxo: ser uno e múltiplo ao mesmo tempo, e em permanente crise.

Acreditamos que tal cenário esteja relacionado ao paradigma da ciência moderna que, com seu conceito de racionalidade técnica, influenciou os currículos dos cursos de graduação em que a maioria dos professores foram formados, de maneira que as disciplinas, de modo geral, “tendem a ser pensadas de forma reificada, com conteúdos estanques, sem interconexão tanto entre si, quanto em relação ao mundo concreto e à experiência vivida” (Magalhães, 2009, p. 107), chegando, por exemplo, ao ponto de cada disciplina estar subdividida em várias outras, formando uma infinidade de campos especializados mais ou menos aproximados, o que impede a concretização de uma prática de ensino e pesquisa capaz de permitir que formandos de diversas licenciaturas trabalhem conjuntamente, numa perspectiva global.

Desse modo, entendemos que a busca pela qualidade do ensino voltado para a construção da cidadania, para uma educação firmada no aprender a conhecer, aprender a fazer, aprender a conviver e aprender a ser (Delors, 1998) e para as novas necessidades do conhecimento, exige, repensar a formação inicial e continuada de professores. Perrenoud (2000) adverte que na implantação de qualquer proposta pedagógica que tenha implicações em novas posturas frente

ao conhecimento, conduzindo a uma renovação das práticas no processo ensino-aprendizagem, a formação docente assume um espaço de grande importância. Essa preocupação é relevante tendo em vista o atual contexto de reformas educacionais que visam dar respostas à complexa sociedade contemporânea, atrelada à necessidade de uma reforma do pensamento e da educação, procurando integrar e religar as diversas disciplinas.

Como se vê, o panorama que se desenha impõe um grande desafio ao professor, qual seja, o de superar os conceitos tradicionais e transgredir a estrutura disciplinar do sistema, buscar conhecimentos a partir de diferentes óticas, entender e falar diversas linguagens. Este é incitado a inovar, despertar curiosidades, estimular a criatividade do aprendiz, enfim, a mergulhar em um novo paradigma educacional (Moraes, 2010). A nosso ver, aí se estabelece o impasse: como atender a essas demandas se ele mesmo foi formado/educado dentro dos limites de um paradigma cartesiano e tradicional? E ainda, como interroga Magalhães (2009, p. 108): “Como pensar uma formação capaz de superar o ensino que reduz o real apenas ao nível da realidade material e que reduz o ser humano ao indivíduo racional, egocêntrico ou econômico?” .

Neste artigo, partimos do pressuposto de que a adoção de atitudes inter e transdisciplinares na formação docente, empregadas com o intento de resgatar valores essenciais do ser humano, como a individualidade e a experiência de vida, entre outros, seja o caminho capaz de conduzir a uma educação que valorize e respeite “os saberes, a cultura, os conhecimentos, a subjetividade, a afetividade, a emoção, o nível de elaboração de cada sujeito envolvido no processo educativo” (Suanno, 2012, p. 2).

Assim, considerando analisar a formação docente por meio do modelo da racionalidade técnica, convidamos o leitor a refletir também acerca do contexto em que surgem as políticas de formação de professores para, em seguida, desvelar os conceitos da teoria da complexidade, interdisciplinaridade, transdisciplinaridade relacionando-os ao processo de ensino-aprendizagem. Em seguida, tentaremos demonstrar a importância de atitudes pautadas na inter e transdisciplinaridade como forma de superar a tendência unidimensional conferida pelo paradigma cartesiano ao processo formativo.

## 2. AS POLÍTICAS DE FORMAÇÃO: BREVES APONTAMENTOS

A centralidade da formação docente, tanto em relação ao discurso quanto ao surgimento das políticas, vai ocupando cada vez mais destaque no cenário internacional e nacional na perspectiva de uma reedição da Teoria do Capital Humano<sup>14</sup>. Essa crença levou as agências multilaterais a prescreverem no seu receituário neoliberal a escolarização como alternativa para o desenvolvimento, o que aumentou sobremaneira a busca por educação e, em consequência, a pressão cada vez mais frequente pela abertura de vagas na educação superior que, no Brasil, apresenta grave déficit histórico.

Shiroma, Moraes e Evangelista (2000) apontam que as reuniões promovidas pelos organismos internacionais, além de reconhecerem o fracasso na oferta de educação básica de qualidade para todos, colocam a educação no foco das atenções mundiais.

Quanto à ênfase que os organismos internacionais têm dado à educação básica para os países periféricos, destacam-se vários eventos que ratificam essa preocupação. Como exemplo, podemos citar a realização, em 1979, na cidade do México, do Projeto Principal de Educação (PPE) para a América Latina, promovido pela Comissão Econômica para a América Latina (CEPAL), tendo o objetivo de delinear uma política educacional contínua com impactos nas políticas educacionais (Cabral Neto e Castro, 2005). A esse respeito, o relatório produzido pelo Banco Mundial em 1995, intitulado *Prioridades y Estrategias para la Educación*, diz que a educação básica deveria ser fortalecida, inclusive na perspectiva da formação docente em serviço. O documento afirma que a educação deverá ser considerada dentro de um paradigma produtivo.

No que tange às configurações da legislação nacional e em decorrência dos compromissos que o governo brasileiro assumiu na Carta de Jomtien<sup>15</sup>, passaram a ser programadas políticas para a educação em todos os aspectos, como na aprovação da Lei de Diretrizes e Bases da Educação Nacional – LDBEN nº. 9.394/96 que previa inicialmente, em seu Artigo 87 das Disposições transitórias, que todos os professores deveriam ter formação em nível superior em apenas dez anos, o que foi chamado de Década da Educação.

Com tais prerrogativas, a formação docente no Brasil foi colocada em pauta com grande centralidade. Para alcançar esse fim, os governos, um após outro, têm implementado políticas voltadas para a formação em serviço. Desse modo,

<sup>14</sup> A Teoria do Capital Humano proposta por Schultz é, em sua essência, uma teoria econômica que exerceu grande influência, a princípio, no período desenvolvimentista. Defende que a educação é um bem econômico a ser consumido, admitindo-se uma relação direta do grau de conhecimento com o grau de desenvolvimento de cada país. Nesse sentido, a formação docente ganha centralidade na medida em que “[...] a escola se reduz à formação dos ‘recursos humanos’ para a estrutura da produção” (Bianchetti, 2001; Oliveira, 2000; Arapiraca, 1982). Em razão disso, é correto afirmar que as orientações de cunho neoliberal determinam um redirecionamento educacional amplo em todos os níveis educacionais balizados nessa teoria.

<sup>15</sup> Essa Carta é resultado da Conferência de Jomtien, que ocorreu na Tailândia, em março de 1990, convocada pelos seguintes organismos internacionais: UNESCO, UNICEF, PNUD e pelo Banco Mundial. De acordo com Oliveira (2000, p.105), essa “Conferência pode ser considerada como o maior marco na formulação de políticas governamentais tomando-se como referência a última década do século passado”.



destacamos a seguir alguns documentos que fundamentam essa política, os quais, a nosso ver, ajudarão o leitor a entender esta formação voltada para uma racionalidade técnica.

A Resolução do Conselho Nacional de Educação – CNE/CP Nº 2, de 26 de junho de 1997 que *Dispõe sobre os programas especiais de formação pedagógica de docentes para as disciplinas do currículo do ensino fundamental, do ensino médio e da educação profissional em nível médio* aponta a necessidade de formação, em nível superior, em cursos regulares de licenciatura e em programas especiais de formação pedagógica a quem já possua diploma de nível superior. Notamos, com base nesse documento, a necessidade de regulamentação desse grupo de professores a fim de suprir um déficit histórico imenso existente no Brasil.

Outro documento que merece destaque é a aprovação do Parecer CNE – CP Nº 9, de 08 de maio de 2001, que estabelece as Diretrizes Curriculares Nacionais para a Formação de Professores da Educação Básica, em nível superior, curso de licenciatura, de graduação plena. Na página 29 desse documento encontra-se a seguinte afirmação: é “preciso fazer uma formação de profissional de alto nível”. Para tanto, tornava-se necessário que o professor em formação realizasse ações, tais como: adquirir ou desenvolver competências e compromissos relacionados com os valores inspiradores da sociedade democrática, compreender o papel social da escola, ter domínio do conhecimento pedagógico e dos conteúdos a serem socializados, adquirir competências referentes ao conhecimento de processos de investigação que possibilitem o aperfeiçoamento da prática pedagógica, bem como competência em relação ao gerenciamento do próprio desenvolvimento profissional.

Já o Parecer CNE-CP Nº 5, de 04 de abril de 2006 (p. 3) na perspectiva da flexibilização possibilitada pela LDB 9394/96, tendo em vista a possibilidade de resolução do enorme déficit histórico na área, assim afirma: “[...] Programas Especiais de Formação Pedagógica de Docentes poderão ser ministrados, independentemente de qualquer autorização prévia, por qualquer instituição de educação superior que mantenha no mínimo um curso de licenciatura já reconhecido no mesmo campo de conhecimento [...]”.

Salientamos que a ênfase dada ao termo “mínimo” associado ao algarismo “um” de maneira aparentemente redundante, como se fosse possível a existência de algo menor que “um” para se tornar “mínimo” nesse universo numérico em que vivemos. O entendimento é de que essa linguagem expressa realmente a situação emergencial pela qual passava (e ainda passa) a formação docente no Brasil, na medida em que os aspectos quantitativos se sobrepõem aos qualitativos de maneira evidente nos textos oficiais em tom apelativo como o exposto anteriormente.

Acreditamos, igualmente, que essa escolha evidente pelo elemento quantitativo relacionado à formação docente é corroborada pela realidade. Assim, traçando um paralelo de dados, constatamos que, tratando-se especificamente da função docente por grau de formação no ensino fundamental de 1ª a 4ª série em 1996, no Estado do Tocantins, “A formação em nível superior, em licenciatura, era insignificante, apresentando apenas 1,7%” (Pinho, 2004, p. 76).

Dessa forma, *O Diário online* (Diário do Grande ABC) registra que, de acordo com estudos da ONU presentes no Relatório Educação para Todos/2006, o Brasil é, “[...] na América Latina, um dos países com menor grau de formação de professores”. Avaliamos que essa constatação salientou o prognóstico de que antes precisaríamos de “mais de 396 mil professores até 2015 para manter o atendimento nas escolas de ensino básico”. O mesmo relatório sinalizou ainda que 92% dos professores brasileiros da primeira fase do ensino fundamental fizeram apenas o magistério médio. Isso coloca o Brasil, na América Latina, na mesma situação de países como a Nicarágua e o Panamá e, no mundo, esse índice nos equipara a países como a Indonésia e o Egito. Já no Chile, por exemplo, são 92% de professores formados em nível superior que atuam na primeira fase do ensino fundamental. No que diz respeito à taxa de reprovação, o documento indica um percentual de 21%. Esse resultado equipara o Brasil, quando comparado com o restante do mundo, a países como a Eritreia e Moçambique, perdendo inclusive, para Ruanda e Lesoto, segundo o relatório.

Nesse cenário de carência e emergência historicamente acumuladas, o governo federal lançou o Plano de Desenvolvimento da Educação (PDE), em abril de 2007, e sua articulação com o Decreto Nº 6094, de 24 de abril de 2007, que *Dispõe sobre a implementação do Plano de Metas e Compromissos Todos pela Educação, pela União Federal, em regime de colaboração com Municípios, Distrito Federal e Estados, e a participação das famílias e da comunidade, mediante programas e ações de assistência técnica e financeira, visando à mobilização social pela melhoria da qualidade da educação básica*.

Cabe sublinhar que, entre as XXVIII metas estabelecidas pelo documento, distingue-se a diretriz de nº XII que estabelece a garantia de “[...] programa próprio ou em regime de colaboração federativa para formação inicial e continuada de profissionais da educação”.

Pontuamos aqui que a inserção de uma agência bastante conceituada em nível nacional como a Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) confere grau maior de compromisso e seriedade à política ora discutida, inclusive associando a formação com a “[...] indissociabilidade entre ensino, pesquisa e extensão”. Nesses termos, a ênfase se acentua na medida em que essa política se vincula principalmente a universidades ou “[...] instituições públicas de educação superior (Art. 3º, III), “[...] preferencialmente na modalidade presencial.” (Art. 3º, VI). Afasta-se, pois, de alguns aspectos de muita flexibilidade na formação, defendidos inicialmente pela LDB 9394/96 e reforçados em alguns documentos anteriores que possibilitavam a formação inicial docente em instituições centradas apenas no ensino relegando a plano secundário a pesquisa e a extensão, o que, certamente, reflete diretamente na qualidade da formação oferecida.

Para o cumprimento dos objetivos elencados, o Decreto Nº 6094/2007 prevê “[...] a criação de Fóruns Estaduais Permanentes de Apoio à Formação Docente [...] em regime de colaboração” (Art. 4º, § 1º), tendo assento garantido nesses eventos vários segmentos vinculados a entidades educacionais oficiais e de representação e classe. Esses Fóruns têm como um de seus objetivos principais acompanhar a execução do plano estratégico e promover sua revisão periódica (Art. 4º, VIII, § 6º).

Como desdobramento dessa política, a Resolução CNE-CP Nº 1, de 11 de fevereiro de 2009, “*Estabelece Diretrizes Operacionais para a implementação do Programa Emergencial de Segunda Licenciatura para Professores em exercício na Educação Básica Pública a ser coordenado pelo MEC em regime de colaboração com os sistemas de ensino e realizado por instituições públicas de Educação Superior*”.

O documento supracitado acentua que essa formação se caracteriza por uma emergência, sendo destinada a professores em exercício da educação básica pública há pelo menos três anos em área distinta da sua formação inicial. A formação seria coordenada pelo Ministério da Educação (MEC) em regime de colaboração com os sistemas de ensino e realizada por instituições públicas de educação superior articulando formação pedagógica e formação específica dos conteúdos da área.

Como desdobramento dessas ações, surge a Portaria Normativa Nº 9, de 30 de junho de 2009, que *institui o Plano Nacional de Formação dos Professores da Educação Básica no âmbito do Ministério da Educação*. Esse Plano determinou, inclusive, o fomento em geral para a efetivação dessa política, além de apoio técnico: “As despesas decorrentes da implantação das ações e programas estarão consignadas nas dotações orçamentárias anuais de Ministério da Educação, da CAPES e o Fundo Nacional de Desenvolvimento da Educação – FNDE” (Art.5º).

Todas estas leis e resoluções contribuem para nossa reflexão quando questionamos: Como pode o professor atender a essas demandas se ele mesmo foi formado/educado dentro dos limites de um paradigma cartesiano e tradicional?

### 3. A EDUCAÇÃO NA ERA DA COMPLEXIDADE

É sabido que a ciência moderna possibilitou grandes avanços na história das civilizações, como a democratização do conhecimento, o surgimento de técnicas extremamente eficazes para a construção de novos conhecimentos e pela presença de um espírito científico de investigação aberta (Moraes, 2010). Contudo, seu caráter reducionista representou certo perigo ao valorizar em demasia aspectos externos das experiências, em detrimento das vivências internas do indivíduo. Desse modo, tornou-se premente a necessidade de se romper com a perspectiva da educação moderna, uma vez que esta “coisifica o conhecimento em objeto descartável, mercantilizável, separado do sujeito, fora do sujeito que o apropria com o intuito de aprovar a disciplina para depois o esquecer”. (Santos, A. 2003, p. 37).

Moraes (2010) ressalta que as implicações da teoria da relatividade<sup>16</sup> e dos novos fatos ocorridos na física quântica, na filosofia da ciência permitiram realizar uma nova leitura do mundo e encontrar uma forma diferenciada de nos colocarmos diante da vida. Segundo a autora, a partir de um tipo de pensamento que percebe as coisas em sua totalidade, que compreende o mundo de forma mais ampla e complexa, incluindo as noções gerais sobre a natureza auto-organizadora da matéria, passa-se a buscar, também, uma nova maneira de pensar a questão educacional, ou seja, um novo paradigma para a educação que tenha “como referência uma visão de totalidade, ou uma nova ordem global para a própria mente humana”. (Moraes, 2010, p. 69).

Ao considerar o homem como ser complexo, a visão sistêmica foge da fragmentação do conhecimento para prestigiar a visão do todo. Há nesse caso um estímulo ao diálogo, às parcerias e à participação crítica e reflexiva de educandos e educadores, ao contrário da visão cartesiana, em que o ato educativo é um ato de transferir conhecimentos.

Assim, “o novo pensar propõe superar as teorias burocráticas e tecnicistas do conhecimento que separam o cognitivo do afetivo e do político, promovendo uma visão do humano comprometida, cindida e dicotomizada.” (Magalhães, 2009, p. 109). Um pensar que busca o integrar e interligar saberes que complementam a ação educativa.

Tentar romper com a perspectiva reducionista da ciência moderna significa romper com as usuais disjunções sujeito-objeto, sujeito social-sujeito epistêmico, razão-emoção. Implica compreender que “o objeto é a continuação do sujeito por outros meios”, que “todo conhecimento é auto-conhecimento” (Santos, 1995, p. 52).

Vemos, portanto, que o mesmo paradigma tradicional que temos criticado nas duas últimas décadas continua presente nos processos de formação docente em que predominam os esquemas decisórios verticais, a alienação, o conformismo, o individualismo. São ações recursivas, onde a formação do docente formador impera na sua atual função de formação de novos docentes.

As ideias de Moraes e Valente (2008, p. 210) enfatizam uma formação docente com base no paradigma da produção do conhecimento, sob a luz do pensamento complexo como possibilidade de superar a visão dicotômica e dualista de ensino e aprendizagem que separa o processo do produto, a dimensão cognitiva da afetiva e a teoria da prática. Esses

<sup>16</sup> Segundo a teoria da relatividade, “a matéria é transmutável, o que certamente implica a impossibilidade de distinção entre o que é orgânico e o que é inorgânico, animado e inanimado, existindo apenas um tipo de matéria em diferentes condições estacionárias”. (Moraes, 2010, p. 64).

elementos tomados de maneira não-dicotômica são imprescindíveis à reconstrução do conhecimento, assim como são igualmente importantes as transformações acontecidas no interior dos sujeitos.

Destacamos ainda que, para o pensamento complexo, a formação docente tem como objetivo essencial a evolução da consciência do sujeito docente. Este comporta, segundo Morin (2005), um caminhar para uma concepção mais enriquecida e transformada de ciência (que evolui, como todas as coisas vivas e humanas). Para tanto, faz-se indispensável desintegrar falsas certezas e pseudo-respostas, esquecer que a descoberta de um limite ou de uma carência em nossa consciência já constitui progresso fundamental e salutar para essa consciência. Isso implica dizer que a formação docente necessita mobilizar todos os estruturantes do pensamento e da ação, o que requer a transformação do sujeito e de seu modo de pensar. Requer, inclusive, modificação de suas atitudes e, ao mesmo tempo, foco no objeto da formação, considerando-o como um olhar que aponta os aspectos da profissionalização e da prática docente, que precisam ser modificados, além de outras ações com esse fim, que necessitam ser desenvolvidas na instituição.

Nesse contexto, acreditamos que as práticas inter e transdisciplinares na formação docente possam assumir papel significativo no sentido de ajudar a modificar e a transformar os rumos da docência. A difusão e as proposições inter e transdisciplinares se contrapõem à posição de centralidade e domínio do conteúdo, à dicotomia entre teoria e prática, enfim, suas posições metodológicas e, inconscientemente, praticam um exercício descontextualizado, como tem sido caracterizado o trabalho docente.

Sem dúvida, um princípio capaz de unir o pensamento e a ação requer que a formação docente seja tratada por meio de um processo de formação integral, conforme apontam Torre e Barrios (2002) e Moraes e Torre (2004). Esses autores recomendam um modelo de ensino integrador em suas propostas, adaptado aos diferentes contextos, e polivalente em suas estratégias e sistemáticas de avaliação. O pressuposto da formação integral é a mudança

[...] como organizadora conceitual da realidade e princípio de construção do conhecimento; a consciência como construto que faz presente o que estava ausente, visível o invisível, possível o imaginário, a confrontação ou tensão inferencial que está na origem de toda mudança; a complexidade como qualidade inerente à ação, ao pensamento e sentimento humanos; a comunicação como veículo de expressão e realização. (Torre e Barrios, 2002, p. 77).

Nessa construção teórica, a complexidade nos ajuda a perceber que a mudança é um dos pressupostos fundamentais a toda formação, componente essencial ao processo transformador que se encontra presente na construção do conhecimento e na aprendizagem. Os pressupostos ontológicos, epistemológicos e metodológicos desse paradigma não permitem separar o ser da realidade, a subjetividade da objetividade, o educador do educando, o sujeito da cultura. Sob esse olhar, a realidade educacional não é feita de racionalidade técnica e fragmentada, mas de processos que consideram o todo e também as partes, o conhecimento intuitivo, o emocional, o imaginativo e o sensível.

Devemos enfatizar também que a formação docente, a profissionalização e a prática educativa, com base na perspectiva da complexidade, tornam-se um desafio estimulante. Essa base conceitual reconhece a existência de outros tipos de conhecimento e realidades que visam a contribuir para a evolução da consciência como condição fundamental para atender os desafios e a reforma do pensamento na universidade, conforme esclarece Edgar Morin (2005), ao propor que a teoria da complexidade seja entendida como uma tessitura comum que coloca como inseparavelmente associados o indivíduo e o meio, o sujeito e o objeto, a ordem e a desordem, o professor e o aluno e os demais tecidos que regem os acontecimentos, as ações e as tramas da vida. Para o autor, “complexo é aquilo que é tecido em conjunto”. Esse enfoque traz consigo a visão de que o conhecimento é construído a partir de intercâmbios nutritivos entre sujeitos e objeto, mediante diálogos, interações, transformações e enriquecimentos mútuos, em que nada é linear ou preestabelecido, mas, sim, relacional, indeterminado, espontâneo, criativo e novo.

Moraes (2010) nota que um dos pressupostos da complexidade refere-se à ideia de interconectividade em rede, o que implica compreender que nesta visão de mundo não há separatividade, inércia ou passividade; ela nos leva a compreender o mundo físico como uma rede de relações e não mais como uma entidade fragmentada.

Sendo o pensamento complexo animado por uma tensão permanente entre a aspiração a um saber não fragmentado, não compartimentado, não redutor, e o reconhecimento do inacabamento e da incompletude de todo conhecimento.

#### 4. TRANSITANDO PARA ALÉM DAS DISCIPLINAS

Desde o Renascimento, o método cartesiano da redução e da casualidade linear simples tem definido o ensino e a aprendizagem, promovendo a sobreposição do saber supostamente teórico à prática, em um corte que torna separados homem e objeto (Galvani, 2011). No século XX, conforme observam Suanno (2011), cientistas, epistemologistas e educadores, diante dos limites da perspectiva disciplinar, propuseram a ruptura com o conhecimento fragmentado, a partir do entrelaçamento entre as disciplinas: a postura interdisciplinar. A interdisciplinaridade, esclarece Fazenda

(2006, p. 43), “[...] leva todo especialista a reconhecer os limites de seu saber para acolher as contribuições de outras disciplinas”. Ainda naquele século XX, complementam Suanno *et al.* (2011), no I Seminário Internacional sobre a Pluri<sup>17</sup> e a Interdisciplinaridade, na Universidade de Nice (França), Jean Piaget propôs outro enfoque ao diálogo entre as disciplinas: a perspectiva transdisciplinar.

Nas palavras de Nicolescu (1999),

a transdisciplinaridade como o prefixo ‘trans’ indica, diz respeito àquilo que está ao mesmo tempo entre as disciplinas, *através* das diferentes disciplinas e *além* de qualquer disciplina. Seu objetivo é a compreensão do mundo presente, para o qual um dos imperativos é a unidade do pensamento. (p. 53, grifos do autor).

O autor acrescenta que as palavras três e trans têm a mesma raiz etimológica: ‘três’ significa ‘a transgressão do dois, o que vai além do dois’. A transdisciplinaridade, nesse sentido, constitui-se transgressão à dualidade que caracteriza pares binários como sujeito/objeto, subjetividade/objetividade e reducionismo/holismo. Trata-se de uma transgressão generalizada, conclui, que abrange um espaço ilimitado de liberdade, de conhecimento, de tolerância e de amor.

Na educação, a abordagem transdisciplinar possibilita aos sujeitos implicados na dinâmica da relação educativa enxergarem além do antagonismo da visão disciplinar, caracterizado pelas conjunções *ou/ou*, de forma a perceber o visível no invisível, (Suanno *et al.* 2011). Entre o *que é* e o *que não é*, portanto, haveria um caminho do meio, que, construído sobre um processo dialógico, conduziria as possibilidades outras de construção do saber, esclarecem os autores. Segundo Nicolescu (1999, p. 38), um terceiro termo, “[...] é uma lógica da complexidade e até mesmo, talvez, *sua* lógica privilegiada, na medida em que permite atravessar, de maneira coerente, os diferentes campos do conhecimento”.

O essencial da educação transdisciplinar, nesse sentido, nos ensina D’Ambrosio (2011), manifesta-se pelo restabelecimento do homem e do conhecimento, sensorial+emocional+intuitivo+racional, forma integrada na totalidade mente+corpo+cosmos.

Em pesquisa realizada no início da década de 70 do século passado, Fazenda (2006, p. 48) constatou que o termo interdisciplinaridade não possuía ainda um sentido único e estável e que, apesar da quantidade de distinções terminológicas, prevalecia o princípio da “intensidade da troca entre os especialistas e a integração das disciplinas num mesmo projeto de pesquisa”. Para Japiassu,

a interdisciplinaridade precisa ser entendida muito mais como uma *atitude* devendo resultar, não de uma pura operação de *síntese* (sempre precária e parcial), mas de um trabalho perseverante de sínteses imaginativas bastante corajosas, sem ter a ilusão de que basta a simples colocação em contato dos cientistas de disciplinas diferentes para se criar a interdisciplinaridade. (Japiassu, 2006, p. 27).

Diante destas considerações, é necessário concordar com Moraes (2010) e compreender que à luz de um novo paradigma, uma nova postura de planejamento em educação terá de envolver, necessariamente, uma percepção global da realidade a ser transformada, o que, segundo a autora, “embora tenha estado presente nos discursos de planejamento e tecnocratas governamentais, na realidade, está longe da prática metodológica que acaba reduzindo os enfoques aos aspectos setoriais ou parciais dos problemas.” (Moraes, 2010, p. 86).

Isto nos leva a pensar que uma educação autêntica, deve, antes, ensinar a contextualizar, concretizar e globalizar; o que tem se mostrado como uma das principais contribuições de uma educação inter e transdisciplinar, que reavalia o papel da intuição, da imaginação, da sensibilidade e do corpo na transmissão dos conhecimentos. Esses pressupostos propõem que a educação deva incidir “[...] no sujeito, nas relações entre os homens, nas trocas entre saberes e na produção de aprendizagens que sejam inspiradoras de uma comunidade colaborativa e solidária.” (Magalhães, 2009, p. 115).

Assim reforça Sousa (2015, p.119) que *a mudança de paradigma em educação deve primar pelo equilíbrio, pelo implementar uma educação para resiliência, pois a instituição educativa é feita com pessoas e para as pessoas.*

Mediante estas considerações, parece-nos uma condição indispensável pensar, propor e praticar uma nova forma de educar para a complexidade do mundo, “como uma força motriz para a reconstrução do sujeito social ativo, capaz de indicar novos caminhos no tecer contínuo do conhecimento” (Magalhães, 2011, p. 177), exercitando os princípios gerais orientadores dessa nova prática educacional, baseada nos pressupostos da complexidade.

<sup>17</sup> Conforme Nicolescu, “a pluridisciplinaridade diz respeito ao estudo de um objeto de uma mesma e única disciplina por várias disciplinas ao mesmo tempo” (Nicolescu, 1999, p. 52).

## 5. UMA TERCEIRA VIA: DA INTER À TRANSDISCIPLINARIDADE NA FORMAÇÃO DOCENTE

Diversos estudos têm apontado que práticas de ensino baseadas em longas explicações, definições exaustivas, conceitos e fórmulas, não levam em consideração a carência, condições de aprendizagem e expectativas dos alunos. É nesse sentido que Freire (1996, p. 12) adverte que “ensinar não é transferir conhecimentos, conteúdos, nem formar é ação pela qual um sujeito criador dá forma, estilo ou alma a um corpo indeciso e acomodado”. Sendo assim, docência e discência se explicam e seus sujeitos, apesar das diferenças que os conotam, não se reduzem à condição de objeto um do outro. A partir dessa nova visão, o futuro do conhecimento e, portanto, da humanidade, relaciona-se intimamente com a prática de abordagens reintegradoras da ciência.

Nesse contexto, pensamos ser plausível uma reflexão sobre a formação docente “que é chamado a ‘caminhar com’ o educando, porém sem tirá-lo de sua própria trilha, ou seja, sem anulá-lo em seu momento educativo<sup>18</sup>.” (Damas, 2009, p. 26). Para Nóvoa (1992), a formação de professores se dá a partir de uma determinada visão docente, que: “não se constrói por acumulação (de cursos, de conhecimentos ou de técnicas), mas sim através de um trabalho de reflexividade crítica sobre as práticas e de (re) construção permanente de uma identidade pessoal [...] investir na pessoa é dar um estatuto ao saber da experiência” (Nóvoa, 1992, p.25).

Desse modo, o exercício da atitude transdisciplinar frente à formação de professores, aqui entendida como uma postura sensível, intelectual e transcendental do educador, perante si mesmo e perante o mundo, parece ser a via que pode propiciar o estímulo à reflexão sobre sua prática. A formação inicial e continuada, passa a ser centrada nos contextos em que o professor irá atuar, e, mais especificamente, nos projetos das escolas, no trabalho reflexivo de repensar a prática, no trabalho coletivo e nas trocas de experiências.

Esse cuidado em relação à formação do professor justifica-se, especialmente, pela necessidade de que sua prática pedagógica esteja “pautada no desenvolvimento da compreensão e da condição humana, na cidadania planetária e na ética do gênero humano” (Unesco, 2010), e que seja capaz de colaborar para que os indivíduos possam enfrentar as múltiplas crises sociais, econômicas, políticas e ambientais que colocam em risco a sobrevivência humana e a preservação da vida no planeta.

Para Sommerman (2003), a formação disciplinar, hegemônica desde o século XIX, ocasionou uma fragmentação do olhar, da reflexão e da ação dos sujeitos, levando a separações cada vez maiores em todos os campos do saber. Assim, uma formação transdisciplinar complementar à disciplinar aparece como componente eficaz para ajudar a restaurar muitas das pontes que foram derrubadas e a construir novas pontes aptas a enfrentar os grandes desafios da sociedade atual.

Magalhães (2009) acredita que, ao se instituir estruturas e programas transdisciplinares nas várias áreas de formação de professores, se tornarão favorável o diálogo entre as diversas formas de conhecimento. Para a autora, o entendimento transdisciplinar do ser humano e sua educação implica superar desafios paradigmáticos impostos, tanto no âmbito formação de professores, como na academia. Isto se faz necessário, sobretudo, porque grande parte desses sujeitos foram formados tendo por base os fundamentos da ciência clássica, em um contexto de ciência reducionista e de especialização. Para a autora,

A transdisciplinaridade promove uma educação *in vivo*<sup>19</sup> que, apoiada numa atitude transdisciplinar, tende a inaugurar uma nova estética de trabalho no processo de formação de professores. Pode promover um estado de constante (trans)formação dos sujeitos envolvidos no processo ensino-aprendizagem.” (Magalhães, 2011, p. 179)

O pensar transdisciplinar na formação de professores, requer considerar que o professor, como um profissional de aprendizagem, ao organizar situações e atividades de aprendizagem, utiliza, além de conhecimentos diversos, sua percepção, suas experiências de vida, conhecimentos e crenças, trazendo com ele sua maneira de ver o mundo, sua cultura e seus saberes, de modo que, as práticas voltadas para a sua formação devem permitir que eles reflitam e produzam tanto os seus saberes como os seus valores, em um processo participativo de reflexão coletiva.

Pensamos serem estes alguns dos requisitos necessários ao desenvolvimento de ações animadas por um ‘pensamento transdisciplinar’ na formação docente. Um pensamento contrário à simplificação, à quantificação, à objetividade excessiva e ao reducionismo; que busca compreender o ser em suas dimensões cognitivas, afetivas e sociais; pautado pela apreensão do sujeito em sua inteireza; e que, portanto, se opõe aos binarismos que tentam desintegrar corpo/mente, sujeito/objeto, matéria/espírito; que prima por investigações capazes de estabelecer redes de sentido e que considera as diferentes significações da dimensão profissional e pessoal do sujeito-professor.

Magalhães (2011) ressalta a necessidade de se consolidar a transdisciplinaridade como ramo epistêmico capaz de ressignificar o conhecimento, o ser, o conviver; e o aprender a aprender no campo da formação de professores. Ao sustentar o movimento que permite a re(ligação) do sujeito a si mesmo e ao outro, “num esforço que envolve

<sup>18</sup> É o momento em que o educador se encontra consigo mesmo e com a realidade na condição de fazer perguntas e de procurar respostas, tanto para sua vida quanto para a realidade ao seu redor. (Damas, 2009).

<sup>19</sup> Segundo Magalhães (2011), essa proposta foi apresentada por Nicolescu Basarab no Congresso Internacional – Que Universidade para o Amanhã? Em busca de uma evolução transdisciplinar para a universidade, em Locarno, na Suíça, em 1997.

mudança de atitude, perseverança, escuta sensível, presença amorosa e motivadora, além de sustentar a condição de espera afetiva e atenta da produção de conhecimento pelo outro, sem, entretanto, abrir mão da condição de análise crítica e reflexiva” (Magalhães, 2011 p. 193), este desafio, entende a autora, pode permitir que o processo de formação transforme-se em (trans)formação.

## 6. CONCLUINDO

Acreditamos que as reflexões ora apresentadas tenham fornecido elementos importantes para a percepção de que o mundo passa por um momento de profundas transformações. Um momento de crise paradigmática, que vem afetar todas as nossas relações com a vida, incidindo diretamente no modo de educar não apenas no contexto formativo brasileiro, mas vai além, inferindo no cenário educativo global. Num momento em que a hiper especialização dos saberes promoveu a fragmentação da ciência, conduzindo a um conhecimento incapaz de gerar uma visão global da realidade, surge um movimento em prol da reunificação dos saberes. Um novo paradigma que prima pela valorização do ser humano, de sua vivência pessoal; baseado em categorias como acaso, ambiguidade, incerteza, complexidade e totalidade.

Enquanto princípio que determina que o pensamento vá além dos aspectos cognitivos baseados no desenvolvimento de competências e habilidades, a inter e transdisciplinaridade, aplicada à educação, nos ajuda a perceber que já não é mais possível continuar trabalhando com propostas didáticas apoiadas em um pensamento determinista e reducionista, em uma metodologia que fragmenta o conhecimento e, conseqüentemente, a vida. Isto requer por parte dos educadores abertura epistemológica a fim de melhor entender como a realidade se manifesta e como se realizam os processos de construção da aprendizagem, para que o processo possa verdadeiramente repercutir na subjetividade humana.

A inter/transdisciplinaridade, sustentada pela complexidade, exige de cada professor a criação de ambientes e contextos de aprendizagem mais dinâmicos e solidários, nos quais prevaleça a parceria, a ética, a generosidade e o diálogo na busca constante de soluções aos conflitos emergentes, bem como o respeito à diversidade cultural e o reconhecimento da existência de diferentes modos e tempos de aprendizagem. Ela requer o desenvolvimento de práticas educativas que ampliem a capacidade de reflexão dos aprendizes, que desenvolvam o autoconhecimento, a capacidade de religação, bem como facilitem processos de construção de conhecimento voltados para o desenvolvimento humano.

Desse modo, os conteúdos desenvolvidos nos programas de formação e/ou qualificação docente precisam estar em consonância com estas demandas, de forma a propiciar a aquisição de resultados mais satisfatórios para a educação, bem como, permitir a realização pessoal, profissional e social desses indivíduos. Isso implica concordar com Prata-Linhares (2011, p. 117), quando esta destaca a necessidade de se entender o currículo dos cursos de formação inicial e a metodologia dos cursos de formação continuada como um “modelo dinâmico” em que se relacionam diferentes aspectos e não apenas um “sistema fechado” em si mesmo.

Diante do exposto, ressaltamos que ao mesmo tempo em que pode ser legítimo considerar o professor como principal agente de mudança da realidade escolar, há que se admitir que ele só poderá assumir essa responsabilidade se mudanças significativas em relação à melhoria do seu trabalho forem efetivadas. Além do que, como lembra Osório (2011, p. 125), “não será por força de normas legais ou cursos de formação continuada que o professor terá condições de enfrentar e dar respostas positivas a todas as questões que lhe são impostas”, uma vez que este se constitui como docente no transcorrer de sua existência, estando, portanto, em um permanente processo de (des)construção de si mesmo como pessoa.

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# A INTERDISCIPLINARIDADE NA FORMAÇÃO DO PROFESSOR

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## RESUMO

A interdisciplinaridade surgiu nos anos 70 do século XX, com Piaget, que, a partir da teoria da vida como sistema, no campo da Biologia, colocou no cerne das discussões educacionais uma questão fundamental, que é a importância da abordagem holística da realidade. A mesma nasce da hipótese de que, por seu intermédio, é possível superar os problemas decorrentes da excessiva especialização, contribuindo para vincular o conhecimento à prática. Pensar a formação do professor como uma prática complexa implica admitir que ela tenha uma dimensão de totalidade, compõe-se de múltiplos saberes, que, para serem compreendidos em suas relações, exigem uma preparação especial, bem como condições particulares para seu exercício. Neste caso, o desenvolvimento das competências necessárias à sua formação requerem a conjunção de diferentes saberes: saberes da experiência, saberes da prática e saberes teóricos interagindo dinamicamente sem nenhuma linearidade ou hierarquização que subjugue esses profissionais. As consequências dessa perspectiva supõem mudanças pedagógicas e didáticas. Implica considerar que a prática docente em um contexto de compreensão compartilhado, enriquecido com as contribuições dos participantes, em que a aprendizagem se constrói de maneira cooperativa, dentro de um grupo que tem vida própria.

Palavras-chave: Paradigma Tradicional, Formação De Professor, Interdisciplinaridade.

## ABSTRACT

The interdisciplinarity emerged in the 70s of the twentieth century, with Piaget, who, from the theory of life as a system, in the field of Biology, placed at the heart of educational discussions a fundamental issue, which is the importance of holistic approach to reality. The same arises from the assumption that, through it is possible to overcome the problems arising from excessive specialization, contributing to link knowledge to practice. Thinking teacher education as a complex practice involves admitting she has a full size, consists of multiple knowledge, which, to be understood in their relationships, require special preparation and special conditions for its exercise. In this case, the development of skills necessary for their formation requires the combination of different types of knowledge: knowledge of the experience, of practical knowledge and theoretical knowledge dynamically interacting without linearity or hierarchy to subjugate these professionals. The consequences of this outlook assume pedagogical and didactic changes. It implies considering that the teaching practice in a context of shared understanding, enriched by the contributions of the participants, in which learning is constructed cooperatively within a group that has its own life.

Keywords: Traditional Paradigm, Teacher Training, Interdisciplinarity.

JEL Classification: I29.

## 1. INTRODUÇÃO

*É preciso substituir um pensamento que isola e separa por um pensamento que distingue e une.*

(Morin, 1994, p.19)

Neste artigo fazemos uma reflexão acerca da importância de uma formação docente voltada para uma concepção unitária do ser humano em substituição de uma concepção fragmentada. Para guiar nossa discussão teremos como eixo a interdisciplinaridade.

O século XXI apresenta uma tensão entre o processo de globalização, cada vez mais acelerado, herdado do século XX, bem como a incapacidade conjunta das instituições públicas e do comportamento coletivo dos seres humanos de se acomodarem a esse processo. Tal situação acabou por desencadear uma mudança profunda nas relações do homem consigo mesmo, com outros homens e com o mundo.

Tendo em vista o desenvolvimento do capitalismo no Brasil, a expansão do acesso à educação passou a ser uma exigência do próprio capital, seja no sentido de qualificação da força de trabalho para o atendimento das novas exigências da produção, seja para a difusão da concepção do mundo burguês sob a imagem de uma “política inclusiva”. Esse movimento contribuiu politicamente para a expansão do acesso à educação. Nesse sentido, apresentamos um breve histórico das políticas de formação no Brasil, a contribuição da interdisciplinaridade na formação de professor e convidamos o leitor a refletir também acerca do contexto, as expectativas e os desafios enfrentados da proposta interdisciplinar nesse processo formativo

## 2. AS POLÍTICAS DE FORMAÇÃO DO PROFESSOR

A formação de professor a partir do olhar político percorrendo a via de uma breve contextualização histórica de um cenário formativo, nos propiciam elementos para compreensões de novas perspectivas transformadoras deste contexto. Transformações estas que parte da concepção moderna da super especialização para a ótica interdisciplinar contemporânea visando a interligação do conhecimento.

Assim, partindo de uma ótica local conectada ao global, a centralidade da formação docente, tanto em relação ao discurso quanto ao surgimento das políticas, vai ocupando cada vez mais destaque no cenário internacional e nacional na visão de uma reedição da Teoria do Capital Humano<sup>20</sup>. Essa crença levou as agências multilaterais a prescreverem no seu receituário neoliberal a escolarização como alternativa para o desenvolvimento, o que aumentou sobremaneira a busca por educação e, em consequência, a pressão cada vez mais frequente pela abertura de vagas na educação superior que, no Brasil, apresenta grave déficit histórico.

Shiroma, Moraes e Evangelista (2000) apontam que as reuniões promovidas pelos organismos internacionais, além de reconhecerem o fracasso na oferta de educação básica de qualidade para todos, colocam a educação no foco das atenções mundiais.

Quanto à ênfase que os organismos internacionais têm dado à educação básica para os países periféricos, destacam-se vários eventos que ratificam essa preocupação. Como exemplo, podemos citar a realização, em 1979, na cidade do México, do Projeto Principal de Educação (PPE) para a América Latina, promovido pela Comissão Econômica para a América Latina (CEPAL), tendo o objetivo de delinear uma política educacional contínua com impactos nas políticas educacionais (Cabral Neto e Castro, 2005). A esse respeito, o relatório produzido pelo Banco Mundial em 1995, intitulado *Prioridades y Estratégias para la Educación*, diz que a educação básica deveria ser fortalecida, inclusive na perspectiva da formação docente em serviço. O documento afirma que a educação deverá ser considerada dentro de um paradigma produtivo.

No que tange às configurações da legislação nacional e em decorrência dos compromissos que o governo brasileiro assumiu na Carta de Jomtien<sup>21</sup>, passaram a ser programadas políticas para a educação em todos os aspectos, como na aprovação da Lei de Diretrizes e Bases da Educação Nacional – LDBEN nº. 9.394/96 que previa inicialmente, em seu Artigo 87 das Disposições transitórias, que todos os professores deveriam ter formação em nível superior em apenas

<sup>20</sup> A Teoria do Capital Humano proposta por Schultz é, em sua essência, uma teoria econômica que exerceu grande influência, a princípio, no período desenvolvimentista. Defende que a educação é um bem econômico a ser consumido, admitindo-se uma relação direta do grau de conhecimento com o grau de desenvolvimento de cada país. Nesse sentido, a formação docente ganha centralidade na medida em que “[...] a escola se reduz à formação dos ‘recursos humanos’ para a estrutura da produção” (Bianchetti, 2001; Oliveira, 2000; Arapiraca, 1982). Em razão disso, é correto afirmar que as orientações de cunho neoliberal determinam um redirecionamento educacional amplo em todos os níveis educacionais balizados nessa teoria.

<sup>21</sup> Essa Carta é resultado da Conferência de Jomtien, que ocorreu na Tailândia, em março de 1990, convocada pelos seguintes organismos internacionais: UNESCO, UNICEF, PNUD e pelo Banco Mundial. De acordo com Oliveira (2000, p.105), essa “Conferência pode ser considerada como o maior marco na formulação de políticas governamentais tomando-se como referência a última década do século passado”.

dez anos, o que foi chamado de Década da Educação.

Com tais prerrogativas, a formação docente no Brasil foi colocada em pauta com grande centralidade. Para alcançar esse fim, os governos, um após outro, têm implementado políticas voltadas para a formação em serviço. Desse modo, destacamos a seguir alguns documentos que fundamentam essa política, os quais, a nosso ver, ajudarão o leitor a entender esta formação voltada para uma racionalidade técnica.

A Resolução do Conselho Nacional de Educação – CNE/CP Nº 2, de 26 de junho de 1997 que *Dispõe sobre os programas especiais de formação pedagógica de docentes para as disciplinas do currículo do ensino fundamental, do ensino médio e da educação profissional em nível médio* aponta a necessidade de formação, em nível superior, em cursos regulares de licenciatura e em programas especiais de formação pedagógica a quem já possua diploma de nível superior. Notamos, com base nesse documento, a necessidade de regulamentação desse grupo de professores a fim de suprir um déficit histórico imenso existente no Brasil.

Outro documento que merece destaque é a aprovação do Parecer CNE – CP Nº 9, de 08 de maio de 2001, que estabelece as Diretrizes Curriculares Nacionais para a Formação de Professores da Educação Básica, em nível superior, curso de licenciatura, de graduação plena. Na página 29 desse documento encontra-se a seguinte afirmação: é “preciso fazer uma formação de profissional de alto nível”. Para tanto, tornava-se necessário que o professor em formação realizasse ações, tais como: adquirir ou desenvolver competências e compromissos relacionados com os valores inspiradores da sociedade democrática, compreender o papel social da escola, ter domínio do conhecimento pedagógico e dos conteúdos a serem socializados, adquirir competências referentes ao conhecimento de processos de investigação que possibilitem o aperfeiçoamento da prática pedagógica, bem como competência em relação ao gerenciamento do próprio desenvolvimento profissional.

Já o Parecer CNE-CP Nº 5, de 04 de abril de 2006 (p. 3) na perspectiva da flexibilização possibilitada pela LDB 9394/96, tendo em vista a possibilidade de resolução do enorme déficit histórico na área, assim afirma: “[...] Programas Especiais de Formação Pedagógica de Docentes poderão ser ministrados, independentemente de qualquer autorização prévia, por qualquer instituição de educação superior que mantenha no mínimo um curso de licenciatura já reconhecido no mesmo campo de conhecimento [...]”.

Salientamos que a ênfase dada ao termo “mínimo” associado ao algarismo “um” de maneira aparentemente redundante, como se fosse possível a existência de algo menor que “um” para se tornar “mínimo” nesse universo numérico em que vivemos. O entendimento é de que essa linguagem expressa realmente a situação emergencial pela qual passava (e ainda passa) a formação docente no Brasil, na medida em que os aspectos quantitativos se sobrepõem aos qualitativos de maneira evidente nos textos oficiais em tom apelativo como o exposto anteriormente.

Acreditamos, igualmente, que essa escolha evidente pelo elemento quantitativo relacionado à formação docente é corroborada pela realidade. Assim, traçando um paralelo de dados, constatamos que, tratando-se especificamente da função docente por grau de formação no ensino fundamental de 1ª a 4ª série em 1996, no Estado do Tocantins, “A formação em nível superior, em licenciatura, era insignificante, apresentando apenas 1,7%” (Pinho, 2004, p. 76).

Dessa forma, *O Diário online* (Diário do Grande ABC) registra que, de acordo com estudos da ONU presentes no Relatório Educação para Todos/2006, o Brasil é, “[...] na América Latina, um dos países com menor grau de formação de professores”. Avaliamos que essa constatação salientou o prognóstico de que antes precisaríamos de “mais de 396 mil professores até 2015 para manter o atendimento nas escolas de ensino básico”. O mesmo relatório sinalizou ainda que 92% dos professores brasileiros da primeira fase do ensino fundamental fizeram apenas o magistério médio. Isso coloca o Brasil, na América Latina, na mesma situação de países como a Nicarágua e o Panamá e, no mundo, esse índice nos equipara a países como a Indonésia e o Egito. Já no Chile, por exemplo, são 92% de professores formados em nível superior que atuam na primeira fase do ensino fundamental. No que diz respeito à taxa de reprovação, o documento indica um percentual de 21%. Esse resultado equipara o Brasil, quando comparado com o restante do mundo, a países como a Eritréia e Moçambique, perdendo inclusive, para Ruanda e Lesoto, segundo o relatório.

Nesse cenário de carência e emergência historicamente acumuladas, o governo federal lançou o Plano de Desenvolvimento da Educação (PDE), em abril de 2007, e sua articulação com o Decreto Nº 6094, de 24 de abril de 2007, que *Dispõe sobre a implementação do Plano de Metas e Compromissos Todos pela Educação, pela União Federal, em regime de colaboração com Municípios, Distrito Federal e Estados, e a participação das famílias e da comunidade, mediante programas e ações de assistência técnica e financeira, visando à mobilização social pela melhoria da qualidade da educação básica*.

Cabe sublinhar que, entre as XXVIII metas estabelecidas pelo documento, distingue-se a diretriz de nº XII que estabelece a garantia de “[...] programa próprio ou em regime de colaboração federativa para formação inicial e continuada de profissionais da educação”.

Pontuamos aqui que a inserção de uma agência bastante conceituada em nível nacional como a Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) confere grau maior de compromisso e seriedade à política ora discutida, inclusive associando a formação com a “[...] indissociabilidade entre ensino, pesquisa e extensão”. Nesses termos, a ênfase se acentua na medida em que essa política se vincula principalmente a universidades ou “[...] instituições públicas de educação superior (Art. 3º, III), “[...] preferencialmente na modalidade presencial.”

(Art. 3º, VI). Afasta-se, pois, de alguns aspectos de muita flexibilidade na formação, defendidos inicialmente pela LDB 9394/96 e reforçados em alguns documentos anteriores que possibilitavam a formação inicial docente em instituições centradas apenas no ensino relegando a plano secundário a pesquisa e a extensão, o que, certamente, reflete diretamente na qualidade da formação oferecida.

Para o cumprimento dos objetivos elencados, o Decreto Nº 6094/2007 prevê “[...] a criação de Fóruns Estaduais Permanentes de Apoio à Formação Docente [...] em regime de colaboração” (Art. 4º, § 1º), tendo assento garantido nesses eventos vários segmentos vinculados a entidades educacionais oficiais e de representação e classe. Esses Fóruns têm como um de seus objetivos principais acompanhar a execução do plano estratégico e promover sua revisão periódica (Art. 4º, VIII, § 6º).

Como desdobramento dessa política, a Resolução CNE-CP Nº 1, de 11 de fevereiro de 2009, “*Estabelece Diretrizes Operacionais para a implementação do Programa Emergencial de Segunda Licenciatura para Professores em exercício na Educação Básica Pública a ser coordenado pelo MEC em regime de colaboração com os sistemas de ensino e realizado por instituições públicas de Educação Superior*”.

O documento supracitado acentua que essa formação se caracteriza por uma emergência, sendo destinada a professores em exercício da educação básica pública há pelo menos três anos em área distinta da sua formação inicial. A formação seria coordenada pelo Ministério da Educação (MEC) em regime de colaboração com os sistemas de ensino e realizada por instituições públicas de educação superior articulando formação pedagógica e formação específica dos conteúdos da área.

Como desdobramento dessas ações, surge a Portaria Normativa Nº 9, de 30 de junho de 2009, que *institui o Plano Nacional de Formação dos Professores da Educação Básica no âmbito do Ministério da Educação*. Esse Plano determinou, inclusive, o fomento em geral para a efetivação dessa política, além de apoio técnico: “As despesas decorrentes da implantação das ações e programas estarão consignadas nas dotações orçamentárias anuais de Ministério da Educação, da CAPES e o Fundo Nacional de Desenvolvimento da Educação – FNDE” (Art.5º).

Diante deste cenário, é possível perceber que a formação do professor no Brasil ainda traz uma proposta fragmentada, de acordo com as normativas citadas. Entretanto, para que este panorama possa almejar uma prática pedagógica e didática ampliada, faz-se urgente políticas que busquem uma formação pautada na integração dos conhecimentos, a partir de uma perspectiva interdisciplinar.

### 3. CONTEXTUALIZAÇÃO DA INTERDISCIPLINARIDADE

O termo interdisciplinaridade tem seu primeiro registro no *Webster's Ninth New College Dictionary*, no *Supplement to the Oxford English Dictionary* e no *Journal of Educational Sociology* em 1937. A hiperespecialização, causada pelo pensamento cartesiano, fez com que o aprofundamento de cada disciplina conduzisse às fronteiras de outras disciplinas, suscitando a interdisciplinaridade (Sommerman, 2006). Na década de 60 do século passado, o Centro de Pesquisa e Inovação Educacional da Organização para a Cooperação e o Desenvolvimento Econômico (OCDE) promoveu as primeiras atividades de cunho interdisciplinar. Na ocasião, era discutido que a universidade, através de uma reflexão teórica interdisciplinar, deveria desempenhar uma missão social para a resolução de problemas reais. Algumas teorias como: o estruturalismo, teoria geral dos sistemas, a teoria cibernética e a da complexidade impulsionaram o alargamento da reflexão sobre a interdisciplinaridade, propulsionando a realização de seminários e congressos por todo o mundo, principalmente na Europa.

Os primeiros centros de referência, em torno da interdisciplinaridade, surgiram nas décadas de 80 e 90 do século passado. Elenca-se o Centro de Pesquisa Interuniversitário sobre a Formação e a Profissão/Professor (CRIFPE), e do Grupo de Pesquisa sobre Interdisciplinaridade na Formação de Professores (GRIFE), no Canadá, e do Centro Universitário de Pesquisas Interdisciplinar em Didática (CIRID), na França, bem como vários grupos de pesquisas em outros países (Fazenda, 2001). As pesquisas de Julie Klein e William Newell ganharam notoriedade no país promovendo reformas educacionais de cunho interdisciplinar (Fazenda, 2001).

No Brasil, destacam-se os trabalhos de Ivani Fazenda (1994) como precursora das atividades interdisciplinares. Em 1986, a pesquisadora criou o Grupo de Estudos e Pesquisas sobre interdisciplinaridade na Educação (GEPI) na Pontifícia Universidade Católica de São Paulo (PUC-SP). As propostas fomentadas nesse grupo disseminaram-se para outras universidades gerando cursos de mestrado em interdisciplinaridade e grupos de estudos como Núcleo Emergente de Pesquisa Interdisciplinar (NEPI) (Fazenda, 2001).

É importante frisar que a interdisciplinaridade é uma exigência natural, frente à questão da globalização. Nesse sentido, Fazenda (1994) aponta que a interdisciplinaridade surge quase como condição de sobrevivência do conhecimento educacional. Ou seja, uma adaptação à realidade. Uma resposta a uma demanda da sociedade, em que o número de especialistas para resolver seus problemas de ordem social, política, econômica é ilimitado, e que estes nada mais possuem do que um conhecimento cada vez mais restrito.

Ainda conforme Fazenda (2003, p. 42 e 43), a Interdisciplinaridade

constitui-se numa resposta a uma demanda da sociedade, em que o número de especialistas para resolver seus problemas de ordem social, política, econômica etc. é limitado, e que estes nada mais possuem do que um conhecimento cada vez mais extenso relativo a um domínio cada vez mais restrito.

Através da interdisciplinaridade, todo especialista é levado a reconhecer os limites de seu saber para acolher as contribuições das outras disciplinas, o que torna uma ciência complemento da outra, e a dissociação, a separação entre as disciplinas é substituída pela convergência e objetivos comuns.

Para Ferreira (1999, p. 22), “interdisciplinaridade é uma atitude, isto é, uma externalização de uma visão de mundo que, no caso, é holística. Tudo o que existe, todo ‘ente’, se ‘vela’, se ‘des-vela’ e se ‘re-vela’ ante nossos olhos”.

Assim, entendemos que a interdisciplinaridade implica uma relação de reciprocidade, de mutualidade, que pressupõe uma atividade diferente a ser assumida diante do conhecimento. Significa a substituição de uma concepção fragmentada por uma concepção unitária do ser humano.

Segundo Fazenda (1995, p.43), “a interdisciplinaridade é uma exigência natural e interna das ciências, no sentido de uma melhor compreensão da realidade que elas nos fazem reconhecer. Impõe-se tanto a formação do homem quanto a necessidade de ação”. Nesse contexto, a interdisciplinaridade representa a possibilidade de promover a superação da dissociação das experiências escolares entre si, como também dessas experiências com a realidade social. Ainda de conformidade com essa autora,

[...] Para a interdisciplinaridade começar, necessita de uma decisão pessoal, de se romper com as evidências estabelecidas, propondo-se a uma tarefa solitária de começar tudo de novo. Este momento de decisão na interdisciplinaridade impõe-se tanto ao filósofo quanto ao educador. Romper é ato de vontade, de coragem, uma vez que os obstáculos são muitos [...]. (Fazenda, 1995, p. 47).

Entendemos que o caminho interdisciplinar seja amplo no seu contexto e revela um quadro que precisa ser redefinido e ampliado. Tal constatação induz-nos a refletir acerca da necessidade de professores e alunos trabalharem unidos, conhecerem-se e se entrosarem para, juntos, vivenciarem uma ação educativa mais produtiva. O papel do professor é fundamental no avanço construtivo do aluno. É ele, o professor, o responsável por captar as necessidades do aluno e o que a educação possa lhe proporcionar. Desse modo, “a interdisciplinaridade do professor pode envolver e modificar o aluno quando ele assim o permitir” (Tavares, 1999, p. 3).

Na interdisciplinaridade, há espaço para a construção coletiva do conhecimento pela interação de diferentes focos de percepção, discussão e análise de uma problemática, o que desenvolve, nos discentes e docentes, a capacidade de pensar e agir na busca articulada de respostas às indagações que o conhecimento promove e os diferentes contextos requerem. Por todos esses motivos, a educação, na sociedade do conhecimento, aparece como um conceito a ser colocado em prática durante toda a vida, pois esta é a resposta a um mundo desafiador em rápida transformação, visando a preparar as pessoas para as constantes inovações, na vida privada como na vida profissional.

As conseqüências dessa perspectiva supõem mudanças pedagógicas e didáticas. Implica, pois, considerar que a formação docente deva acontecer em um contexto de compreensão compartilhado, enriquecido com as contribuições dos alunos, em que a aprendizagem se constrói de maneira cooperativa, dentro de um grupo que tem vida própria.

Pensar a formação do professor como uma prática complexa implica admitir que ela tenha uma dimensão de totalidade, compõe-se de múltiplos saberes que, para serem compreendidos em suas relações, exigem uma preparação especial, bem como condições particulares para seu exercício. Nesse caso, o desenvolvimento das competências necessárias a sua formação requer a conjunção de diferentes saberes: saberes da experiência, saberes da prática e saberes teóricos interagindo dinamicamente sem nenhuma linearidade ou hierarquização que subjugue esses profissionais (Tardiff, 2002).

#### **4. INTERDISCIPLINARIDADE E FORMAÇÃO DOCENTE: DA TEORIA À PRÁTICA**

A realidade social que vivenciamos se tornou uma incógnita; novos desafios se descortinam ao homem e à ciência. A ilusão de que havíamos construído certezas sobre o mundo natural e social – legado iluminista – nos tranquilizava, e acreditávamos ter o controle sobre uma ordem erguida pela modernidade. As rápidas mudanças nos mostram como estávamos enganados, pois o que vivemos são incertezas diante dos fluxos econômicos e de informações, novas tecnologias, redes de relações econômicas e sociais, mudanças dos padrões de espaço-tempo, riscos ambientais, transformações nas culturas e nas relações sociais (Castells, 1999).

Superar uma visão fragmentária dos fatos e perceber a unidade na diversidade tem sido hoje, numa sociedade marcada pelas especificidades, um grande desafio à educação, sobretudo à educação desenvolvida no Ensino Superior. Segundo Behrens (2015, p.27), “o paradigma conservador, desde o século XVII, tem como foco a razão e a fragmentação do conhecimento, decorrente da visão linear, sectária e reducionista dos fenômenos no mundo”.

Falar de formação docente, hoje, parece um debate comum, já que esse tema tem sido discutido em diferentes espaços, tais como academia, escolas, secretarias de educação, e por diferentes pessoas, quem conhece e quem não conhece a realidade educacional.

O que propomos para que a educação, nesse período de transformação e mudança de paradigmas, não fique aquém dessa nova realidade, é que ela, de fato, caminhe com a interdisciplinaridade. Para que a interdisciplinaridade se efetive é necessário que o educador decida por ela, rompa com os padrões já estabelecidos ao mudar o seu olhar reducionista e integrar em sua prática ações que interligam conhecimentos.

Para Cristina D'Ávila (2011) a disciplinaridade tem seu marco de início no século XIX com a construção das Universidades na era Moderna, e significava uma matéria que deveria ser ensinada; e a partir do século XX, com o avanço da pesquisa científica, cada vez mais o saber foi se especializando; estando a noção de disciplina científica diretamente ligada ao conhecimento científico. Segundo a autora, é a tentativa de gerar relações entre as diferentes disciplinas que originará a interdisciplinaridade. Para ela, tanto a disciplinaridade quanto a interdisciplinaridade podem ser de natureza científica ou, devido a sua aplicação na prática escolar, de natureza pedagógica:

Assim, a interdisciplinaridade, no campo pedagógico, diz respeito a uma abordagem, a um só tempo, epistemológica e metodológica – é um modo de compreender o processo do conhecimento, bem como de trabalhar de modo integrado os conhecimentos disciplinares. Para além da mera justaposição de conteúdos, a interdisciplinaridade pedagógica supõe a produção de sínteses superadoras, sublinhando, assim, a relação dialética entre dimensões historicamente dicotomizadas do conhecimento: teoria/prática; conteúdo/forma; ação/reflexão; homem/sociedade, etc. (D'Ávila, 2011, p. 60-61).

Desse modo, a interdisciplinaridade é uma abordagem que conduz a um tipo de ordenação do processo ensino-aprendizagem, no plano de conteúdos e atividades, onde professores oferecem aos educandos uma aprendizagem de saberes e métodos comuns a várias disciplinas reorganizando vários conhecimentos, gerando um conhecimento novo. (D'Ávila, 2011).

Fazenda (2003), assim como Américo Sommerman (2006), pontua que o termo interdisciplinaridade não tem um único sentido, e que mesmo as distinções terminológicas sendo muitas, elas atendiam a apenas um princípio, a troca entre especialistas e a integração de diferentes disciplinas em um mesmo projeto de pesquisa.

Termos como pluri, multi, trans e interdisciplinaridade se caracterizam pela “coordenação e cooperação entre as disciplinas” (Fazenda, 2003, p.48). Para Fazenda, os dois primeiros indicam “uma justaposição de conteúdos pertencentes a disciplinas heterogêneas, podemos também pensar na integração de conteúdos dentro de uma mesma disciplina” (p. 48); a interdisciplinaridade vai além, traz a ideia de reciprocidade, diálogo entre diferentes conteúdos, existindo intersubjetividade nos sujeitos.

Como veremos, Ivani Fazenda (2003), propõe uma interdisciplinaridade intersubjetiva: a presença do pesquisador no projeto interdisciplinar. A intersubjetividade é elemento essencial para o processo e a interdisciplinaridade pode se apresentar em diferentes níveis, há diferentes modos de fazê-la.

Segundo Fazenda (2003), os estudos sobre a interdisciplinaridade iniciam-se na década de 60 do século passado, com os teólogos e fenomenólogos que pretendiam encontrar um sentido mais humano para a Educação, baseando-se em uma antropologia filosófica. Esses estudos nascem juntamente com os estudos sobre a linguagem. Assim, Fazenda discute a interdisciplinaridade em relação ao desenvolvimento da linguagem, e esta em relação à proposta dos filósofos.

Nessa linha, ela discute três sentidos para a interdisciplinaridade, a partir de uma abordagem antropológica, relacionando elementos históricos, a educação, a linguagem e a interdisciplinaridade. Em um primeiro período, décadas de 60 e 70 do século passado, tem-se uma *Antropologia Filosófica* e destacam-se os estudos filosóficos na busca pelo sentido do ser. Pensava-se um sentido mais humano para a educação, além de aspectos racionais. Nesse período, a linguagem era considerada inteiramente racional; para os neopositivistas, a linguagem considerada verdadeira era aquela que podia ser comprovada, verificada e universalizada. Essa linguagem deveria ser livre de um contexto, impessoal e científica. Deveria ser uma linguagem verificável, para isso, elegem o modelo lógico-matemático, a linguagem tem uma função lógica; restringiam o pensamento humano ao empírico.

No século XX houve um maior destaque na filosofia da linguagem, quando ela passa a ser a ocupação principal da filosofia. A análise da linguagem começa a diferenciar-se da análise realizada pelos neopositivistas. Os filósofos da análise começam a ver que o simbolismo lógico é inaplicável aos problemas humanos. Assim, passa-se de uma análise

sinfática do significado, realizado pelos neopositivistas, para uma análise da relação entre significado e uso. Para os neopositivistas, a relação sujeito-objeto é irrelevante. A autora faz uma crítica à concepção positivista do mundo, que ignorava a relação entre o sujeito e o mundo e também a posição idealística que se desvinculava dos problemas do mundo real.

Para Fazenda é importante compreender estas relações entre a linguagem e a filosofia porque assim passa-se a ter mais cuidado nas diferenças nas formas de investigação da realidade escolar, pois, na maioria das vezes, estamos preocupados em verificar, e não chegamos ao campo da significação; se não se compreende essas questões corre-se o risco de transformar a interdisciplinaridade em um “jogo linguístico”. Para se compreender a interdisciplinaridade é necessário “cuidar de cada fragmento de discurso, da linguagem real que o cotidiano nos apresenta e da outra linguagem escondida nas dobras das falas dos educadores calados” (Fazenda, 2003, p. 25). Compreender essa complexidade, segundo Fazenda, é perceber que a interdisciplinaridade não pode ser feita de forma acrítica.

Na década de 70 do século passado, a preocupação com a interação das disciplinas e com a interdisciplinaridade ainda era muito tímida. Nesse período, os estudos sobre a interdisciplinaridade eram voltados, principalmente, para a articulação do campo epistemológico ao pedagógico.

Na década de 80 do século passado, com uma *Antropologia Cultural*, passa-se do sentido do ser para o sentido do pertencer: há uma preocupação com os aspectos da identidade em todo o mundo; no Brasil, há uma busca pela cultura brasileira; os estudos de Paulo Freire ganham força; a teoria de Piaget norteia o construtivismo e a de Vigotsky o sócio-interacionismo. Nesse contexto, a interdisciplinaridade continua fiel ao estudo da palavra; as diversas disciplinas científicas e escolares provocam o questionamento do conceito de currículo; surge a ideia de Pensamento Complexo, de Edgar Morin (1994), que questiona o conceito de ciência, na busca por seu sentido humano.

Nesse período, surgem estreitas relações entre a teoria do falar e a teoria do educar: estuda-se a ambiguidade da palavra; questões do diálogo; palavra como expressão do ser; o sentido da palavra. Paulo Freire ganha importância para a concepção de linguagem como o alicerce de uma relação dialógica, libertadora e a valorização da palavra. Sua teoria pedagógica, baseada na teoria do falar, se dá a partir das relações palavra-mundo, palavra-encontro, palavra-ação, palavra-valor.

Para esse educador, a educação é uma “ação cultural para a liberdade”: o aluno é o sujeito do conhecimento, mantém uma relação dialógica com o professor. O homem é sujeito e objeto de sua história. A linguagem deixa de ser instrumento e meio, torna-se uma manifestação que une os homens uns aos outros e ao mundo. Temos, ainda, a valorização da intersubjetividade: a relação com o outro cria a palavra e assim ela se define como ato, fazendo sentido na ação. A importância dessa valorização da intersubjetividade gera o verdadeiro diálogo, que provoca uma atitude aberta, em oposição aos debates em que ninguém cede e cada um fixa-se na sua “certeza”. A palavra, permeada de sentido, faz o sujeito e as disciplinas dialogarem:

Se a palavra tem sentido, se falar é falar à alguém, é comunicar, se a palavra que não tem sentido se esvazia, um programa de ensino linear que configure disciplinas isoladas, incomunicáveis, não tem sentido, é vazio. Havendo encontro, havendo revelação de sentido, o homem se antropomorfiza, se realiza, se universaliza. Se há interdisciplinaridade, há encontro, e a educação só tem sentido no encontro, a educação só se faz “avec”, ou seja, a educação só tem sentido na “mutualidade”, numa relação educador-educando em que haja reciprocidade, amizade e respeito mútuo. Numa educação antidialogizante, há a frustração, o bitolamento, a imbecilização (Fazenda, 2003, p. 38-39).

Só pode haver interdisciplinaridade onde há diálogo. Ou seja, diálogo entre os sujeitos, as disciplinas e as teorias. Por isso, a verdadeira interdisciplinaridade se preocupa com a verdade do homem no mundo e não com “a verdade” de cada disciplina, mesmo considerando que a linguagem interdisciplinar nasce de uma linguagem disciplinar.

Não havendo conhecimento absoluto, uma vez que os sujeitos estão por se construir, o currículo escolar deve considerar esse movimento, portanto, não deve se prender a elementos fixos e rígidos. Assim, a educação não pode se tornar uma simples transmissão e memorização de informações; por ser dinâmico, o conhecimento requer crítica, diálogo, interdisciplinaridade. A relevância da prática escolar não deve ser o conteúdo disciplinar, mas a ação de educar. Educar considerando o racional e o emocional.

Na prática educacional, a interdisciplinaridade não enfatiza as disciplinas de ciências exatas ou ciências humanas, ela provoca um constante diálogo entre as diversas disciplinas. O valor deste ou daquele conteúdo está na crítica que provoca entre as diferentes disciplinas. Se há diálogo, há opinião, não de um, mas de vários, logo há a subjetividade e, mais, há a intersubjetividade; logo, toda disciplina requer a interdisciplinaridade. Para Santos A. C. e Santos (2015, p. 126) “a atitude de abertura, reciprocidade, é fundamental no diálogo. Na falta dessa atitude, a consequência é o conflito. No conflito, desaparece a boa vontade para com o outro e aflora a resistência, transformando-se em disputa”.

A reforma do ensino na década de 80 do século passado, com uma abordagem antropológica-cultural enfraqueceu a

relação dialógica na sociedade e na educação, o que acabou por impedir um maior florescimento da interdisciplinaridade.

A interdisciplinaridade é válida no sentido de construir um profissional mais aberto a outros campos do conhecimento, diferentes da sua área de atuação. Para tanto, a

interdisciplinaridade constitui-se numa resposta a uma demanda da sociedade, em que o número de especialistas para resolver seus problemas de ordem social, política, econômica etc. é limitado, e que estes nada mais possuem do que um conhecimento cada vez mais extenso relativo a um domínio cada vez mais restrito (...) reflexões sobre a validade das ciências particulares nos levariam a uma conseqüente limitação da possibilidade de conhecimento, a uma tendenciosidade e a uma interpretação deturpada a respeito da realidade, que é essencialmente múltipla e não una. A interdisciplinaridade leva todo especialista a reconhecer os limites de seu saber para acolher as contribuições das outras disciplinas. Assim sendo, uma ciência é complemento da outra, e a dissociação, a separação entre as ciências é substituída pela convergência a objetivos comuns (Fazenda, 2003, p. 42-43).

Vemos, porém, que há uma série de obstáculos para que as disciplinas dialoguem, tais como: obstáculos epistemológicos, obstáculos quanto à formação, obstáculos materiais e obstáculos metodológicos. A interdisciplinaridade tem encontrado alguns entraves para que se efetive como prática, temos uma realidade fragmentada:

professor mal formado, injustamente caracterizado como responsável direto dos fracassos escolares; alunos sedentos de novos saberes e frustrados em suas expectativas; pais esperando que a escola contribua ou determine a mudança social; leis que impedem ou dificultam a ampliação do conhecimento; escolas que lutam na busca de novas soluções, outras que permanecem esperando... Na prática, a interdisciplinaridade tem sido uma “utopia”, sonhada por muitos, procurada por alguns (Fazenda, 2003, p. 63).

Por fim, na década de 90 do século passado, temos a *Antropologia Existencial* (antropologia do sujeito), o sentido do fazer. Nessa década, dar-se ênfase a subjetividade, há uma mudança da perspectiva do eu para o nós, a palavra é soberana e a interdisciplinaridade passa a estudá-la em sua ambigüidade, aquilo que ela diz e aquilo que não diz.

No ensino, a interdisciplinaridade requer do educador a construção de uma política educacional que leve a educação a cumprir o seu papel de formar cidadãos. A ação desse educador pode dar novos rumos para o ensino. Para Fazenda (2003), outro elemento essencial para que a interdisciplinaridade se efetive é a parceria, uma vez que esta é a responsável por consolidar a intersubjetividade e, assim, ela enumera seis fundamentos para que se compreenda a prática docente interdisciplinar. O primeiro consiste em uma atitude de rever o velho para torná-lo novo; o segundo trata-se de utilizar a memória-registro que permite relembrar o já vivido; o terceiro é a parceria, que proporciona a troca de conhecimento entre os educadores; o quarto fundamento refere-se à construção de uma sala de aula interdisciplinar, o que exige diferentes ações de transformação na sala de aula: uma nova forma de avaliação; autoridade conquistada e não outorgada; a obrigação é substituída pela satisfação; alterna-se a arrogância pela humildade; a solidão transforma-se em cooperação; alterna-se a especialização pela generalidade; a reprodução é substituída pela produção do conhecimento.

O quinto fundamento elencado por Fazenda (2003), para a compreensão da prática docente interdisciplinar trata-se dos alicerces nos quais os projetos interdisciplinares se desenvolvem: o respeito à maneira de ser de cada sujeito; às vezes, o projeto interdisciplinar surge de quem já possui uma atitude interdisciplinar; o projeto interdisciplinar está ligado aos projetos pessoais de vida; ao buscar a totalidade do conhecimento, a interdisciplinaridade não deixa de respeitar as especificidades de todas as disciplinas. O último fundamento diz respeito à possibilidade de concretização das pesquisas interdisciplinares; o espírito de pesquisa interdisciplinar requer ousadia da busca, da transformação, o pensar, a construção coletiva.

Com o olhar voltado para esses fundamentos as universidades podem procurar superar a dicotomia ensino/pesquisa: as próprias salas de aula dos cursos de graduação devem se transformar em locais de pesquisa, esta não deve ser iniciada somente na pós-graduação, portanto, na educação interdisciplinar aprende-se a fazer pesquisa realizando tal prática, pesquisando. Essa prática deve ser iniciada na pré-escola. As universidades podem proporcionar pesquisas coletivas aos universitários, tendo sempre em vista, que tal prática não deve ser privilégio apenas de doutores das universidades.

Infelizmente, a comunidade acadêmica, em sua maioria, ainda resiste à ideia de um trabalho interdisciplinar. Para D'Ávila (2011), isso acontece porque o trabalho interdisciplinar exige as parcerias e isso é uma prática difícil entre os acadêmicos; de um modo geral, os professores se sentem ameaçados em ter que abrir mão de um conhecimento “privado” em nome da integração com outras disciplinas. Outro motivo de resistência que a autora pontua é “a



pedagogia da acomodação”: é difícil para o docente sair de sua zona de conforto e começar a lidar com diferentes saberes que se ligam.

Segundo Fazenda, a tendência é que a interdisciplinaridade se transforme em um dos “dados teóricos mais importantes da contemporaneidade” (2003, p. 74), por isso, há de se perceber que muitos têm escrito sobre a interdisciplinaridade, mas poucos ainda têm escrito sobre a interdisciplinaridade na educação. A interdisciplinaridade não se constitui como categoria de conhecimento, mas como categoria de ação, assim entende-se por atitude interdisciplinar

uma atitude ante alternativas para conhecer mais e melhor; atitude de espera ante os atos não consumados, atitude de reciprocidade que impele à troca, que impele ao diálogo, ao diálogo com pares idênticos, com pares anônimos ou consigo mesmo, atitude de humildade ante a limitação do próprio saber, atitude de perplexidade ante a possibilidade de desvendar novos saberes; atitude de desafio, desafio ante o novo, desafio em redimensionar o velho; atitude de envolvimento e comprometimento com os projetos e com as pessoas neles envolvidas; atitude, pois, de compromisso em construir sempre da melhor forma possível; atitude de responsabilidade, mas sobretudo, de alegria, de revelação, de encontro, enfim, de vida (Fazenda, 2003, p. 75).

Logo, a prática da interdisciplinaridade requer mudança de atitude. Esta deve ser base para a construção de um conhecimento coletivo, em que a parceria serve de alicerce para as ações da interdisciplinaridade.

## 5. CONSIDERAÇÕES FINAIS

A visão interdisciplinar agrega limites e condições de cada saber, criando pontes entre eles e gerando novos conhecimentos. Por isso, existe a necessidade de um trabalho em conjunto. Uma união que exige engajamento e planejamento entre todos agentes envolvidos. Erradicando assim, sentimentos de conformismo e comodismo: práticas que retrocedem a educação, promovendo mudanças tanto nas práticas pedagógicas como nas rotinas em sala de aula.

É necessária a contextualização histórica e política do cenário formativo para entender os desafios da atualidade e a valorização do papel da interdisciplinaridade como instrumento de inserção na construção de conhecimentos no contexto educacional. Assim, modelos tradicionais de ensino podem ser ressignificados com novos olhares diante desse mundo globalizado repleto de contradições.

Enfim, um dos passos para realização da nova proposta interdisciplinar é a mudança na postura do professor que deve colocar-se como aprendiz e buscar novas formas de trabalho para expor e discutir criticamente valores e sentidos. Até porque, o papel do educador não deve ser de um mero transmissor de conhecimentos prontos, mas o de alguém que seja capaz de manter no educando um interesse que jamais poderá ser confinado ao tempo escolar.

Concluindo, a formação de professores, que tem a interdisciplinaridade como aliada neste processo de formação terá um profissional em formação contínua, não apenas acompanhando e se adequando a um mundo em constante mudança, mas também sendo capaz de provocar mudanças e promover um ensino promissor.

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## PARALLEL SESSION III

# REMEMBERING THE AGE WITH SUCCESS: RETROSPECTIVE AND PROSPECTIVE MEMORY IN HEALTHY ELDERLY

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## ABSTRACT

Aging is usually associated with the decline of the cognitive processes, since it is common at this stage the appearance of complaints related to memory loss. This research aimed to analyse the relationship between successful aging and complaints from prospective and retrospective memory. The participants were elderly people who are currently attending a project, developed by the city of Moura, entitled “Physical Activity Senior”. After filling out the free consent term, the participants proceeded to the implementation of the Mini Mental State Examination (Folstein et. al. 1975) that evaluated cognitive abilities of the elderly, the anxiety scale and hospital depression (Ribeiro *et al.* 2007). Then we applied the questionnaire about prospective and retrospective memory (Benites, 2007), in which we seek to obtain information about the profile of the participants and everyday memory loss, followed by the application of the successful aging scale (Reker, 2009) which measures the perception of the participants and finally the application of the socio-demographic questionnaire. After the results, we can note that: on average, memory loss is reduced, most of the elders had memory complaints and have high levels of successful aging, although it is a low successful aging and the scale of successful aging shows a higher value for those with no memory complaints.

Keywords: Healthy Older People, Successful Aging, Prospective Memory, Retrospective Memory.

## 1. INTRODUCTION

The process of aging and old age is an integral stage of the human life cycle. According to Fonseca (2005), the meaning of terms, aging, elderly and old age depends largely on the social and historical context in which they are produced and as with attitudes towards the elderly, these concepts have been changing, reflecting the best knowledge there is about the human being, culture and social relationships of the various epochs.

Aging “*has always reason of men’s reflection in its aspiration to eternal in perplexity face of suffering and death*” (Fonseca, 2005 p.21). If this is a period of losses, it is also recognized that has not been given real attention to the creation of preventive measures to control and reduce such loss by that, and Fonseca expression (2005), it should not accentuate both the negative effects of old age, but rather the characteristics of the person ages and that is, to the end, “*a person in development.*”

The loss of cognitive abilities related to the aging process is still not a given. In this context, Salthouse (1998, cit. Fonseca 2005: 36-37) concludes that there are still few answers for the reasons of a cognitive decline associated with age, however, “*it is known that a certain kind of memory, abstract thinking and new problems decline with age.*”. The human memory is capable of performing a rich variety of operations. On the one hand, human memory allows us to identify and classify sounds, signals, smells, tastes and feelings. On the other hand, it is able to retain and manipulate information we acquire during our life. In this sense, the memory is a set of procedures to manipulate and understand the world, taking into account the current context and individual experiences. These procedures involve coding mechanisms, retention and recover. The theme that guided this research work is titled “*Remembering the Age with Success: Retrospective and Prospective Memory in Healthy Elderly* “. In this sense, the general objective that guides this research focuses on the analysis of the relationship between successful aging and prospective memory complaints and retrospectives. The considered specific objectives are: To evaluate the prospective and retrospective memory of the elderly; characterize the successful aging;

## 2. SUCCESSFUL AGING

In general, aging is associated with the aging process. According to Carvalho (2013, p.4) *“aging means suffering the effects of the passage of time or become old, lost youth or present, fall into disuse, mature and gain experience.”* Thus, aging brings us to how we age, for life experience and to certain contexts and processes that determine it. The successful aging expression is associated with a change as regards old age and aging not as synonyms of illness or inactivity. It is linked to a notion that the individual has a potential for development maintained by the aging process in the multidimensional, multi-causality and heterogeneity are linked. Kaup (2011; cited by Crispim, 2014, p.54) states that *“successful aging settings vary widely, from the following aspects: physical health, cognitive health, life satisfaction, well-being, productivity and social activity”*. For these researchers, however, cognitive health is the main feature to be taken into account when it comes to successful aging. Rowe (1987; cited by Crispim, 2014, p.54) states that the *“successful aging is multidimensional, characterized by the low probability of disease and disability related to disease, high capacity for cognitive and physical functioning and interaction with the life”*. That is, it depends on a healthier lifestyle and a prolongation of active engagement with life. Of course during the aging process the various cognitive functions are being affected, since so and being successful aging associated with a change must be worked from an early age so that it go occurring gradually, it is important to be worked on the dimensions of health such as mental health, cognitive function, physical exercise as well as the social relations that are important at this stage of life.

## 3. PROSPECTIVE AND RETROSPECTIVE MEMORY

Lenin (2005) argues that memory is one of the most important cognitive functions. This is the basis of all cognitive activities and is crucial to understanding ourselves, the construction of identity and relationships with others and with the world around us. Another author addresses the issue of memory in aging stressing that *“we all complain of the fallibility of our memories and, as we age, the further complain.”* (Baddelle; 2011 p.311). With regard to this prospective memory is memory for future intentions and is present in various situations and circumstances of daily life, such as taking medicine six in six hours or remember to call someone in a given day. According to Benites (2007, p.16) the prospective word *“is related to something that is expected, but that has not happened yet, it means launching a vision of the future in an attempt to look ahead and predict, generating the expectation of an event”*. The author quoted above states that there is evidence that the prospective memory requires a component of self initiation of missing memory in retrospective memory, and this component is dependent on internal control and susceptible to aging. According to Baddeley (2011 p.363) *“retrospective memory involves recollection of events, the last words, usually when we try to deliberately remember”*, the author states that *“the prospective and retrospective memories differ in different ways, beyond their respective emphases on time orientation for the future versus the past,”* warning that *“retrospective memory usually involves remember what we know about something and may have vast content information (...) the prospective memory usually is when we do something, containing a small content of information.”*

Sometimes, age is associated to declining cognitive processes. It is common at this stage the appearance of complaints related to memory loss. So we must be alert to changes in memory and understand them.

## 4. METHODOLOGY

This research is part of an exploratory and cross-sectional quantitative study. It was initiated through a research and analysis of interdisciplinary literature about successful aging and memory. According to the results, we had in mind the possibility to organize an intervention proposal for the elderly studied. The overall objective that guides this research aims to understand whether there is a relationship between successful aging and complaints of prospective and retrospective memory in older people. Specific objectives are intended to evaluate the prospective and retrospective memory of the elderly; Characterize the successful aging. For this, we used a non-probability sample of convenience (Sousa and Baptista, 2011).

### 4.1 Participants

The study was conducted in Moura (city of Alentejo region and sub-region of Baixo Alentejo in Portugal). It borders Spain, southeast, and the municipalities of Mourao, northeast, Barrancos, this, Serpa, southwest, Vidigueira, west, and Portel and Reguengos de Monsaraz, northwest by the Alqueva dam. Study participants were 100 elderly subjects that are part of a project of the Municipality of Moura, entitled “Physical Activity Senior.” In its most participants were female (90% women and 10% men), married (58%) and literacy (91%).

## 4.2 Instruments

The instruments used for the study were as follows: Mini Mental State Examination (Folstein et al 1975), Successful aging Scale (Reker, 2009), Sociodemographic Questionnaire, Memory Questionnaire Prospective and Retrospective (Benites, 2007) and Anxiety and Depression Scale (Ribeiro et. al. 2007).

## 4.3 Procedure

The entire investigative procedure included a sequential logistics activities. Initially appealed to the research and bibliographical and documentary analysis, according to Gil (1987 p.43), the search is the “formal and systematic process of development of the scientific method,” after this research works more were selected wealth of information. Taking into account the objectives of the study were then selected data collection tools. Before applying any data collection instrument was asked to authorization by the Municipality of Moura, as these participants are part of a project entity. All participants were invited to participate in the study and explained all its procedure and signing a term of free and clarify consent. Later, we proceed to the collection of data analysis and discussion. The data collected to participants in the study were treated from the SPSS (Statistical Package for Social Sciences), version 22 for Windows.

## 5. RESULTS

### 5.1 Sociodemographic questionnaire

Presented below the characterization of the participants face to age, gender, national origin, marital status, number of children and education. The study involved the collaboration of 100 elderly (Table 1)

**Table 1- Age**

	Frequency	Percentage
65-69 years	53	53,0
70-74 years	27	27,0
75-79 years	16	16,0
80 years or more	4	4,0
Total	100	100,0

Age was modified in accordance with the following values: 65-69 years; 70-74 years; 75-79 years; 80 years or more. In the sample, 53% are 65-69 years old, 27% are 70-74 years old, 16% are 75-79 years and 4% are 80 or older. The participants are essentially women (90% are female and 10% male gender) and 35% were born in Moura, 17% were born in St. Alexius Restoration, 13% are Amareleja, 12% are Safara, 9% are St. Amador, 8% are of Sobral and 6% are of Povoia de S. Miguel. In the sample, 58% are married, 30% are widowed, 10% are divorced or separated and 2% are single.

**Table 2- Children**

	Frequency	Percentage
None	9	9,0
A sone	15	15,0
Two children	47	47,0
Three children	25	25,0
Four children	2	2,0
Five children	1	1,0
More than five children	1	1,0
Total	100	100,0

In the sample, 9% have no children, 15% have one child, 47% have two children, 25% have three children, 2% have four children, 1% (an element) has five children and also 1% (an element) It has more than five children (Table 2). The

participants are illiterate (9%), have the first cycle (61%), have the second cycle (20%), have secondary education (8%) and have higher education (2%) and receive up to a minimum wage (85%), up to two minimum wages (13%) and three to four minimum wages (2%).

## 5.2 Physical activity and memory

We noted that the subjects of this study makes physical activity twice a week (96%), do physical activity once a week (3%) and one element makes physical activity three times a week.

**Table 3- How do you see your memory today?**

	Frequency	Percentage
Weak	8	8,0
Regular	43	43,0
Good	39	39,0
Very good	6	6,0
Excellent	4	4,0
Total	100	100,0

In the sample, 8% respond weak, 43% respond regular, 39% respond good, 6% respond very good and 4% excellent answer.(Table 3) and 49% reported having no memory complaints and 51% respond have memory complaints.

## 5.3 State Mental, Anxiety and Depression

Then we present the results of the scales of Mini-Mental State Examination and the Anxiety and Depression Scale that allowed the participants of this study could integrate the same (Table 4).

**Table 4- Statistics - Mini Mental State Examination (MMSE)**

	N	mean	Standard deviation	variance	Min.	Max.	Min. point	midpoint	peak
MMSE	100	26,51	3,04	11%	17	30	0	15	30

The scale of the Mini-Mental State Examination, has an average value very close to the maximum value of measurement scales, so on average the scale has very high values. This result allowed to know that the elderly showed no cognitive decline for they were all considered participants in this study.

## 5.4 Scale of anxiety and depression (EAD)

For each dimension, its values were determined by calculating the sum of the items that constitute them (Table 5).

**Table 5- Statistics - Scale of anxiety and depression (EAD)**

	N	mean	Standard deviation	variance	Min.	Max.	Min. point	midpoint	peak
Anxiety	100	9,95	3,88	39%	0	20	0	10,5	21
Depression	100	5,46	3,26	60%	0	15	0	10,5	21

Anxiety scale has a mean value close to the midpoint of the measurement scale, depression scale has an average value below the midpoint of the measurement scale, therefore, on average, we can see that Anxiety has an intermediate value and Depression It has a reduced value. Thus, we can see that the elderly participants in this study did not have depressive symptoms and may continue to be part of it.

## 5.5 Successful Memory and Aging

To evaluate the prospective and retrospective memory of the elderly was used questionnaire prospective and retrospective memory and the results are presented below (Table 6).

**Table 6 - Statistics - Memory Questionnaire Prospective and Retrospective (PRMQ)**

	N	mean	Standard deviation	variance	Min.	Max.	Min. point	midpoint	peak
PRMQ Prospective	100	11,5	5,5	48%	0	25	0	16	32
PRMQ Retrospective	100	10,7	4,9	46%	1	22	0	16	32

Prospective memory and memory Retrospective, have a mean value less than the midpoint of the measurement scales slightly higher for the prospective dimension compared with the dimension Retrospective therefore, on average, both dimensions have decreased. Note that the scales measure the loss of memory, therefore, the values obtained indicate that, on average, memory loss is reduced.

**Table 7- Frequencies - Memory Complaints: Absence or presence**

	Frequency	Percentage
Absence MC	49	49,0
Presence MC	51	51,0
Total	100	100,0

In the sample, 49% reported having no memory complaints and 51% respond have memory complaints. (Table 7). To characterize the successful aging used was SAS scale in this study and the results are as follows

**Table 8- Statistics - Aging Scale Successful**

	N	mean	Standard deviation	variance	Min.	Max.	Min. point	midpoint	peak
Aging Scale Successful	100	90,1	5,7	6%	76	98	14	56	98
(A) Healthy Lifestyle	100	32,8	2,1	6%	27	35	5	20	35
(B) Commitment to Life	100	31,7	2,5	8%	22	35	5	20	35

Both Aging Scale Successful, as its dimensions (a) Healthy Lifestyle and (b) Commitment to Life, have a very close average value of the maximum value of each variable, slightly higher than for the dimension (a) Healthy Lifestyle compared to the dimension (b) Commitment to Life, therefore, on average, range and both its dimensions have very high values (Table 8). Successful aging was stratified into two groups: low EBS EBS High vs the 66 percentile ( $\leq 66$  percentile were categorized with high low EBS and the remaining as high EBS)

In the sample, 64% had low EBS and 36% have high EBS.

**Table 9- Descriptive statistics and Mann-Whitney tests: Relations between Aging Scale Successful and Memory Complaints**

		N	mean	Standard deviation	U Mann-Whitney	p
Successful aging range	Absence MC	49	91,96	4,783	755	** 0,001
	Presence MC	51	88,22	6,028		
(A) Healthy Lifestyle	Absence MC	49	33,31	1,828	883,5	** 0,009
	Presence MC	51	32,27	2,173		
(B) Commitment to Life	Absence MC	49	32,57	1,744	756	** 0,001
	Presence MC	51	30,90	2,809		

\*\* significant difference  $p < 0.01$

The probative value is less than 5% for the Aging Scale Successful and its dimensions (a) Healthy Lifestyle and (b) Commitment to Life, there are substantial differences with memory complaints. The Aging Scale Successful and its dimensions (a) Healthy Lifestyle and (b) Commitment to Life have a higher value for those with no memory complaints, and the differences statistically significant (Table 9).



**Table 10- Frequencies - Relationship between Aging Scale Successful (in categories) and Memory Complaints**

MEMORY COMPLAINTS:		Category Successful aging: Low vs High	
		SF Low	SF High
Absence MC	N	27	22
	% in the group	55,1%	44,9%
Presence MC	N	37	14
	% in the group	72,5%	27,5%

We can see that, the percentage of SF High is higher for those with no memory complaints, however, the differences are not statistically significant, according to the chi-square test ( $\chi^2 (1) = 3,302$  ;  $p = 0.069$ ) (Table 10).

## 6. DISCUSSION

After the presentation of the main results we can come to some conclusions on the fundamental issues of this study, that is, to understand whether there is a relationship between successful aging and complaints of prospective and retrospective memory in older people. After collected the data from this study is a brief characterization of the participants, we found that the majority are between 65 and 69 years of age (Table 1), and have two children (Table 2). Whereas the majority have a regular memory (Table 3) still present the majority presence of memory complaints (Table 7).

When we present the results obtained by analyzing the internal consistency of the scales that allows to study the scales of measurement properties and issues that make up, according to Anastasis (1990) and DeVellis (1991) found that all scales can be perfectly measured by items that comprise, in particular the successful aging scale with a Cronbach's alpha value of 0.867, the memory questionnaire with a Cronbach's alpha of 0.874 and the scale of anxiety and depression with a Cronbach's Alpha 0704.

The value of Cronbach's alpha (Cronbach, 1951) is an internal consistency model based on inter-item correlation, the most widely used model in the social sciences for internal consistency check and validity scales is considered good and acceptable in the present study yet the outcome of anxiety and depression dimensions is lower it is acceptable to measure anxiety and depression in this sample. Note that an internal consistency coefficient of 0.80 or more is considered "good" in most applications of Social Sciences and an internal consistency coefficient between 0.70 and 0.80 is considered acceptable. In some studies are also admitted internal consistency values from 0.60 to 0.70, which according to the literature is "weak." These values are referred to, for example, Muñiz (2003), Muñiz *et al.* (2005) and Nunnally (1978).

With regard to the values of the mental state, anxiety and depression were favorable that allowed participants to the elderly in this study could integrate. Regarding the state of mind the scale of Mini Mental State Examination showed an average value very close to the maximum value of the measurement scales, 26.5 points (Table 4), so on average showed very high values. For scale and each of its dimensions, its values were determined by calculating the sum of the items that are being the minimum value of 0 and the maximum 30.

After the results in Anxiety and Depression Scale can verify that anxiety has an intermediate value and the depression have lower values (Table 5). By applying the Mini Mental State Examination can be observed that the participants had no cognitive impairment, considered cognitive deficit illiterates with a total of 15 points or less, 1 to 11 years of education with a total of 22 points or less and schooling than 11 years to 27 cutoff point, had no depressive symptoms and confirmed by the Hospital anxiety and depression Scale that was used to assess anxiety and depression. This scale has 14 items, with 4 answer choices, listed from 0 to 3; if the total in each subscale are greater than 8 and less than 10 require evaluation for depressive state confirmation, and for values above 11 require intervention and follow-up (Ribeiro, 2007).

Analyzing the prospective and retrospective memory of the elderly through the Prospective Memory Questionnaire and Retrospective containing 16 items related to daily memory failures, eight prospective memory and eight retrospective memory. We can see from the results obtained that the prospective memory and retrospective memory, have an average value below the intermediate point of measurement scales, slightly higher for the prospective size compared with the retrospective dimension, therefore, on average, both dimensions have values reduced. Note that the scales measure the loss of memory, therefore, the values obtained indicate that, on average, memory loss is reduced (Table 6), however, 49% reported to have no memory complaints and 51% respond have memory complaints (Table 7).

The literature states that age is usually associated with the decline of cognitive processes, it is common at this stage the appearance of complaints related to memory loss.

In accordance with the results of the Baddeley author (2011 p.311) refers to memory in aging saying “*we all complain about the fallibility of our memories and, as we age, we further complain.*” The decline in memory is evident, since this cognitive function becomes the target of the most common complaints among the elderly, however, memory changes in normal aging occur differently in other words, every human being has a rhythm own particular aging, thus there is a variability of the effects of aging in relation to memory. By analyzing the successful aging through the Successful Aging Scale - SAS, developed by Gary T. Reker (2009), which aims to measure the perception of successful aging of older people obtained the following results: both the Aging Scale successful, as its dimensions (a) Healthy Lifestyle and (b) Commitment to Life, have a very close average value of the maximum value of each variable, so on average the scale and both its dimensions have very high values (Table 8).

Although there are results of a high successful aging, after being stratified the majority of the participants have a low successful aging. Rowe (1987) cited by Crispim (2014, p.54) states that the “*successful aging is multidimensional, characterized by the low probability of disease and disability related to disease, high capacity for cognitive and physical functioning and interaction with the life*”. That is, it depends on a healthier lifestyle and a prolongation of active engagement with life. Therefore we can consider that the participants in this study and meet with regard to successful aging, however must continue to promote even, in particular, “*promoting health and preventive care directed to elderly people, increase longevity, improve health and quality of life and help to streamline the resources of society*” (Guiomar (2010 p.6) so that they can get better results once the majority has a successful aging low fly away when stratified. We can all take an active role in promoting successful aging, health psychology has a key role in this promotion.

Thus we can say that a key aspect in the field of psychology’s contributions in promoting successful aging is an early intervention in the maintenance and promotion of health in earlier life stages. Another aspect relates to the establishment of a network of multidisciplinary intervention, this concerted action by all will favor the acquisition of quality practices in various contexts and support services for the elderly. (See Guiomar, 2010 p.11).

Regarding the complaints Memory and Aging Successful after the results we can see that the Aging Scale Successful and its dimensions (a) Healthy Lifestyle and (b) Commitment to Life have a higher value for those with lack of memory complaints (Table 9). When stratified successful aging, the proportion of high EBS is superior to those having no memory complaints (Table 10). In this logic we can say that anyone who has a successful aging has no memory complaints, it should be noted that the literature states that memory is fundamental so that we can learn, see, speak, reason, and as such, it would be difficult to conceive of a human being who did not have this cognitive capacity, making it relevant to maintaining cognitive ability and the active commitment to emerge as two of the key features for a successful aging.

## 7. CONCLUSION

According to the National Program for Health of Older Persons (2004) cited by Guiomar (2010 p.4) “*aging is not a problem, but a natural part of the life cycle, it is desirable to provide an opportunity to live healthy and independently as long as possible.* “The author cited above also states that “*health promotion and preventive care, directed for the elderly, increases longevity, improve health and quality of life*” (Guiomar: 2010 p.6). This study had the participation of 100 elderly people in general we can characterize them as follows: the majority were female, married, have two children, have the first cycle of basic education and do not receive a higher income the minimum wage. The physical activity and memory, mostly perform physical activity at least twice a week and consider having a regular memory.

The objectives of this study sought to understand whether there is a relationship between successful aging and complaints of prospective and retrospective memory in this sense we evaluated the prospective and retrospective memory of the elderly, we characterized the successful aging and we evaluated the relationship between education, status socio-economic, gender and memory complaints. After collection, analysis and processing of data we conclude that the elderly participants of this study have on average a high successful aging, however, when stratified successful aging high and successful aging down, the majority (64%). It presents the results of a successful aging down.

Regarding the reduced memory feature memory loss results, but the majority (51%) having the presence of memory complaints. From the above, outline a proposal for intervention project entitled “*Exercising the mind*” contemplating a cognitive stimulation program in order to reduce memory complaints, there is a maintenance of cognitive abilities to those who do not file complaints and in this sense enhance the successful aging (Appendix 1)

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## APPENDIX 1

### PROJECT: “EXERCISING THE MIND”

This Project was designated “*Exercising the mind*” in an attempt to emphasize the unity and complementarity between the movement of physical activity and the mind. That Project emphasizing the importance of a healthy mind and healthy body to obtain a physical and mental well-being.

#### General Goal

- Decrease Memory complaints of older people and enhance the Aging Successful

#### Specific Goals

- Stimulate cognitive functions;
- Maintenance and improvement of cognitive skills; P
- Provide new tools to enhance the successful aging;

#### Main activities to develop

The Project designed for “*Exercising the mind*” was based on Ana Alvarez (2008). This author defended the importance of develop the potential memory. In her manual she suggests practical ideas and simple exercises that can be part of everyday life for everyone. The aim is improving the storage capacity. The activities to be developed are:

##### *Internal compensatory strategies - optimizing personal capacity:*

- Attention and concentration
- Techniques for information coding

##### *Enhance memory through lifestyle:*

- Attention
- The construction power
- The rest for the brain

##### *Strengthen attention:*

- To form visual, auditory and tactile images.

##### *Store organized way information:*

- Characterization and storing items
- Association of ideas

# SEPARATION-INDIVIDUATION IN THE SENIORS PARENT OF CHILDREN WITH DISABILITIES

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## ABSTRACT

This study focuses on understanding of the separation-individuation process in the elderly parents of children with disability. Its overall objective, is to analyze the impact of disability in the individuation-separation process senior in parents of children with disabilities. 8 parents participated in the study aged between 65 and 75 whose children are part of the Occupational Activity Centre of the Portuguese Association of Parents and Friends of Mentally Retarded Citizens of Évora. The qualitative nature of the study focuses on the knowledge of the life stories of four couples. The data collection made from documentary research and the use of semi-structured interview. Data analysis made possible to assess the impact of disability on the family dynamic takes a decisive influence in the separation-individuation process of these parents throughout their life cycle, since conditions in a unique way his experience. The degree of commitment what disability prints on children, is also a determining influencing factor in this process, personal experiences, organization of family dynamics in thought life projects and dreamed and wellness promotion.

Keywords: Separation-Individuation, Disability, Family, Wellness.

## 1. INTRODUCTION

This research study aims to contribute to understanding the experience of the separation-individuation process in senior parents of children with disabilities. The family, as support organization, has been recognized as an essential system for the development of its members, playing a leading role in promoting human rights and social inclusion of people with disabilities as the first social universe. Arguably, their influence becomes very significant, mainly due to the emotional and affective nature that characterizes its unique relationships (Silva e Dessen, 2001). For Dessen and Lewis (1998) the development of people is associated with the development of their families, given the quality of interactions and depth of relationships that characterize the family context.

The family understood by the parents and children, has been called nuclear family, when the concept includes grandfathers, uncles and other relatives, is called extended family. These families have a membership relationship (alliance or affiliation), and its members live the permanent circularity of emotions and positive and negative Affects both and there is a vital involvement among its members. In this perspective, according to Relvas (1996, p 17), “the family will have to successfully solve two tasks, they also essential: creating a sense of belonging to the group and individuation and autonomy of its members”. In this context, it seems important to understand how, in the course of individuation separation process throughout life, the family who experiences problems, reorganizes and develops mastery with the possibility of its members continue to live as a couple, focusing on career and back looking at each other while people investing in their wellbeing. Facing this reality, by acknowledged the author of the study in their professional activity, is situated this proposed scientific research, which is based on the assumption what the process of separation/individuation is a fundamental principle of organization of human growth which has implications for adaptive functioning throughout life (Lapsley, 2010).

Starting from the premise what parents are active building blocks of meanings operationalized in your household, and require external mutual support, especially when cohabiting with disabilities, so what its subjective and interpersonal constitution give rise to the establishment of relations in community context arises the question of departure: What influence a child of deficiency in (s) procedure (s) of separation/individuation senior parents, throughout the life cycle of these parents?

Resulting from this central issue more specific they put that, because of its specificity, we can consider as guiding questions:

- What is the impact of disability of children in life projects, realized and dreamed?
- We can encourage proactivity of senior parents who have experienced the process of separation/individuation pathological?

## 2. SEPARATION/INDIVIDUATION THE LIFE CYCLE

In psychoanalytic literature, we can find extensive information about the process of separation-individuation in childhood and adolescence, however, there is little investment about the process of separation and individuation in adults (Colarusso, 1990).

Mahler, Pine, & Bergman (2002) postulated the existence of a normal separation-individuation in childhood process, also called first individuation. This process, which involves the separation and individuation of the baby in relation to the mother, would be the first and decisive prerequisite for the development and maintenance of a sense of identity, an individualized and differentiated safely self-image of himself.

Margaret S. Mahler, Fred Pine and Anni Bergman (1963), research on “psychological el nacimiento del human infant - symbiosis and individuación” claim that biological birth does not coincide in time with the psychological birth. The biological is observable and well circumscribed as the psychological is an intrapsychic process of slow development.

According to the authors, the main psychological traits occur in the period from the 4th. or 5. month until the 30th. or 36. months where it happens the so called lapse separation-individuation process subsequent to evolutionarily regular symbiotic period. Malher states that

“o processo normal de separacion-individuacion, que sigue a um período simbiótico evolutivamente normal, incluye el logro por parte del niño de um evolutivamente normal funcionamiento separado em presencia de la madre y con la disponibilidad emocional de esta” (1963, p.14).

In this sense, Malher emphasizes the need that children have to try to establish links with the mother figure and at the same time, to find space in symbiotic relationship to make way for their ou individuality.

“El niño se enfrenta continuamente com amenazas mínimas de perdida de objeto (que cada paso del proceso de maduración parece traer consigo). Sin embargo, em contraste com situaciones de separación traumática, este proceso normal de separación-individuación ocurre en el ámbito de uma disposición evolutiva para el funcionamiento independiente y de uma complacência en tal actividad.” (Malher,1963, p.14).

Hence, the real psychological autonomy has nothing to do with untying behavior, but with the continued existence of bonds, insurance bonds that allow and promote safe separation.

Separation and individuation are considered as two different and complementary structural processes (Mahler, 1982; Mahler, Pine & Bergman, 2002). The first means the departure of the symbiotic merger child with the mother, aimed at intrapsychic acquisition of a mother shutdown sense and the world in general (feeling of being a separate individual). The second turn indicates the evolution of psychic autonomy, with the child taking their individual characteristics. Thus, for Mahler *et al.* (2002), such a process would lead to psychological birth of the individual, from some specific steps.

Its onset occurs at an early stage of development, coinciding with the differentiation of the child in relation to his mother, the symbiotic nature, with the loss of the maternal object, featuring the first individuation (Mahler, 1982).

A second phase of this process, proposed by Blos (1994), called second individuation occur in adolescence. For the author, due to the new edition of the edipus complex that moment, the young man relives his early relationship with their parents, while you need to perform a psychic work of separation and differentiation of internalized the same images. Thus, childhood mother was shutdown of physical nature, from the internalisation of an image thereof; in adolescence, in turn, the shutdown of these internalized objects happens, so that the young can move forward, finding other objects that will be loved or hated, which would allow the formation of their own family group.

The third individuation occurs with parenting experience (Colarusso, 1990). The new role assumed with parenting extends the adult self and encourages the separation of parental figures. The fourth individuation occurs when the individual becomes grandmother or grandfather (Colarusso, 1990) giving rise to the need for re-define the new position that will occupy between generations as well as the establishment of new links with the grandson.

We can then consider that the experience of separation and individuation can occur in a complementary way. While the process is interlaced or may coincide with other evolutionary processes it is not identical to them, occurring over the life of four distinct phases. The experience of this process occurs gradually as the development of human beings and their autonomy in relation to parental figures, which justifies an approach to the family.

### 3. DISABILITY/COUPLE OF AUTONOMY

The arrival of a child requires the couple to build a parental model that combines two areas: maternal and paternal. Are assumed parental functions on the basis of the above aspects, primarily in order to support the child's growth and development, socialization, autonomy and individuation, possessing the ability to nurture, guide and control (Relvas, 1996). Regardless of their physical condition, the parental subsystem is formed with the birth of a child. The changes are felt by parents in different contexts of everyday life and from that moment there is a need to organize first aid. According to Bradt (1995, p.206) "There is no stage that causes more profound change and that means greater challenge to the nuclear family and extended than the coming of another element to the family system."

This shift to parenting involves and implies the adjustment of the individual identity of each, the husband becomes a father, the woman becomes a mother, and the couple relationship changes to the family unit. In the wider context, the family structure will be modified by setting up a dialectic of different and new roles: the nephews are also cousins, the brothers become uncles and in-laws and parents become grandparents (Bradt, 1995).

According to Terrassi (1993), the birth of a child is triggering many positive feelings. But the birth of a disabled child causes the destruction of family fantasies, replacing dreams thought by doubts and anxieties of the child with disabilities. In this regard, also notes Barbosa (2005), which from primitive societies, to our contemporary civilization in different man acculturation processes, beliefs, the fears, values and myths in most families, the birth of a disabled child is to dismantle an entire castle of dreams, conscious and unconscious of the parents. Sprovieri and Araújo (2005) state that parents yearn for the "perfect child", healthy, strong, smart and full of energy, enough to carry out their dreams were not realized. The months leading up to the birth affect the emotional balance in general, in the family, marital relationship, the relationship with their own parents and the community. So as this process occurs, the consciousness of being a father/mother will promote the psychosocial development, reconstruction of their identity as parents and fundamentally restructuring the family to a new stage of their life cycle. Against this backdrop of complex interactions, emotions and affections, the family takes shape as the context of experiences and meanings for excellence, which runs the construction of identity and the sense of belonging to a place.

Faced with the new reality of confrontation with the baby not idealized, structure and family dynamics is deeply shaken. Barbosa (2005) refers to the existence of a reversal of feelings, strongly linked to the standards of beauty and perfection that are pre-established socially.

So the birth of the child with disabilities takes account of another kind of feelings and emotions giving way to shock, joy is replaced by sadness, frustration, anger, anxiety and insecurity. It is for the parents, the fleshing out of an evolving process: the imaginary child of dreams and fantasies, the invisible but real fetus, particular rhythms that are becoming more apparent in the course of pregnancy and the newborn that does not match his ideal.

The attachment to the newborn emerges as a web that is being delicately constructed based on these preliminary relationships with the imaginary child and the fetus during the pregnancy period, was an integral part of the lives of parents (Brazelton & Cramer, 1992). The harsh reality of the child's disability knowledge in early life causes an amalgam of emotions and feelings. The authors Petean & Taveira (1995) point to this initial sense time as the most difficult for the family, which has to find its internal reorganization which, in turn, depends on its structure and functioning as a group and also the its members individually. Parents associate most often confirm the diagnosis of a disabled son to a loss of experience developing similar reactions to losses for the death of someone (Coelho, 2001). To learn to live with this reality, the family goes through several stages, each of which has different reactions to understanding and acceptance of the child process.

In the first phase characterized by shock, they try to find guilty and want to know the reason for this to have happened; the second phase called denial results from trying to find a wrong diagnosis or cure until the hopes are exhausted; in the third stage cholera, which move away from the world, to experience grief; the fourth phase living with the reality in which the imbalance between acceptance and rejection is of great expressiveness, and fifth phase are the expectations regarding the future, which emerge floating form and face the unknown, feelings such as fear, insecurity among others (Cervený, 2004). It is a painful path where often develop many emotions to possible adaptation and acceptance.

According to the author quoted above, it is to note that not all families necessarily go through all these stages. And some parents with children in adulthood, still experience birth moment of feelings, or may even live in expectation of healing and transformation of young adults with disabilities.

The reaction of the parents before the child's disability, this can greatly influence the development and its journey as a family. According to Cervený (2004), if the deficiency is family a threat, produce anxiety and distress, if this interpretation is loss produce depression. However, if the diagnosis is interpreted as a challenge towards new things discovery, feelings of hope go towards solving the problem, motivation, learning and growth. In the view of Souza & Boemer (2003), parents will overcome, surviving disability, and begin to create expectations that range from positive to negative. Regardless of the situation you are in each child, parents expect the child's development is normal.

In an attempt to achieve acceptance, the family attempts a reconstruction of the home environment, in order to

prepare to include the child as an integral member. According to Casarin (1999), the family reorganization is easier when there is mutual support between the couple. For Dessen (1997) and Kreppener (1992) the environment can also hamper this internal reorganization of the family, especially since the birth of a child, by itself, imply changes that constitute a challenge for all family members. Family reorganization balanced emerges in different ways and depends on the psychological resources used is a challenge for these families. As refer Gallimore, Coots, Weisner, Garnier & Guthrie (1996) adaptations of children's families with disabilities present a mixed picture of continuities and changes in their patterns of interaction to the second child the same.

Such changes are not more than the experience of the separation individuation process face the unwanted reality. Demands from parents in the first instance, the experience of a grieving process, which, although representative, always involves the preparation of the imaginary child loss before birth. Thus, it becomes essential to suffer the loss of the perfect child that had been desired, in order to bind to the existing child and has become an integral part of an imposed reality.

Arising from parental adaptation process disability emerge a multitude of factors and variables that cause the family context is a need for change and emerging complex and demanding restructuring. In this context, and given that the impact of disability on families, particularly the individual needs arising from disability, is something for the whole life (Carpenter, 2002) also becomes necessary to meet the needs of caregivers, sensitizing the community to provide them support (Petronilho, 2010).

What these authors suggest is that in all ages, the adaptation of the family is related to the child's characteristics that years later becomes adolescent and then adult, which have a strong direct impact on the daily routine of family members.

The aforementioned idea underscores the importance of a key feature in the family. We talk about family adaptability, which comes down to the ability and skill of marital or family system to change its power structure, roles and rules in relationships they establish in response to the stress caused by a situation concrete and unexpected event, such as response to the very development of the life cycle of the family (Olson, Russell, & Sprenkle, 1983).

The issue of adaptability is certainly one way to go when it relates to families of children with disabilities. The feelings that present regardless of type of disability navigate between conflict and hope that things are not as they think and the strange knowledge that some fact something is wrong. By analogy to the Freudian assumptions, we can infer that it is as if each parent / family faced their harsh reality putting constantly in action psychic defense mechanisms, conscious or unconscious, feels able to act on the reality or modify it. And all this because the families of disabled children the desire for healing is invariably a constant in their lives (Hoher and Wagner, 2006). It is certainly less painful face a disease, to face and face a disability that endures in time and for which there is no cure.

#### **4. AUTONOMY AND TRAINING IN DISABILITY**

Etymologically, the word "autonomy" originates in Greek culture, formed by the case adjective, meaning "the same", "he", "by itself" and by Nomos word that means sharing, "institution", "use", "law", "convention", human competence, "to give them their own laws" and implies constitutive properties of the human person, as it is for you to choose your standards and values, make plans, make decisions and act in consequence of these choices (Schranm, 2005).

Autonomy is the ability to get someone to govern himself; right or power to govern (action) by its own laws; freedom or moral or intellectual independence; property by which human beings wish to be able to choose the laws governing their conduct. Based on the philosophical tradition, autonomy has its origin in the perspective Kantian, which sought to designate the independence of will for all desire or object of desire and the ability of that individual's will to be determined, always accordance with its own law, reason. It concerns the psychological ability to choose paths to take responsibility and self-governing, (Kulbok, 2004). Considering this its definition, it is noted that in the specific case of disability, this constitutes as interference element to promotion of autonomy in that traces a path limitations to the individual. The concept of autonomy advocated by itself, is nevertheless very precise and defined, making it small to the discussion of the autonomy of private disability case. The concept of autonomy requires a context to acquire a specific sense. With Freire (1997), imposes itself as "dialectical process of construction of individual subjectivity, which depends on the interpersonal relationships developed in the living space. Is the ripening of beings to each other, which, as authentic come to be, does not occur on the scheduled date "(p. 121).

It is known that the lack of incentive to autonomy can be a hindrance to the development of any person. When added this aspect to the disabled, its effect can be devastating in the construction point of view of its identity, its autonomy and its individuation process. However, and assuming you have some dependency relationship, respect for autonomy is also to perceive the individual as able to learn and assert their freedom, even if a condition of disability and down. "(...) Respect for autonomy involves treating people in order to empower them to act autonomously, while disrespect involves attitudes and actions that ignore, insult or degrade the autonomy of others and thus deny a



minimum equality people “(Beauchamp & Childress, 2002, p. 143).

The training model for disability implies that look the person as an element capable and transforming your own way. All human beings are dependent when they come into the world, and therefore build their autonomy is part of your own way. That is, this training will be much better carried how much greater the ability of the parents themselves recognize the need for individuation of their children and to establish secure links and therefore potentiate the development of a good adaptive behavior. It is noteworthy that the deficit in adaptive behavior, inherent to the training model, in the first instance relates to the quality of daily functioning, before the environmental requirements. According to Grossman, translates into “significant limitations on individual effectiveness to meet the standards development, learning, personal independence and social responsibility expected for their age and their cultural group” (op.cit., p.11). Ali & Cols (1994), Brito & Dessen (1999) refer to this purpose, which is evident the influence of the social context and pressures felt generating unpleasant feelings that lead families to limit the cultural activities of their children with disabilities and as contacts with friends, relatives and becomes a true martyrdom and of course the higher the degree of neuro psychomotor impairment, the greater the difficulty (Barbosa, 2005). Not only is the inability of children to prevent the social experience of parents.

Parents, as a result of their own life experiences, accumulate concepts, beliefs, values generally negative regarding disability which make up social representations circulating in their cultural environment. These social representations are in initial references to the construction of their mental representations related to the child and which appear as key in promoting their autonomy.

Human subjectivity is constructed in and through culture, and consequently, each parent is influenced by the cultural environment in which disability is expressed by comprehensive and impregnated social representations of unfavorable qualities.

According to the authors (Carey, 1982; Cooke & Lawton, 1984; Holmes & Carr, 1991), over the years, still the mothers responsible for most of the care of children with varied help other members family and very little of the community. Some of them even leave to work, to exercise their profession and to invest in his career for the sake of a greater good.

On the other hand some studies show that parents often feel, less satisfaction with family life as a result of the growing demands that lacks a disabled child. According to Amiralian (1986), the expectations of parents of a child with disabilities are, in most cases, the level of achievement of a normal child, and in this sense any accomplishments and achievement he makes are always short of what is expected. Disbelief by parents in the development of your child with disabilities ends up leading them to an exaggerated protection, preventing its autonomy and independence and progress in accordance with their actual capabilities. We can thus understand why the children with disabilities have the most evidence of overprotection and a negative self-image and low level of aspirations. Also gender issues stand out in these cases. The authors Lamb and Billings (1997), say that parents often have higher expectations for their children than the daughters and are particularly disappointed when a child is diagnosed as having a disability.

It is observed frequently that the life of a disabled person tends to revolve around their disabilities, contrary to what would be required in the pursuit of their skills and developing their skills. Inability bearing becomes the focus of experiences and family purposes. So that, as already mentioned above, it operates a drastic change in family life, in which it restricted almost entirely social life in the name of the difficulty brought by the son is seen as synonymous with difficulties for the family group, hardly being accepted and considered active participant of family relationships. This leads to a secluded position and marginal, which can transfer to all other family and social situations that will participate (Amiralian, 1986).

## 5. METHODOLOGY

For parents, it is important to develop new psychic representations of the child throughout its life cycle, to cover this other reality, of being able to walk his way, freeing them themselves to the reconstruction of a new project and rediscovering new meanings in their lives. One cannot overlook the fact that aging is by itself stage of individuation separation and separation in the transition from the middle of life not only implies the increasing limitation of autonomy, physical beauty and youth, but reveals deep anxieties regarding the future of their children. For these parents, aging comes accompanied by the uncertainty of the future reserved for their children triggering feelings of real distress and insecurity.

### So we propose to study General Purpose:

Analyze the children of disability impact on the separation-individuation process of senior parents throughout the life cycle of these parents.

## **How Specific objectives:**

Knowing the impact of disability on life projects carried out and dreamed;

Knowing the promotion factors of proactivity in senior parents who have experienced a process of separation-individuation pathological.

### **5.1 Participants**

This research formed part 8 participants of both genders, enrolled in the type of convenience sampling option. They are aged between 65 and 75 years old, verifying that 6 of them are in the age group from 65 to 70 years and the other two are in the age group of 71 to 76 years old. The average age is 69 years. They come from different places of birth, the high Alentejo. With regard to qualifications, we can be noted that two of the participants completed the third class; six of the eight participants have the 4th. education class and that these six, only two studied and later completed 6. and 7th. year respectively. Note that these were mainly acquired before the birth of children. With regard to the profession, it is noted five distinct subcategories: Manual worker (2 participants registration); farmer (2 participants); domestic (3 participants) with two of working for others, (one as a seamstress and another as a maid) and local government employee (1 participant). It was also found that for the number of children and respective ages, only one of the participating couples have a child 34 years of age and disability; two of the participating couples have two children, and in both is the eldest son who has disabilities, 49 years and 37 years respectively; and that only one couple has three children, being the middle child of 35, who have disabilities. Must be pointed out that the features described above are assumed as inclusion criteria required for the proposed research, in that if you want to study a reality precise and specific, and therefore not intended to extrapolate the results to another context.

### **5.2 Instruments**

The made data collection, is the result of a previous work of documentary analysis which was established as an important technique in the field of this research. It also sought to complement information obtained by other techniques used, using semi-structured interview which served as the basis for the collection of life stories of the participants, to direct observation and analysis audio visual. The semi-structured interview as data collection technique giving priority to the collection of history (s) of life, also emphasizes understanding attitudes, empathy, facilitation and opening of another and requires joint reflection space between interviewer and interviewee . This conference aims to explore a part of the narrator's life and is focused on situations experienced in settling events scripted. As pointed out Digneffe and Beckers (1997), the life story captures what escapes the statistics, the dominant objective regularities and macrosociological determinism, making accessible the particular, the marginal, the ruptures, the misunderstandings, the fundamental elements of social reality, that explain why there is only play, and recognizing at the same time, sociological value on individual knowledge. We refer to an odd value, staff, and results emerging from the reflections on the experiences that interviewer's questions lead the respondent.

### **5.3 Procedures**

A qualitative character research logic proceeded to conduct interviews with the participants. The interviews took place in a driving time of 1 hour and a half each in APPACDM of Évora in order to favor a family atmosphere and reference of the participants, on the one hand, and after working hours to ensure the serenity of surroundings and avoid interruptions, on the other. Each participant was interviewed individually in order to favor the free expression of opinions and feelings and avoid the mutual influence of opinions or inhibition because they are in the presence of the spouse. The characterization of the children of the participating couples, obeyed the preparation and filling in a grid which integrated data on functional capacity (communication, motion and temporal spatial orientation), autonomy (personal care, instrumental activities of daily living and social adaptation) and place the phratry. Later, he used content analysis in order to work the empirical data in compliance with the various steps to obtain and final drafting of the required information.

## **6. PRESENTATION AND ANALYSIS OF RESULTS**

The first foray into the analysis of empirical data obtained allows us to dwell on the results of the investigation. By creating categories and subcategories of analysis and organization of different discourses in the same, we proceed to an interpretation of the results.

## 6.1 Understanding the Impact of Disability of a Child in the Family Dynamics

The first major registered domain, from the speeches of the participants, concerns the impact of disability on family dynamics. Issues such as the influence/child's disability impact on family organization, the existence of striking situations and ways of solving the same, the difference in family dynamics in relation to families with children without disabilities, the influence felt individually or between the resulting spouse the child's disability, the reconciliation of family/professional life and social relations, led the results presented against the understanding of the original question and the establishment of categories and subcategories of analysis. The prevalence of registration units totaling 138 allowed the highlight relation to other domains. There were 11 categories, 17 subcategories and 29 sub-sub categories obtained from vertical analysis, we seek to explain by presenting the tables below.

**Table 1. Category Impact of Disability in the Family Dynamics**

Domain	Category	Sub category	Participant	Registration Unit	Frequency
Impact of Disability in the Family Dynamics	Significant	Not valued	M1	-“No. I have not changed anything.” -“While couples do not either.”	12
			P2	-“No. I am an organized person . And I really think that life here in a sense was even better.” -“I think we get along .”	
			M2	-“While not family.” -“No, no. No sir. Nothing, nothing.	
			P3	-“No...” -“No. Fortunately no.”	
			M3	-“No. No.” -“No, no. Not that. There were no problems as well.”	
			M4	-“Then no.” -“Not then!”	

We note first, the prevalence of a significant impact with regard to the influence of child's disability on the family organization, in which most of the answers are in line with the absence of change in the organization, for which we find a possible justification the fact that they are mothers who respond and these have the function of organizing the family routine adjusting the various setbacks.

## 6.2 Understanding Disability Impact on Future Planning

Sprovieri and Araújo (2005) state that parents yearn for the “perfect child”, healthy, strong, smart and full of energy, enough to carry out their dreams were not realized. When this happens, the dreams and elaborate fantasies fade painfully. On this assumption we tried to ask parents about the projects / thought life dreams and performed post disabilities of their children and the impact on their lives throughout the life cycle. The following table reflects these aspects.

**Table 2. Category Life Projects**

Domain	Category	Sub category	Participant	Registration Unit	Frequency
Planning ahead	Life Projects	Thinker/Dreams Gain more knowledge	P1	- “My project to work and go learning more because I ... do not know why I wanted to learn always” - “... If C. had had health possibly I would have learned more. It was always my intention. “ - “I was not and did not want to stay with that wisdom that I learned there in the village. Always tried to learn more. “	3
			M1	-“The projects and dreams was to have two children.” - “After C. born there longer, I mean ... I have not had so many dreams. There no longer right? I thought of so many dreams. “	2
		Have healthy children	P2	- “My dream was to have a better life and that he would healthy.” - “It's that we got married and after nine months he appeared. I had enjoyed the wedding better ... “	2
			M2	“... my dreams were always color pink. They knew ... my dreams were color pink. I wanted to have a priest son and daughter a teacher. “	1

Domain	Category	Sub category	Participant	Registration Unit	Frequency
Planning ahead	Life Projects	Having a home with quality of life	P3	- "Look at me when I got married had a dream in my life was to be able to find a farm to live in the large space with animals, go to work but I was working." - "Because my dream was a house in a position because my house was only two houses, a kitchen and a toilet"	2
			M4	- "Oh ... My dream was to have a house properly."	1
		Being healthy	M4	M4 - "... and be healthy to raise their children to come."	1
		Work	P4	"Look ... AH! Dreams were equal. Was working in the field, was what he was doing. "	1
		Performed	P1	- "I think it was not just dreams. It was work, learn and make money. "But, thank God, in this respect I think I could do. "	3
			M3	- "We made the house we did. We have our house, we bought our car. "	
			P4	- "No response."	
		Unthought	P2	- "At this point I did not think this way. I had other dreams. "	2
			P4	- "There was so large projects because there was no money for programming projects."	
		Unrealised	M2	- "I'm not even a priest son and daughter or a teacher. I mean, he is a teacher but does not give lessons. Neither have one nor have another. "	2
			P3	- "But for various reasons I never got."	

In the first reading we noted that for parents projects translate especially in purchasing a home, work and invest in the acquisition of knowledge (P1, P3 and P4) to enable it to ensure the desired quality of life. As for the mothers, the projects went essentially to have children with health, have health and home conditions. (M1, M2, M4)

As for the projects carried the results indicate that the prevalence of speech falls on the job, make money and build the house. (P1, M3, P4)

Associated with projects is undoubtedly dreams. Or rather its implementation. For all that has been exposed in the frame about the birth of a child with disabilities, it seems fundamental avail ourselves of the dreams of those parents. It will be the impact of disability in their lives more than the desire to continue to dream?

We emphasize that, associated with dreams arise many thoughts, another category, daily mark the life of these parents and dictating the way to go to achieve them. The following table reflects this aspect.

**Table 3. Category Thoughts Identification**

Domain	Category	Sub category	Participant	Registration Unit	Frequency
Implementation of Dreams	Thoughts identification	Gratitude	P1	".. thank God who gave me intelligence, wisdom and health so do not miss anything to C.."	1
		Healing desire	P1	- "Sometimes I'm thinking and looks thank God for not miss me money to do C. treatments."	3
			M1	- "There just thought even in dealing with C... In looking for the best for C .. to the C. heal"	
			P2	"... Silence ... I could have another life better if it was good or maybe not ... As it is today, life ... we do not even know"	
		Being optimistic	M1	- "But we positive, maybe I do not know ... explain positive things. - "I always think that everything will go well me, do not be afraid to go out anywhere, not be afraid of that C. is not well treated." - "Do not think evil, think good. It's easier that way, when we think more and more positive." - "I guess that greatly helps the person and that has helped me a lot to me too."	4
		Refusal	M2	"I do not want to think. Because if you think I have to cry (very emotional). And then, look... I do not think the potential for."	1
		Revolt	M1	- "I'm thrilled. And then I think, I think and often tell my God to forgive me. Because? Why this happened to me?"	1
		Sadness	P4	- " It's sad.."	1
		Impotence	M4	- "Well ... What comes to mind is that I cannot do anything..."	1

On first reading, we found that the prevalence of speech focuses on the one hand the desire for healing (P1, M1 and P2) and the other in the adoption of optimistic attitudes which come from positive thoughts (M1) in the hope that if so anything that can happen will always be seen more easily. Regarding the desire for healing seems clear that, for these parents their children do not have a disability, but a disease. In this sense, we understand the unceasing search for treatments, because what is expected to happen are improvements, as if it were a disease. The need to deconstruct the dream idealized by parents, requires that there be a change. Change factors are another category found.

**Table 4. Category Change Factors**

Domain	Category	Sub category	Participant	Registration Unit	Frequency
Change factors		Related to the son	P1	-“The only change I wanted was to C. It was just what I wanted. I have no greed nothing more. That’s what I fight every day “”	1
		Unmanifested	M1	-“No...(shrugs). Not change because... Maybe not change.”	6
			P2	-“No.”	
			M2	-“No. I did not change anything”. Not changed.”	
			P3	-“I have not changed anything ... You have to have is health.”	
			M3	-“ I think I was not going to change anything ...	
			P4	-“Eh! In my life I cannot change anything ... I do not know, do not think of anything.”	
		Emocional lock	P1	“...Silence, diverts thrilled look ... I do not know to answer”	2
			M4	-“Now that ... I do not know.”	

In this category, we found that most parents (M1, P2, M2, P3, P4 and M3) have not expressed their opinion concretely when asked about changes they would make in their lives. It is as if they had taken a resigned attitude towards the events in your life.

Most of the time periods of suffering are temporary, marked by continuity and discontinuity, are seen as normal events in the life cycle. However, suffering about disability is an inevitable pain which cannot be forgotten, nor modified. But yes, something with which we must learn to live and change their usual way to live your feelings, in order to adjust them, they may never escape it, will always be present. (Buscaglia, 2010)

Accordingly, only P1, realizes his desire to change in life. A true and legitimate desire, his daughter, as if his life were part of an idealized child and for which mourning was never truly done. A key aspect, whose influence is reflected in the experience of individuation separation process.

A synthetic form we can infer that for the purpose of knowing the impact of disability on life projects carried out and dreamed, this has a strong influence in the development and realization of dreams and life projects of these parents.

Evidently, and given the theme of research, it is easily understood that from the time of birth of a child with disabilities, it is crucial to develop an entire deconstruction process that gives rise to the construction of new dreams and new life projects. Nevertheless, we find that for these parents, the ideal son of desire, it is assumed like a dream compared to the other and whose children do not have any kind of disability. Any dream or aspiration that does not compete in this respect (work, make a home, have a car, have health) resembles the wishes of ordinary mortals, except for the desired life did not allow them to fulfill: to have a healthy child.

## 7. MOTION FOR INTERVENTION PROJECT

Based on the results obtained in this research, we propose an intervention project for the development of actions that contribute to the sharing of common experiences among parents who experience the problem of disabilities and increasing their participation in the community.

“**Here’s Parents**” is an intervention project which consists in three fundamental principles. **Here** refers to the organizational physical space, in obedience to the importance of the sense of belonging par excellence takes over the entire life of any human being cycle. **There**, because in reality the true meaning of human existence is hidden behind the verb force there; **Parents**, in a double sense. On the one hand, because in view of the theme of research, one cannot overlook that the project integrates the experience of senior parents of children with disabilities, key players, and secondly, because it is essential to believe that there are people who uphold unconditional way his children. “**Here’s Parents**” is a project aimed at a specific target audience, unique in their experiences and that essentially

seeks to demarcate that parents have a sovereign power on the target mapping in their lives and the lives of their children, and allow the experience individuation separation occurs naturally throughout the life cycle and trust in the capabilities that each of their children has. For this, we also need to feel that your hand there are people trained to support for this process can be effected in this life cycle stage.

In this context, **“Here’s Parents”** aims to promote the sharing of common experiences in a group of senior parents with children with disabilities through the development of four actions. Are they:

**Parents Affection**, aimed in the first instance to strengthen relations of affection and mutual cooperation between the parents; **Parents Share**, which seeks to promote discussion and sharing along with the appropriate professionals to alleviate fears about their children; **Creative Parents**, to develop creativity and self expression parents through art, in relation to the children and **Parents Living**, which seeks primarily to enhance communication and active participation of parents in the community through their involvement in joint actions.

## 8. CONCLUSION

We proceeded to the consultation of existing theoretical framework and lines of research, which revealed the scant reference to this procedure when analyzed from the adult point of view, in particular, parents whose children have disabilities.

On the whole, the results revealed that the process of separation individuation in the first instance, it stems from a multifactorial dimension and which will (be) built over lifecycle each time there is a place to change, discontinuities and continuities

On the other hand also concluded, and meeting the guiding questions that underlie the central issue of this research, the impact of disability on family dynamics is indicative of great influence on the dynamics of the studied families, not only in terms of references felt individually but also between spouses.

It noted also that the children of disability impact is felt at the level of projects thought and dreams realized. For these parents dream not always leads to life, idealized form, and from the moment you give birth to a child with disabilities all your dreams until then thought they fall to the ground, stop making sense, giving way to staff and all family dynamics shift, making it necessary to chart a new future planning.

It should also be noted that, this being a process that is not limited only to the first stages of development occurring throughout the life cycle, contains in itself a set of factors that associated with the experience of disability, can be disruptive if these parents do not allow to develop strategies and adopt proactive attitudes.

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# THE CARE OF CAREGIVERS: THE SENESCENCE LIVED WHEN TAKING CARE OF DISABLED CHILDREN

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## ABSTRACT

The study has focused on seniors parents of adult children caregivers with disabilities who attend the Occupational Activity Centre (CAO) of the Portuguese Parents and Friends of Mentally Retarded Citizens of Évora (APPACDM of Évora). The aim of this study is to analyze the needs of caring for seniors parents, caregivers of adult children with disabilities. This qualitative study of exploratory nature, a case study methodology, and counts with 10 participants of both genders, aged between 65 and 82 years old. According to the research results, we assess that the senescent caregivers of children with disabilities manifest need for support on financial and health care levels, as well as difficulties in access of health services and social security. Fatigue and wear comes up in these persons due to the continuous acts of care throughout life and also due to the difficulties associated with the disabilities in question. For these parents caregiving is, despite the difficulties, their rewarding life mission.

Keywords: Caregiver, Support, Disability, Family, Senescence.

## 1. INTRODUCTION

The economic and social development as well as the progress of medicine have made it possible to live a longer life, however this leads to the increase of dependent people, either elderly or with disabilities.

This dependency situation constitutes a problem that seems to be widening with social, economic and political implications (Sequeira, 2007).

This reality leads to the inevitability of not being able to ignore the social and family impacts of the dependency, of the dependent person himself and the caregiver.

According to Imaginarium (2008), impacts are not only psychosocial but also of socio-economic and situational nature, which affects the physical health given the tensions that family members are subjected to during care, and given the increased responsibility, the economic burden and the constraints of social relations of the caregiver.

When, to the normal aging process is added the the responsibility to care for a disabled person also getting older, we face many weaknesses.

The reflection of this reality led us to the starting point of the study presented here: What are the forms of support better suited to seniors whose life goal has always been taking care of grown children who behave like eternal infants?

Given the above problem, the following general objective was drawn: to analyze the caring needs that senior parents caregivers of children with disabilities face.

This essentially descriptive study, intends to develop *“an approach to the knowledge of social reality as a strategy that allows to rethink and renew the practice”* (Martins, 1999, p.56) and may act as an engine for enhancing professional interventions in promoting effective ways of caring for senior parents with children with disabilities.

## 2. THE IMPORTANCE OF CARING AND CAREGIVER'S ROLE

Research on the welfare of production has shown that families are the main care to those who are producing them coming in disease status, frailty or disability (Goodhead and MacDonald 2007; Glendinning, Caroline; Arksey, H., Tjadens, F., Moree, M., Moran, N. and Nies, H. 2009; Europe Commission, 2010).

Typically, this form of care is not based on any formal agreement or specific services, but the existence of ties

between the subjects and the social expectations of them (Santos, 1993; 1994; Portugal, 2006; Goodhead et al, 2007).

We can consider then the informal care as a mobilizing human action, which basically translates to respect the suffering and the dignity of dependent as a natural person, providing you with better quality of life. At the same time it is important that the caregiver has quality of life, it is necessary that this look to equip itself with a network of support and indispensable support strategies to the provision of everyday nature of care and prolonged.

When this happens, the act of caring is both rational and emotional as it implies delivery, dedication, commitment and creativity in a fully coordinated intervention of meanings and feelings of everyone involved.

### **3. EMPOWERING FOR CARING**

The provision of informal care is a practice deeply rooted in cultural values of Portuguese society in its affective dimension of psychological support and the instrumental dimension of physical help, so that, according to Portugal (2006), our country is framed in southern social protection model, which assigns a key role to the family in welfare production.

As caregiver, the family, as evidenced Hespanha and Portugal (2002), does not fail to reveal some deficiencies in his performance, particularly in terms of the scarcity of resources available to help the high material and emotional costs to the elements involved, overload for women, the trend for the creation and reproduction of forms of social control and the inability to assimilate equal contexts, citizenship and rights.

As stated Lopes (2007), family functioning in a situation of dependency of one of its members, is variable depending on the capacity that develops to mobilize its resources, whether internal, whether external.

The lack of formal support services for people with disabilities in Portugal leaves families no choice but to trust each other and care for children with disabilities, with little more than their own resources (Pinto 2011).

### **4. BE SENESCENT AND CAREGIVER OF A CHILD WITH DISABILITIES**

The impact of disabled children in the family, during the life of these and not just in its infancy, began to be studied in the late 80's (Hayden & Heller, 1997). The way each mother/ father sees their caring role can vary greatly, which may feel good in that role, accepting the situation and viewing it as a challenge and / or take it as a burden from the physical point of view and psychological, that leads to perceive the future negatively. However, it is common for parents to experience both perspectives at different stages of your life. The caregiver role played throughout life implies a total involvement of these parents, eventually overlap with other roles they may have in different areas of your life. In this sense, Martins, Garrett and Pais-Ribeiro (2003) point out that this role interfere in personal, family, labor and social aspects, often leading to crises that manifest themselves through stress, wear, change in self-esteem and depression.

Corroborating the author's perspective, these families with disabled children are witnessing a double aging phenomenon, in which the aged parents often have need of care, but keeps the concern and responsibility to continue to ensure their children. However, according to Hatfield & Lefley (1999), it is difficult for many parents in these circumstances accept that no longer have the capacity to help your child to have living conditions that need, which leads them to maintain the care and environment protector that allows you to feel that everything did what was their duty. Bandeira & Barroso (2005), refer to the overhead events directly associated with the performance of this role, including the time constraint, to increase the physical effort, the economic costs, changes in the psychological, physiological, social and economic well-being. The work overload, the (re) structuring of daily life around the person's care with disabilities, and the social stigma produce strong effects of physical and psychological stress, especially in direct caregivers, which in most cases are mothers. The impact is greater than greater is the dependence of the disabled person. In cases where the need for personal care is high it is common to develop pathologies related to physical exertion, which worsen with age and years dedicated to care. According Factor and Heller (cit. By Caldwell & Heller, 2006) less than half of these families make plans for the future. It is important that these parents, with the support of professionals, were helped to prepare their future. However, for many parents, this is a subject that avoid addressing because they fear triggering situations of great anxiety and stress for you and the children (Hatfield & Lefley, 1999).

### **5. AND WHEN CAN NOT TAKE CARE MORE ABOUT ... WHO CARES (ME )?**

Over the years, it becomes all the more pressing as reserved for these parents to question the future of the children, of course because the view as an added concern. Part of the triggered anxiety when planning the future arises from the confrontation that these parents have, on the one hand, the progressive loss of their abilities and, on the other,

with their own mortality, without ignoring all the terror of uncertainty that the future of children represents. And this, despite these parents believe that, over the years, have developed ways to deal with different situations, not always easy, resulting from the disability of their children and others not able to do as well.

Thus, according to the literature, these parents are irreplaceable in many ways, and often fear that with his death the future and the welfare of his children be adversely compromised (Hatfield & Lefley, 1999).

These parents also have difficulty to delegate the child care because it's hard to imagine their own future without a central aspect of this caring role that guided much of his life.

Parents who make plans for the future are divided among the options to be accompanied by family members or institutions and also the possibility of a joint. When opting for family support parents feel responsible for finding a successor (Krauss & Seltzer, 1993). It is important at this point that this terms as the caregiver get older your social network is getting smaller, particularly with widowhood.

The role of siblings is revealed in this very important step, since it is the generation following the parents. So, the brothers are the next likely caregivers. This may be the will of the parents, but receive a sibling with disabilities raises a number of challenges, such as integration into the new family of his brother, which leads to that often this option to care is not covered by the brothers. Unable to choose the family, parents opt for institutionalization and expect the family to keep in touch with the disabled child, supervising their care and defending their interests. Krauss and Seltzer (1993) also verified that higher stress, more feelings of overload and lower satisfaction levels are associated with a greater willingness to institutionalization of children.

In addition to the described conditions, Heller (1993) points out that the degree to which these families plan the future is also influenced by aspects such as economic resources, coping strategies and support available in the community. They are obstacles that are opposed to planning, lack of information, the availability of appropriate services, the difficulty of paying lawyers, benefits derived from the caregiver role and reciprocity of care (Factor & Heller cit. By Caldwell & Heller, 2006).

The research Heller (1993) points to the need for support programs for families with dependent disabled children at home and the development of residential options.

Taking into account the impacts of dependency and continuum of care to offspring with disabilities and / or disability, cited above, and que the quality of life of dependent and own household to be largely associated with quality of life of the caregiver, it is appropriate that will be supported, especially when they already show signs of fatigue and need for care, to ensure their welfare and support their service activity.

## **6. WHAT STRENGTH IS THAT ... RESILIENCE?**

Some families to withstand the stresses of everyday life, develop a “unstable equilibrium”, which makes its entirety face the daily stress with cohesion and solidarity. The family development process and how parents deal with their child with disabilities, will have to do both with their qualities and with the support it can get. The family is like a whole, a unity, in that what affects one, affects all of its elements (Seligman, 1991).

When family members can overcome the challenges posed by disability and adapt to a lifestyle different from hitherto shared by adopting a consensual adaptive behavior with the change and growth that the response to the situation requires, this is, expressing the family capacity transformation to the crisis, in the group of families Souza (2004) characterized as resilient families.

The concept of resilience in this context refers to the ability of the individual or family to face adversity, being transformed by them and overcoming them. When you do not get this plasticity, macro ability to face and overcome, or when it runs out, the inevitable signs of fatigue and wear arise.

Resilience is, according Alarcão (2000), the ability of individuals and families that allows them to cope, spontaneously, the difficulties they face, constituting as a support factor in the family. It is, furthermore, this ability to withstand a situation, modifying, progress in their development and shaping their suffering. The concept of resilience connects the vulnerability to the regenerative power that involves the system's ability to minimize the disruptive impact of a stressful situation, through trial conducted in order to influence decisions and develop resources to meet them, transforming crisis in a situation progressively manageable.

## **7. THE STRAIN OF THE INFORMAL CAREGIVER AND RELEVANCE OF SUPPORT**

The impacts that generate care in caregivers are often described as “charge”, being this concept on the caregivers designated in English as “burden”. Etymologically, load means “that weighs on a person,” “accountability or responsibility” or “what bothers you.” This definition has two dimensions: one related to work, the weight of the task itself, and another dimension with regard to legal, responsibility and duty.

By examining the caregivers experience it is necessary to take into account developmental transitions that occur for the disabled person and the caregiver (Berkum, Haveman, Heller & Reijnders, 1997). The experiences of both the caregiver and person with disabilities cared for, are the result of multiple conditions that relate to the life cycle of the individual and the family system and also with the course and stage of disability (Lefley, 1997).

The level of support from the formal route is an important aspect to differentiate how the impacts are felt in the lives of those who care. Accordingly, in accordance with arts and Gelissen (2002, p. 155)

“It is important to discuss what the welfare delivery models that exist in a given context, not only because they have different consequences, but also because they generate different consequences”

It is important to analyze the problems of the state’s obligations and family obligations, including cases in which the state should support families. Community participation is also important in that it can provide support compensating the family needs accordingly.

## 8. METHODOLOGY

Regarding the objective of this research, we opted for the use of a qualitative research methodology that allowed a closer approach to informal caregivers and to share their experiences and problems, aiming at holistic understanding of something little tangible and complex.

According to Bogdan & Biklen (1994) qualitative analysis of the characteristics are manifold, and qualitative research often occurs in natural situations in contrast to quantitative research which requires control and manipulation of behaviors and locations .

## 9. PARTICIPANTS

The participants in this study correspond to a non-probabilistic sample, selected by convenience, consisting of 10 participants, 5 female and 5 male, aged between 65 and 82 years. Three of the participants are between 65 and 70 years, three have between 71 and 76, and 4 is between 77 and 82 years , with an average overall age of 74.2 years, representing the male participants an average of 72 years females and an average age of 76.4 years. Regarding the marital status of the participants, it was found that seven are married ( 6 of which from each other ), one is divorced and two are widowed. Regarding education a participant has a master, one is licensed specialized, one has 12° ano, three has the 4th class, has basic qualifications (3rd class ) and three have no qualifications.

All participants have in common the fact that they are parents of adult children with disabilities aged 25 to 50 years (with an average age of 40.2 years) of whom are caregivers.

The decisive criterion of the number of participants in the sample required in this type of study was its suitability to the research objectives. In this regard, it should be noted that the participants were not chosen for numerical importance, but given its characteristics considered relevant and exemplary for the study. Sought in the first instance to gather a convenience sample that would allow the sharing of experiences, where the quality of the information collected to assume a leading role, considering according to Quivy and Campenhout (1998 , p.71 ) as “ *previledged witnesses.* “

## 10. COLLECTING INSTRUMENTS AND DATA ANALYSIS

As a data collection instrument used the technique of focus groups. According to Morgan (1997) technique focus groups as the primary source of qualitative information is usually combined with other methods and incorporated into a case study approach, since it is well adapted to cases where in topical evaluation and issues to be addressed give rise to differing views and discussion can lead to a deeper and more considered view.

The use of the focus group, exploratory research technique for data collection, this study took the form of a structured discussion involving the progressive sharing and clarification of views and ideas of the participants.

Data analysis was performed, using the technique of content analysis, defined by Bardin (1994 , p.18) as “ *a research technique that aims to objective description, systematic and quantitative manifest content of communication .* “

Given the need to transform the obtained messages, even in its raw state, this type of analysis requires the final result only becomes possible through a set of operations taken into account in this investigation. We refer to the six distinct phases of categorization (Amado, 2000) .

The analysis of data obtained attended a triangulation approach that is, the use of different methods combined (Reidyr & Mercier, 2000) . What made it possible to provide depth and breadth to the study.

## 11. PRESENTATION AND ANALYSIS OF RESULTS

The results to be presented have been determined by detailed analysis and integrative result of the issues made the ten participants. Given the representativity of these frequencies were analyzed in the search for understanding of the theme of research, keeping the descriptive and qualitative nature of the study, using the necessary speech quotes given by participants, called the technique of content analysis by registration units .

## 12. THE COST OF CARING

The domain caregiving registers the steepest number of frequencies on the speech of the respondents . In this area the most representative categories were: Needs felt with 134 references which shows the economic sub category, followed by free time; formal support networks in which it highlights the sub category of denial of home care; Current support that is evident the sub category without any support; Recognition skills as caregiver that shows the sub category gratification with care and strain with the Mental sub category.

**Table 1: - Synthesis of data on the field care**

Domain	Category	Sub category	Frequency
Caregiving	Current support	Without any support	24
	Formal support networks	Health services - difficulty	11
		Social services - bureaucracy	12
		Denial of home care	16
	Future support	Without preview	25
	Felt needs	Diirect care of the caregiver - desired	26
		Free time	29
		Económicas- health and education	37
		Support caregiver - community	19
		- Social Security	23
	Recognition skills as caregiver	Gratification with care	38
Strain	Mental	45	

The resulting analysis of the overall reading of the data allows us to state that the participants recognize themselves as carers skills patenting the burden that caring entails, especially in mental terms . Stress to the felt needs at different levels and in particular to care for the caregiver, who would wish that were derived from Social Security and the Community. The data also show that although the signaled needs deny formal support and fail to provide further support.

...Support aren't enough...

**Table 2 - Data Representation for the category current support**

Category	Sub category	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Current support	Without any support					9	8	2	4	1	
	Total 24										

In the representation of the category current support and sub category without any support they expressed to the participants P5, P6, P7, P8, P9., Verifying higher prevalence of frequencies in the speeches of P5 and P6 which highlighted the lack of support. A qualitative analysis of the verified registration units in the speech of these participants stands out the fact that there are families with a degree of closely related, but with which senescent caregivers do not have every day, as evidenced in P5- speech excerpts *"I have anyone else ... the girl (granddaughter) can not have her life ... "*. Or P6 speech, referring not have many aids and infers that in relation to support, in practice do not occur. P6- *"the conversation is over and in practice is another"*, *"- we do not have a lot of help"*To understand the support of formal supports senses / received to whom participants can / could turn analyzed the data for the category formal support networks.

**Table 3 - Representation of data on the network category of formal support and sub categories: health - services difficult; Social- services bureaucracy; denial of home support**

Category	Sub category	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Formal support networks	Health services - difficulty (total 11)				3	4	2	2			
	Social services – bureaucracy (total 13)								7	3	3
	Denial of home care (total 16)	1	1	4	2	3	2	1		1	1

In this category, four of the participants (P4, P5, P6, P7), had difficult to access or make use of supports related to health services, showing records of their utterances that this difficulty is linked to the lack of sensitivity and lack of information as it appears in the testimonies of P4 , P6 and P7: P4 - *“I did not doctor , do not value or support anyone* “ P6- *“He ( ZM ) goes to the hospital as a last resort* “ P7 - *“lack a lot of sensitivity in services* “ For sub category social services - bureaucracy, participants P8, P9 and P10 report difficulties in accessing support which relate to the inherent bureaucracy to the same, emphasizing the P8 with large representation with respect to frequências, and as excerpts witness: P8- *“ social services what happened in relation to the G ... just because of the pension, and ... a shame ! “*

We conclude from the joint analysis of these two sub categories that the difficulty in accessing support services in the community is transverse to the majority of respondents and is an embarrassment to the caregiver. This conclusion is consistent with the reported by Lopes (2007) about the existence of difficulties of access and coordination between service support in generating constraints care for the dependent and caregiver *“... The services often do not disclose how to reach them, must have a vast knowledge of all the”* red tape *“to be able to have effective answers and adapted to the needs . ( ... ) The institutions historically are very closed in on themselves , lacking a culture of sharing , discussion, joint together . The only point of contact between the different institutions is also often through their own ( ... ) or their families. “* ( Lopes, 2007 , p.45)

Regarding the sub category Homecare, data show us that only P8 has this support, the remaining participants reported not benefit from this kind of support, by choice or justifying the fact of being an expensive and difficult to support support by households, as shown in P5 speech: - *“ we can not ... we only have pensions “ ; “ - It’s all very expensive “* Two participants (P3 and P4 - double) report a negative experience they had. but they recognize the importance and need for this feature, given its current reality. P3 *“ - the experience we had not run anything well and we were not willing to repeat .. “ ; “ - ( ... ) .but We needed ... “* P4 *“ - not present “ ; “ - The experience went wrong .... “*

**Table: 4 - Representation of future shock absorber category and sub category without preview**

Category	Sub category	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Future support	without preview	3	4	1	1	3	4	1	5	1	2
	Total 25										

Another category found refers to - Future support - with the sub category - without preview. The analysis of the data in this category allowed us to see that three of the ten participants (P1, P7 and P8) state relativize what is witnessed in the discourse of respondents:

P1 - *“relativize and live day to day”*, leaving, however, expressed the desire to be able to follow long his daughter, in turn P7 states: *“ - We become accustomed to relativize the inherent problems to impairment of our children. “*

The determination of caregiving P8 reflected in assertive way in his speech: *“ - I am a little pragmatic”*.

The future seems to participants once again as an uncertainty, in which it has no desire to think. On the one hand it is desired to remain so, on the other feeds the certainty that in some way the care will be provided. How to confirm the excerpts:

P5- *“he will have to go somewhere ... I soon see”*

P6- *“I do not know my future” ; “ - I did not think” ; “ - I do not want to think about it”*

... And the needs that are so many

In what it refers to Felt needs, third and last category of the domain Services care six participants (P3, P4,P5,P6,P9 and P10), the need take care of the caregiver, and will benefit from these care. This desire is seen with higher prevalence in the discourse of respondents P3, P4, P5 .

P3 *“ - the conditions that I am by today tomorrow can not live here ... who does things ?*

P4 *“ - I feel worse and worse “ ; “ - we already need care almost as much as him. “*

P5 *“ - I have already needed help for health reasons “*

**Table 5 - Representation of felt needs category and sub categories: direct care of the caregiver - Wanted; free time; economic due to expenses child's health**

Category	Sub category	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Felt needs	Direct care of the caregiver - Wanted (total 26)			6	5	6	3			3	3
	Free time (total 29)	9	2	4	8	3	3				
	Economic - health expenses of son (total 7)	7									
	Present (total 37)		6	2	2	6	4	7	4	2	4

Generically the need for care to the caregiver is related, from these testimonies, lack of health, aging and fatigue, as shown in P10 “ *is increasingly difficult ...* ” “ *we are already old and tired.* ” Considering relevant for this reason, according to Monahan & Hooker (1995), the identification of the needs felt by the caregiver in terms of its social support to enhance a better intervention, treatment planning and support for carers services.

As the need for time concerns, sub category - laissez times expressed to 6 participants (P1, P2, P3, P4, P5 and P6) referring generically to the free time team is when the children are in the institution ( APPACDM), which expend to deal with situations that can not solve when they are with dependent children.

The P1 parent and primary caregiver reveals in his speech a strong relationship with his daughter. It expresses the need to take time but contradictorily finds it difficult to take advantage of it when possible. Lives constantly with a start thinking that something might happen to his daughter in his absence. P1 “ *I leave to do things to take care of my daughter ...* ”; “ *Even when I'm alone I will not , because I think she may need me, or that the phone can play (even on weekdays ) when it comes to therapies* ”

The P4 speech stands out the fact that there are no free time and implicitly that the lack of free time left much to be done, conditioning their experiences, dedicated in part to the care of the child as a witness:

“ *- Yes I take the time to deal with things for the A* ”; “ *- I think it always first and the rest will be doing ...* ” “ *- A lot of things did not exist ... could not exist.* ”

The sharing of experiences of these caregivers can be inferred that their caregiving role requires time and dedication. It shows that even when the children are not in their care because they are in the institution, “free time” is not synonymous with rest or aloofness of this responsibility. This time which is not removed party for leisure is often what allows them to have more autonomy to resolve some situations that can not solve when they are with children.

This situation coincides with the understanding of Biscay (1997), which states that the disabled child above all requires time, overcoming capacity and forgetting yourself and your projects. This event may, to the detriment of other options, steer differently or condition fiery paths of life.

We also found in the category Felt needs the reference to economic needs mainly due to health expenditure or childhood of the children want today.

Except for P1 the remaining nine participants expressed feeling very stark way the need of resources of health services, stating that represent a burden on the expenditure point of view.

Another subcategory found with being a need is related to the Caregiver Support on Aging

**Table 6 - Representation of felt needs category and sub category supports the caregiver in the aging community and social security.**

Category	Subcategory	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Felt needs	Support for Caregivers aging - In the Community (total 19)	1	4					10	4		
	Social Security (total 23)			9	5				9		

For this sub category 4 participants (P1, P2, P7 and P8) manifest feel the need for differentiated support, designed in view of their problems as caregivers of children with disabilities, as noted: P2- “ *certainly should think more in these cases and people with these types of problems ...* ” P7- “ *more and better specific answers to this problem, the children that is especially ours.* ” P8 - “ *Society in general does not respond to people with disabilities* ”; - “ *are parents who do assert their rights* ”. The P7 with more registered frequencies, stresses in his speech repeatedly failed to Community level, as regards the responses to the level of integration and inclusion, answers that would support indirectly parents in their task and caregiver concern. Of the respondents speech underlies the idea that the aid granted to the children is considered to support the caregiver. Informal caregivers of people with disabilities are particularly sensitive to how they are received by formal services, noting the importance of good coordination to better delineate the care (Goodhead & McDonald, 2007). Following

the above-mentioned support by the participants in this sub category emerges the need for support in relation to social security, government agency reference, four of the participants expressed the need for this support or adequacy. The difficulty of accessing services is manifested in P3 speech, referring to both parents as caregivers who care need much of this support.

Balance of care

The latter categories found in the field providing care refer to the feel of the caregiver in relation to the act of caring .

**Table 7 - Representative data category recognition of competence as caregiver and sub category gratification with care**

Category	Sub-category	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Recognition of competence as caregiver	Gratification with care	4	3	2	9	6	4	3	3	2	2
	Total 38										

The analysis data of this category allows us to state that the ten participants identified with this category, expressing his gratification as caregivers, noting that feel good in this role as witness: P2 - *“ makes me feel useful”*; P3- *“ we live for it ... “* P4 and P5 show a greater number of frequency records in his speech , expressed like the other participants to take care of these children is what guides their lives . P4 *“ - gives meaning to our lives “* P5 *“It’s my reason for living “* Although the role of caregivers gratify participants they do not fail to mention the wear that function as reflected by the analysis of data from the category and subcategory wear - mind- which recorded the highest number of frequencies in the field that has been examining - Provision of care

**Table 8 - Representation of data on category strain and sub category mind**

Category	Subcategory	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Strain	Mental	9	1	5	2		6	6	6	5	5
	Total 45										

Nine of the ten participants assume they felt worn above the mental level ( P5 did not comment ).

Given the address of respondents, P1 indicates that this wear is related with the *expectations “ that wears because we want things to improve, to go further and what we saw ... ? if not worsen nor improve “ and increasing the level of demand “ is exhausting , they grow , they become more demanding ... “* like P7 *“ - ( ... ) is exhausting “ - Take the forces know that after 46 years ... that’s the age of my son, I recognize that will not go very far “ - ( excited ) ( ... ) cut my strength ... “*

P2, P4 and P6 express the feeling expressing itself in the same way, saying feel *“ too tired head.”* The reason being the caregivers life, the feeling is common and associated with different security concerns as emphasize P9 and P10.

### 13. INTERVENTION PROJECT

Arising from the analysis of data obtained in this research, we propose an intervention project that will allow the creation of a support office for senior parents caregivers of adult children with disabilities.

The operationalization of the steps proposed for development, from the office, focus in the first instance, the necessary clarifications and assistance to the specificity of each case. In addition to providing the necessary information and to register needs assessment, intervention is still undergoing advise and collaborate in the search for answers, resources and services for caregivers and their children with disabilities, working, where appropriate, in consultation with the social agents and resources in the community.

It is intended primarily to foster the development of a proactive approach, promoting the empowerment of parents caregivers, enhancing their autonomy and quality of life as well as their children. When it proves impossible to problem solving situations by the families, the resources of the office interceded with the partnerships / network services, to forward directly or solve more quickly the situation problem / need.

In order to streamline the interaction with the community, the means and resources needed to address the priority needs of seniors caregivers of children with disabilities was thought the **Cuid’arte project**, a project that seeks caring for the carers.

This project includes two major components. On the one hand, the creation of an office to support the parents



in order to respond to their needs, which requires that there be coordination with community services. On the other, the creation of self-help groups that also arising under the results of this research seeks to develop joint actions of reflection, sharing, common situations experiences and needs cross.

Knowing in advance that the act of caring is not an easy task execution, Cuid'arte is thought to develop workshops that result from the survey of the needs and interests of parents involved, in order to develop enabling strategies of care.

## 14. CONCLUSION

In a primarial research we found that the existing theoretical referentials that focus on caregiving parents of disabled adult children are scarce. The qualitative analysis model that we used made it possible, for the experimental group, to achieve the initially outlined goal. We can affirm that the results are in line with other studies that support this research. For the parents participating in this study the caring of their children comes as a goal in itself and as their life's mission. Therefore their daily lives and routines change or adapt according to the needs of care, constantly looking for solutions to the problems encountered. Regarding the caregiver needs, we found that, if not canceled, they are relegated to the background, leading to wear, especially mental, which however does not prevent caregivers from feeling gratification with the performance of their duties. Another aspect reported by the caregivers participants concerns the lacks of support related with their care tasks. They pointed out more forcefully the difficulty in access the health and social security services. Also they refer large financial and health charges, stressing that they should have more support at these levels. Nevertheless, the participants recognize support, when sought, given by some institution such APPACDM. Participants mentioned that the health degradation and the loss of capacity to care turns the task more demanding but intend to do so as long as they are able to. Subsequently, the future is a concern and should be provided with adequate answers to this problem. Noting that the results confirm the complexity of the problem under study, is justified proper intervention in this context by planning solution strategies or by controlling the problems inherent in the role of caregiver. Based on the results obtained, we proposed the development of an intervention project called Cuid'arte aimed at creating a framework to support and promote enabling strategies for parents which are caregivers for their children with disabilities.

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# **“AGING UNDER A NEW LIGHT”.**

## **THE SOCIAL REPRESENTATIONS OF CHILDREN REGARDING THE ELDERLY**

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### **ABSTRACT**

Population aging is a reality that is increasingly present in the most developed societies, which must be seen as a process that extends throughout the life cycle. In a society that is intended to be for all ages, social representations regarding the elderly are of great importance, conditioning and organizing relations against this population. Our study was, in this sense, oriented to understanding the representations of a group of primary school children of Castro Verde Schools cluster in relation to the elderly. Our sample included the participation of 108 elementary school students. Three instruments for data collection were applied in the development of the study. The instruments in question included a Word Free Association Test (WFAS), in which they were given two stimulus words - Elderly and Old - , a survey for a brief general description of the participants and a scale for information about the perceptions of children towards the elderly.

The results are not unidirectional, and it was observed that the social representations of students regarding the elderly are mostly negative in the physical and social dimensions, while the psychological dimension is regarded in a positive way by the students. We realize that the students organize their representations based on their views towards the elderly, where the aging process is seen as a process of degradation, as we live in a society that values, above all, the “young”.

Keywords: Aging, Education, Senior Adult, Child, Social Representations.

### **1. INTRODUCTION**

Demographic aging results from decreased mortality and the consequent increase in average life expectancy, but also from reduced birth rate, which is blatant in Portugal in its decreasing fertility levels. In Portugal the population over 65 years old increased from 16.4% (2001) to 19% (National Institute of Statistics, 2011). These demographic changes are reflected in the human aging, a “period of major changes in the biological, psychological and social level and in terms of relationships between person / World” (Sequeira and Silva, 2002, p.1).

But if, on the one hand, this phenomenon has drawn the attention of many, on the other hand continues to be a central theme when it comes to prejudice, discrimination and marginalization, as it is obvious that the concept of elder arises underlying myths, attitudes and stereotypes that make the elderly feel excluded from a society that claims to be for all ages.

In this regard, we aim to understand the social representations built by the children regarding the elderly. We intend particularly to understand if the social representations built are mostly negative or positive.

### **2. AGING AND ITS SOCIAL REPRESENTATIONS**

The way we see the other inevitably influences how we relate to them, and the social representations are very important to the understanding of a society. According to Moscovici (1978), social representations are “an organized body of knowledge and psychic activities through which men make intelligible the physical and social reality” (Moscovici, 1978, p.28). For Suárez (2003), social representations are the result of a constant relationship between

permanence and change, this is an intrinsic aspect of the historicity of social representations (Suarez Molnar, 2003 cit in Villas Boas, 2010, p.396). This constant relationship between permanence and change underlies the fact that “the meaning of old age of ancient societies is no longer the same as in our modern societies, where the privilege of” juvenilisation “runs the risk of devaluing the role and function of the elderly” (Osorio and Pinto, 2007, p.15).

### **3. ELDERLY AND CHILDREN: “BEING” IN A CONTEMPORARY SOCIETY**

According to Thomas Bottomore (1979), society is a network of relationships among individuals, social groups and institutions. Thus, we can analyze society both in terms of relationships between individuals in their daily lives and in terms of form or structure of such relationships, since these appear embodied in concepts, standards and rules that regulate social conduct. Since such structures experience changes, the society should be studied in its historical development and not as a single group of people or a set of existing institutions at a given time (Bottomore, 1979 cit in Marques, Mollá and Salcedo, 1979).

Human behavior is complex and diverse. Each individual receives influences of the environment they live in, developing and acting in the social context according to their life experience. The individual learns from the environment, but also changes it with their actions. Thus, the human being is not a passive product of the environment, but one is built by interacting with the environment and modifying it (Marques, Mollá and Salcedo, 1979).

According to several authors, the senior has currently a very little valued image and social role. Old age has been designed empirically based on negative characteristics and a stereotypical assessment of individuals over 65 years old (Fernandes, 2011; Martins and Santos, 2008).

As far as the child is concerned, contemporary representation of childhood is a consequence of the changes and transformations that have occurred over time following all the developments and ideologies. With the democratization of societies, the place of the child was repositioned. The path goes through several stages, from the submissive child to the child-citizen (Freire, 2011). The citizenship of children is now a challenge to change the political and social structures, the transformation of institutions and renewal of culture, to ensure three aspects that are closely linked: the structural conditions for full social inclusion of all children; the creation of institutions that respect the best interests of children and the acceptance of the voice of children as a legitimate expression of interest in the city (Sarmiento, 1999 cit in Freire, 2011).

With regard to aging, the contemporary society adopts a paradoxical approach, i.e. the “modern society, on the one hand, faces the massive growth of the aging population, on the other hand, it is omitted or even adopts prejudiced attitudes towards the old and the old age. “ (Netto, 2000, p.09)

It is necessary to change the perception about the elderly, “we now live in an ageing society, there is an increase in unproductive resources, one way to fight back this scenario involves the integration of all individuals in society, maximizing all the skills and abilities of all individuals. “ (Fonseca, 2005 cit in Nunes, 2009, p.50)

### **4. A PARADIGM SHIFT ABOUT THE ELDERLY**

The social representation is a practical knowledge that gives meaning to the events that are normal to us, it forges evidence of our consensual reality and helps the social construction of our reality (Sega, 2000). The representation is the process by which the relationship between the world and things is established, which is a time when you begin to appreciate the energy, vitality and all aspects intrinsic to the youth, and the elderly begin to lose value. As Giddens (2010) refers, there has been in recent years a shift in attitudes regarding the old age, leading to probably the elderly never regain the authority and prestige that they used to be assigned to in old corporate communities (Giddens, 2010).

Today, despite the indisputable active participation of older people in society, what stands out is the tendency to reproduce the image of the elderly and old age linked to loss, abandonment and death. (Freitas and Ferreira, 2013) Taking this into account, it is essential to develop mechanisms within the community, leading to a greater participation of older people and to the development of a targeted effort to change the mentality towards the elderly.

The Community Psychogerontology plays a relevant role in this sense, considering that this “includes in its tradition the aspiration of being a source of social change movements, relying on principles and values such as promoting individual well-being, sense of community, social justice, civic participation, and collaboration opportunities “(Ornelas and Vargas-Moniz, 2010, p.850). Principles and values that play in perfect harmony with the objectives proclaimed by the World Health Organization for active aging contribution. According to this organization, active aging should be seen as “a process of optimizing opportunities for health, participation and security in order to improve the welfare of people as they age.” (WHO, 2002, p.23)

Community Psychogerontology should bet on its rooted intervention in intergenerational educational programs, since both fields have common goals, both for children, young people and for the elderly. Both aim to minimize

losses of the aging process of the elderly, promote inclusion and appreciation of older people, develop skills in the transmission of knowledge, skills and human values to other generations, promote differentiated interactions between children and the elderly. The intergenerationality also promotes the acquisition of knowledge through informal and non-formal education transmitted by the elderly, raising children in a new perspective on aging issues (UNESCO, 2000).

## 5. EMPIRICAL STUDY

This study aims to understand the social representations of children towards the elderly. The study site is part of a village located in the NUT I, Portugal: NUT II, Alentejo; and NUT III, Alentejo. Demographic trends in the last decade indicate that the Alentejo region has once again lost population. A retrospective analysis allows us to see a predominant trend of population decline between 1991 and 2011 (INE, 2011).

With regard to the study in question, we can say that it is a study of descriptive research, which involves studying, understanding and explaining the current situation. It is also an exploratory study, as it implies recognition of a certain fact to question it. It is a study of qualitative and quantitative approach, considering that “qualitative research helps explain, understand what and why, and that quantitative research helps, with the power of numbers, to identify” (Ribeiro, 2007 p.75).

The sampling technique used was no probabilistic for convenience, and was composed of 108 students, from the basic education of Castro Verde Schools Cluster, aged between 7 and 11 years. The cluster had in the school year 2014/2015, a total of 201 students.

A document composed of three instruments of simultaneous application was developed as well as a survey that allowed the characterization of the sample through 5 issues closed; a perceptions scale about the elderly, Likert format, consisting of 34 items, arranged in two dimensions, based on the scale developed by the authors Rodriguez and Postigo (2004); a Free Association Test Words (FATW), which is a “projective technique, which acts on the psychological structure of the subject, making it evident.” (Rapaport *et al.*, 1965 cit in Nobrega and Coutinho, 2003, p.67)

### 5.1 Procedures

After the review of the literature, we obtained relevant information to define the theoretical framework. Then we proceeded with the construction of the instruments to be applied. Its application took place in January 2015 in the context of the classroom, after informed consent. The survey questionnaire, consisting of five closed questions, allowed us to obtain a general characterization of the participants.

The scale of perceptions of older people is an ordinal Likert scale with four response alternatives (“1” to “4”), between “quite disagree” to “agree a lot”, consisting of 34 items. There was a need to adapt the scale, according to the age of the participants, so a pre-test (25 students) was applied for further evaluation of its internal consistency through the Cronbach’s alpha coefficient. We obtained the value of 0.815, so it was considered a “good” Cronbach’s alpha.

Through the application of the FATW, participants were asked to tell the first four words that came across their minds after hearing the stimulus words “elder” and “old”, and then to point out the two they considered the most relevant. With FATW results we intend to identify the positive and / or negative representations in a biopsychosocial perspective.

### 5.2 Technical data analysis

It was made a quantitative analysis of the statistical data, which were treated from the SPSS (Statistical Package for Social Sciences), version 22 for Windows. Regarding the FATW, apart from the statistical treatment, it was also used the content analysis method for processing data in order to categorize all the students’ evocations (grouped in three dimensions and two sub-dimensions). As Bardin stated, “content analysis seeks an analysis set of techniques of communication that uses systematic procedures and content of messages description of objectives” (Bardin, 2009 cit in Catita, 2008, p.98).

### 5.3 Presentation, analysis and discussion of results

#### 5.3.1. *Sample General characterization*

The sample consists of students from five classes (108 students), 58% of students are in the 3rd year of the elementary school and 42% are 4<sup>th</sup>-year-students. With regard to the residence, 90% of them live in Castro Verde, and

the rest in villages or in other locations. Thus, in the sample, 90% of the students live in urban areas and the remaining 10% are from rural areas. Regarding the gender, 54% of the students are male and the remaining (46%) female. As far as the age is concerned, 54% of the students are nine years old and 36% eight. 6% are still ten years, 3% eleven and 1% (only one student) is 7 years old. In our sample, 13% of the students live with elderly people. All refer to as kinship the grandfather, grandmother and / or grandparents. As for the contact with older people, 94% of students report living socializing with elderly people. In the sample, 38% lives with them daily, 32% weekly, 11% monthly and 12% annually. It was also observed that 6% of the students have no contact with the elderly.

5.3.2. Free Association Test Words

For the four words associated with “Elderly”, since each student indicates four words, there are accordingly 432 words for the 108 elements of the sample.

Frequency Table I: Four words associated with “Elderly”

	Frequency	Percentage		Frequency	Percentage
Old	54	50,0	Old man	2	1,9
Walking stick	39	36,1	Amazing	2	1,9
Age	29	26,9	Irritating	2	1,9
Grandmother Grandfather	27	25,0	Worker	2	1,9
Needy	19	17,6	Old age	2	1,9
Geezer	19	17,6	Abandonment	1	0,9
Ill	18	16,7	Bedridden	1	0,9
Home	18	16,7	Love	1	0,9
Help	13	12,0	Clean	1	0,9
Friend	12	11,1	Calm	1	0,9
Lame	11	10,2	under-performing	1	0,9
Problems / difficulties	10	9,3	Boring	1	0,9
affectionate	8	7,4	Knowledge	1	0,9
Nice	8	7,4	Counter	1	0,9
Litle Old Man	7	6,5	Convinced	1	0,9
Sir	6	5,6	Hunchback	1	0,9
Pains	5	4,6	Careless	1	0,9
low vision	5	4,6	Spin	1	0,9
Careful	4	3,7	Big	1	0,9
Person	4	3,7	Important	1	0,9
Wise	4	3,7	Innocent	1	0,9
Old	3	2,8	Loyal	1	0,9
Beautiful	3	2,8	Naughty	1	0,9
Playful	3	2,8	Wonderful	1	0,9
Conversationalist	3	2,8	reduced memory	1	0,9
Clever	3	2,8	Patient	1	0,9
Experient	3	2,8	Querist	1	0,9
Weak	3	2,8	Old person	1	0,9
Slow	3	2,8	Poor	1	0,9
Numerous	3	2,8	Protector	1	0,9
Grouch	3	2,8	Darling	1	0,9

Respect	3	2,8	Reform	1	0,9
Wrinkles	3	2,8	Responsible	1	0,9
Joyful	2	1,9	Cheers	1	0,9
decreased hearing	2	1,9	Alone	1	0,9
Kindness	2	1,9	Askew	1	0,9
Rest	2	1,9	Tradition	1	0,9
Funny	2	1,9	Sad	1	0,9
Educated	2	1,9	Vain	1	0,9
Funny	2	1,9	Life	1	0,9
Family	2	1,9	No information	13	12,0
Honest	2	1,9	Total	108	100,0

The percentages are calculated according to sample size, for example, for the most frequent word, 50% of the sample (54 elements) refers to the word “Old”. Therefore the most referred word is “Old” (50%), followed by “Stick” (36%) and “Age” (27%) and “Grandmother / Grandfather” (25%). “Needy”, “Old Man”, “Sick” and “Home” are also words mentioned, each of them, by about 17%, then “Help” by 12%,”Friend” by 11%,”Lame” by 10%, “Problems / Difficulties” mentioned by 9%, and also all the other words listed. Note also that there are 13 non-responses (no information).

For the two most important words associated with “Elderly”, as each element indicates two of four words initially mentioned, there have been 216 words for the 108 elements of the sample.

**Frequency table II: Two most important words associated with “Elderly”**

	Frequency	Percentage		Frequency	Percentage
Walking stick	17	15,7	Wrinkles	2	1,9
Needy	17	15,7	low vision	2	1,9
Old	17	15,7	Abandonment	1	0,9
Grandmother grandfather	12	11,1	Joyful	1	0,9
Age	12	11,1	Love	1	0,9
Home	12	11,1	Old	1	0,9
Ill	11	10,2	Clean	1	0,9
Help	9	8,3	Beautiful	1	0,9
Friend	8	7,4	Calm	1	0,9
Problems / difficulties	7	6,5	Story-teller	1	0,9
Geezer	7	6,5	Hunchback	1	0,9
Nice	6	5,6	Rest	1	0,9
Affectionate	5	4,6	Funny	1	0,9
Lame	4	3,7	Family	1	0,9
Wise	4	3,7	Weak	1	0,9
Sir	4	3,7	Spin	1	0,9
Pains	3	2,8	Old man	1	0,9
Grouch	3	2,8	Important	1	0,9
Respect	3	2,8	Wonderful	1	0,9
decreased hearing	2	1,9	Patient	1	0,9
Kindness	2	1,9	Protector	1	0,9
Playful	2	1,9	Darling	1	0,9

Conversationalist	2	1,9	Alone	1	0,9
Careful	2	1,9	Worker	1	0,9
Educated	2	1,9	Tradition	1	0,9
Clever	2	1,9	Sad	1	0,9
Experient	2	1,9	Vain	1	0,9
Irritating	2	1,9	Little old man	1	0,9
Numerous	2	1,9	Life	1	0,9
Person	2	1,9	No information	2	1,9
			Total	108	100,0

The percentages are calculated according to the sample size, for example, one of the most frequent words, 15.7% of the sample (17 elements) refers to the word “Stick”. The most often mentioned words are “Stick”, “Needy” and “Old”, each of them by 16%, followed by “Grandmother / Grandfather”, “Age” and “Home”, each by 11%, after “Sick” by 10 %, “Help” by 8%,”Friend” by 7%, “Problems / Difficulties” and “Old Man”, each by 6.5%, and all the other words listed. Note also that there are two non-responses (no information).

For the four words associated with “Old”, as each element indicates four words, there are 432 check-words for the 108 elements of the sample.

**Frequency Table III: Four words associated with “Old”**

	Frequency	Percentage		Frequency	Percentage
Old man	50	46,3	Restless / Impatient	2	1,9
Walking stick	47	43,5	Naughty	2	1,9
Ill	23	21,3	Death	2	1,9
Age	20	18,5	Old person	2	1,9
Home	18	16,7	Nice	2	1,9
Grandmother grandfather	14	13,0	Worker	2	1,9
wrinkles	12	11,1	Old age	2	1,9
Help	11	10,2	Little old man	2	1,9
Old	10	9,3	Life	2	1,9
Geezer	10	9,3	Love	1	0,9
Friend	9	8,3	Attention	1	0,9
Lame	9	8,3	Low	1	0,9
needy	9	8,3	White	1	0,9
grouch	8	7,4	Playful	1	0,9
Slow	6	5,6	Coffin	1	0,9
Problems / difficulties	6	5,6	under-performing	1	0,9
respect	6	5,6	Affectionate	1	0,9
Sad	6	5,6	Convinced	1	0,9
low vision	6	5,6	Conversationalist	1	0,9
Kindness	5	4,6	Curious	1	0,9
Boring	5	4,6	unaccustomed	1	0,9
Family	5	4,6	Sad	1	0,9
pains	4	3,7	Careless	1	0,9
Wise	4	3,7	Funny	1	0,9
Careful	3	2,8	Educated	1	0,9



Rest	3	2,8	Selfish	1	0,9
Weak	3	2,8	Genius	1	0,9
Person	3	2,8	Fat	1	0,9
Poor	3	2,8	Irritating	1	0,9
peevish	3	2,8	Legends	1	0,9
Responsible	3	2,8	Beautiful	1	0,9
Sir	3	2,8	Crazy	1	0,9
abandonment	2	1,9	Crutches	1	0,9
joyful	2	1,9	Patient	1	0,9
Kind	2	1,9	Beggar	1	0,9
Old	2	1,9	Lazy	1	0,9
decreased hearing	2	1,9	Rare	1	0,9
beautiful	2	1,9	Religious	1	0,9
Field	2	1,9	Not funny	1	0,9
Cemetery	2	1,9	Alone	1	0,9
Sleeper	2	1,9	Time	1	0,9
Age	2	1,9	Askew	1	0,9
Experient	2	1,9	Sad	1	0,9
Ugly	2	1,9	Rogue	1	0,9
Big	2	1,9	No information	24	22,2
Innocent	2	1,9	Total	108	100,0

The percentages are calculated according to the sample size. The most often mentioned words are “Elderly” by 46% and “Stick” by 43%, then come “Sick” by 21%, “Age” by 19%, “Home” by 17%, “Grandmother / Grandfather” by 13%, “Wrinkles” by 11% and “Help” for 10%. The words “Old” and “Old Man” are referred by 9% each, “Friend,” “Lame” and “Needy” are referred by 8% each, “Growler” by 7%, and all the other words listed. Note also that there are 24 non-responses (no information).

For the two most important words associated with “Old”, as each element indicates two of four words initially mentioned, there have been 216 words for the 108 elements of the sample.

**Frequency Table IV: Two most important words associated with “Old”**

	Frequency	Percentage		Frequency	Percentage
Old man	29	26,9	abandonment	1	0,9
Walking stick	19	17,6	Kind	1	0,9
ill	15	13,9	Love	1	0,9
Age	13	12,0	Old	1	0,9
Home	13	12,0	Attention	1	0,9
Grandmother grandfather	9	8,3	Field	1	0,9
needy	8	7,4	Affectionate	1	0,9
Help	6	5,6	Cemetery	1	0,9
wrinkles	5	4,6	Lame	1	0,9
Old	5	4,6	Curious	1	0,9
pains	4	3,7	Sad	1	0,9
Family	4	3,7	Careless	1	0,9
Slow	4	3,7	Educated	1	0,9

grouch	4	3,7	Ugly	1	0,9
respect	4	3,7	Genius	1	0,9
Sad	4	3,7	Legends	1	0,9
Friend	3	2,8	Beautiful	1	0,9
Wise	3	2,8	Naughty	1	0,9
Geezer	3	2,8	Patient	1	0,9
joyful	2	1,9	Beggar	1	0,9
Kindness	2	1,9	Person	1	0,9
Boring	2	1,9	Old person	1	0,9
Careful	2	1,9	Poor	1	0,9
Rest	2	1,9	Religious	1	0,9
Sleeper	2	1,9	Nice	1	0,9
Experient	2	1,9	Alone	1	0,9
Restless / Impatient	2	1,9	Time	1	0,9
Problems / difficulties	2	1,9	Worker	1	0,9
peevish	2	1,9	Sad	1	0,9
Responsible	2	1,9	Rogue	1	0,9
Sir	2	1,9	Old age	1	0,9
Little old man	2	1,9	low vision	1	0,9
Life	2	1,9	No information	1	0,9
			Total	50	100,0

The most referred word is “Elderly” by 27%, followed by “Stick” by 18%, “Sick” by 14%, and “Age” and “Home” by 12% each, then “Grandmother / Grandfather “by 8%,”Needy” by 7%,”Help” by 6%, “Wrinkles” and “Old “by 5% each, and all the further words listed. It should be noted that there is a no response (no information).

Making a comprehensive analysis, it appears that we obtained mainly references to negative representations for both stimulus words “Elder” and “Old”.

For the four words evoked for each stimulus word, we found a total of 827 evocations. For the stimulus word “Elderly”, we obtained a total of 419 evocations, in which 290 evocations (69.21%) are negative and 129 (30.78%) positive. For the stimulus word “Old”, we obtained a total of 408 evocations, in which 270 evocations (66.20%) are negative and 138 (33.82%) positive.

For two words evoked for each stimulus word, we found a total of 429 evocations. For the stimulus word “Elderly”, we obtained a total of 214 evocations, in which 137 evocations (64%) are negative and 77 (36%) positive. For the stimulus word “Old”, we obtained a total of 215 evocations, in which 134 evocations (62.30%) are negative and 81 (37.70%) positive.

Making a biopsychosocial analysis, we can see that the negative evocations focus mainly on physical and social dimensions to both stimulus words.

**Frequency Table V: Dimensions of the four words associated with “Elderly”**

	Frequency	Percentage
Positive Physical Dimension	16	3,8
Negative Physical Dimension	114	27,2
Positive Psychological dimension	44	10,5
Negative Psychological dimension	11	2,6
Positive Social Dimension	69	16,5
Negative Social Dimension	165	39,4
Total	419	100,0

In the sample, when we take into account all the words referred to by each element, the most present dimension associated with the word “Elderly” is the negative social dimension with 39.4%, followed by the negative physical dimension (27.2%), then the positive social dimension (16.5%), followed by the positive psychological dimension (10.5%), the positive physical dimension (3.8%) and the negative psychological dimension (2.6%).

For the two most important words associated with “Elderly”, we obtained 214 observations for the dimensions (each of the 108 elements referred two words, and there were two no answers:  $108 \times 2 = 216$ ;  $216 - 2 = 214$ ).

**Frequency Table VI: Dimensions of the two most important words associated with “Elderly”**

	Frequency	Percentage
Positive Physical Dimension	9	4,2
Negative Physical Dimension	61	28,5
Positive Psychological dimension	33	15,4
Negative Psychological dimension	6	2,8
Positive Social Dimension	35	16,4
Negative Social Dimension	70	32,7
Total	214	100,0

In the sample, when we take into account only the two most important words referred to by each element, the most common dimension associated with the word “Elderly” is the negative social dimension with 32.7%, followed by the negative physical dimension (28.5%), the positive social dimension (16.4%), closely followed by the positive psychological dimension with 15.4%, and finally the positive physical dimension (4.2%) and the negative psychological dimension (2.8%).

For the four words associated with “Old”, we obtained 408 observations for the dimensions (each of the 108 elements referred four words, and there were 24 no answers:  $108 \times 4 = 432$ ;  $432 - 24 = 408$ ).

**Frequency Table VII: Four Dimensions of words associated with “Old”**

	Frequency	Percentage
Positive Physical Dimension	14	3,4
Negative Physical Dimension	133	32,6
Positive Psychological dimension	25	6,1
Negative Psychological dimension	36	8,8
Positive Social Dimension	99	24,3
Negative Social Dimension	101	24,8
Total	408	100,0

In the sample, when we take into account all the four words referred to by each element, the most verified dimension associated with the word “Old” is the negative physical dimension (32.6%), followed by the negative social dimension (24.8%) and the positive social dimension with 24.3%; then come the negative psychological dimension with 8.8% and the positive psychological dimension with 6.1%, and finally the positive physical dimension with 3.4%.

For the two most important words associated with “Old”, we obtained 215 observations for the dimensions (each of the 108 elements referred two words, and there was 1 no answer :  $108 \times 2 = 216$ ;  $216 - 1 = 215$ ).

**Frequency Table VIII: Dimensions of the two most important words associated with “Old”**

	Frequency	Percentage
Positive Physical Dimension	4	1,9
Negative Physical Dimension	61	28,4
Positive Psychological dimension	18	8,4
Negative Psychological dimension	18	8,4

Positive Social Dimension	59	27,4
Negative Social Dimension	55	25,6
Total	215	100,0

In the sample, when only the two most important words referred to by each element are taken into account, the most present dimension associated with the word “Old” is the negative physical dimension (28.4%), followed by the positive social dimension with 27.4% and the negative social dimension with 25.6%; then come the positive psychological dimension and the negative psychological dimension with 8.4% each, and finally the positive physical dimension with 1.9%.

4.3.3. Range of perceptions about the elderly

As regards the perceptions scale on the elderly, we can see that the factor 1 - positive representations towards the elderly - has an average value above the midpoint of the range, whereas the factor 2 - negative representations towards the elderly - has an average value below the midpoint of the scale.

	N	Average	Standard Deviation	Coef. Variation	Min.	Max.
Factor 1 - positive representations towards the elderly	108	3.06	0.62	20%	1,25	4.00
Factor 2 - negative representations towards the elderly	108	2.30	0.35	15%	1,43	3.23

We can conclude that the positive representations towards the elderly are higher than the negative representations.

Although the positive representations towards the elderly are higher than the negative representations, actually, when we analyze question QO3 alone, 83 students (77.9%) agree / agree a lot that aging means social isolation, which is consistent with one of the most rooted ideas about the elderly, as they are seen as suffering from loneliness.

Frequency Table IX: Perceptions about the elderly

	1		2		3		4	
	N	%	N	%	N	%	N	%
Q01 – For you being old is to be sick.	51	47,2%	33	30,6%	18	16,7%	6	5,6%
Q02 - The elderly are not able to change and adapt to new situations.	19	17,6%	48	44,4%	33	30,6%	8	7,4%
Q03 - The elderly suffer more from solitude than the youngsters.	10	9,3%	15	13,9%	57	52,8%	26	24,1%
Q04 - The elderly are a source of wisdom.	6	5,6%	23	21,3%	35	32,4%	44	40,7%
Q05 - EP generally are sad people.	23	21,3%	52	48,1%	23	21,3%	10	9,3%
Q06 - The elderly no longer produce anything.	46	43,0%	35	32,7%	18	16,8%	8	7,5%
Q07 - The elderly are no longer able to learn new things.	42	38,9%	34	31,5%	23	21,3%	9	8,3%
Q08 - Thinking of old age means thinking about death.	49	45,4%	34	31,5%	17	15,7%	8	7,4%
Q09 - Getting older means losing physical abilities.	6	5,6%	18	16,7%	50	46,3%	34	31,5%
Q10 - The elderly are no longer able to think clearly.	16	14,8%	39	36,1%	40	37,0%	13	12,0%
Q11 - The elderly can be very useful to society.	7	6,5%	22	20,4%	41	38,0%	38	35,2%
Q12 - The elderly are depressed people.	33	30,6%	39	36,1%	24	22,2%	12	11,1%
Q13 - The elderly fear new technologies.	22	20,4%	33	30,6%	37	34,3%	16	14,8%
Q14 - Most elderly people have dementia (mental illness).	21	19,4%	33	30,6%	40	37,0%	14	13,0%
Q15 - When I see wrinkles, they reminds me of elderly.	19	17,6%	31	28,7%	36	33,3%	22	20,4%
Q16 - The elderly tend to be similar in behaviour.	26	24,1%	36	33,3%	35	32,4%	11	10,2%
Q17 - Being old means having less psychological capacities.	26	24,1%	27	25,0%	34	31,5%	21	19,4%
Q18 - Entering the old age means going back to childhood.	53	49,1%	24	22,2%	23	21,3%	8	7,4%
Q19 –Thinking about the old age means thinking about abandonment.	55	50,9%	33	30,6%	12	11,1%	8	7,4%
Q20 - Being old means having nothing to do.	52	48,1%	35	32,4%	16	14,8%	5	4,6%
Q21 - Being old is synonymous with social exclusion.	61	56,5%	28	25,9%	10	9,3%	9	8,3%
Q22 - Being old means need for greater attention.	6	5,6%	12	11,1%	42	38,9%	48	44,4%
Q23 - Being old means need for greater concern.	3	2,8%	11	10,2%	40	37,0%	54	50,0%
Q24 - Being old means losing the memory capacity.	14	13,0%	41	38,0%	35	32,4%	18	16,7%
Q25 - The elderly may be good caretakers of children.	11	10,2%	18	16,7%	30	27,8%	49	45,4%
Q26 - Being old means having greater life experience.	13	12,0%	11	10,2%	40	37,0%	44	40,7%
Q27 - When I think of an elderly person, I fancy someone with glasses and / or cane.	11	10,2%	24	22,2%	40	37,0%	33	30,6%
Q28 - The elderly should not perform tasks that require more manual dexterity.	27	25,0%	29	26,9%	28	25,9%	24	22,2%
Q29 - The elderly should avoid handling machines.	18	16,7%	15	13,9%	43	39,8%	32	29,6%

	1		2		3		4	
	N	%	N	%	N	%	N	%
Q30 - Getting older means becoming less intelligent.	43	39,8%	39	36,1%	18	16,7%	8	7,4%
Q31 - Being old means having white hair.	32	29,6%	35	32,4%	17	15,7%	24	22,2%
Q32 - In general the elderly are ugly.	63	58,3%	35	32,4%	4	3,7%	6	5,6%
Q33 - Most seniors do not accept the opinions of others.	36	33,3%	39	36,1%	20	18,5%	13	12,0%
Q34 - Most elderly can not read or write.	29	26,9%	44	40,7%	22	20,4%	13	12,0%

The figures relate to the measurement scale:

1 Disagree a lot; 2 Disagree; 3- I agree; 4 I agree a lot.

On the question Q09 of the scale, we also found that 84 students (77.8%) feel that aging is a process strongly marked by physical decline. Analyzing more closely Q25 of the scale, we find that the correlation is higher for this item. We may associate this item to the psychological dimension, where 73.2% of students (79 students) agree / agree a lot that the elderly can be a good caretaker of children.

These results support Marques's perspective, claiming that the elderly are "perceptioned" as an incompetent group, despite affectionate" (Marques, 2011 cit in Marques et al, 2015).

The results of our research show that the elderly are still represented in a less than positive way, with biased "views". It is necessary to promote new intergenerational dynamics that allow the emergence of more positive and supportive perceptions regarding the elderly.

## 6. CONCLUSIONS

At first glance, we realize there is a discrepancy between the results of the FATW and the perceptions scale on the elderly. As for the FATW, we obtained mainly evocations of negative connotation, whereas the scale of the results showed that the positive representations towards the elderly are higher than the negative representations. This divergence led us to think that there is no clearly defined representation about the elderly.

However, after analyzing the results of the instruments in a biopsychosocial perspective, there is a convergence on the results of the FATW and the scale, in both of which the physical dimension and the social dimension are mostly negative and the psychological dimension comes with positive values. This allows us to conclude, and corroborating the literature, that there is a paradoxical vision of the elderly, "affectivity versus incompetence" (Marques, 2011).

It appears that there is no consensual view regarding the representations towards the elderly, and according to Oliveira (2012) quoting Mauritti (2004) and Neri (2006), there may be two groups of representations of old age and aging, namely: a negative approach to old age (cases of poverty, loneliness, illness, addiction, elderly without interest) and a more positive approach related to freedom, greater economic stability, availability and more time for leisure. In addition, "the construction of the dominant images - positive or negative - about old age, do not have a direct relationship with the physical process of aging, but with the historical and economic context. The same aging body may have totally different representations. Old age, much more than a biological concept, it is a social construction "(Bazo, 1996 and Source, 2002 cit in Oliveira, 2012, p.20).

Yet there are relevant factors in these results that can not be neglected. We speak about different generations, where children of this study are mostly living with older people and therefore there is a clearly positive psychological view about the elderly.

We believe it is in the search for solutions that enable us to act primarily at the level of prevention that we should invest so that, in the near future, cases of elderly living situations of exclusion are only images of the past. And the intergenerationality emerges as an inspiring concept for an intervention with which it might be possible to enhance the existing positive representations and break down the negative aspects constructed and under construction.

Although this is a multigenerational society, the study of social representations between generations is a subject rarely considered / explored in schools. We emphasize the need to carry out studies in the future focused on aspects related to the representations of aging and of older people, to promote the change of perception about this stage of human development.

It is the institutions' role to identify professionals able to develop projects to promote among the young ones the understanding of the importance of the elderly, because they will be the "old" people of tomorrow. It is important to promote in today's children a better understanding of the process of aging so that they can in the future contribute to building measures to promote no discriminatory attitudes and behavior regarding the aging process, leading to the construction of a society in which all generations contribute to a more inclusive culture.

In fact, we all want to live long. However, we may have problems in taking on the role of "older people", because we believed for so long in their inferiority. On the one hand, we share the general ideology of the society on aging, on the other hand personally we do not include in this model "(Netto, 2000).

In our view, the school is the privileged place to promote, since the childhood, a “new view” about aging and the elderly, in which the importance given to the elderly is a key milestone in the construction of a multi-generational and inter-generational society.

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# ENVELHECIMENTO SAUDÁVEL: EDUCAÇÃO, SAÚDE, PSICOLOGIA DA SAÚDE E LAZER

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## ABSTRACT

In the recent years we are seeing a the aging of global population, with transformations of growth curves, demands in the areas of Health, Psychology and Education, in particular addressing the better global preparedness for this healthy aging. Positive Psychology has been taking ground, with interfaces with Health Psychology, Education for Leisure and Recreation, Emotional Education and lifelong Health Promotion, connecting with areas that can be applied by professionals called educators and caregivers, assisting in the development human from the point of view of higher quality of life, especially the one connected to human development during adulthood, beginning at the end of adolescence until death. After reading authors in these areas, as Seligman, Snyders, López, Ballesteros, Carr, Adrián, Baltes, Hué, Gardner, Goleman, Jesus, we see the alert for a performance and decision-making throughout life, toward the knowledge of how we work and we can improve our outsourcing behaviors and healthier way of emotions, the so-called Emotional Education, within the context of Neuroscience, as well as aspects of education and promotion for interimplications with health, leading to what we consider an Emotional Education, Health Education and Welfare.

Keywords: I00, I19, I20, I30, I31.

## 1. INTRODUÇÃO

Nas últimas décadas do século XX e princípios do XXI, se tem ampliado o interesse pelos temas da Vida Adulta, em termos de Desenvolvimento Humano ao Longo da Vida (Lifespan approach), em especial do adulto tardio, para outros autores considerado como o idoso ou adulto idoso, por exemplo por Alaphilippe and Bailly (2014).

Também a Educação dos Idosos adquire enorme importância dado o aumento da perspectiva de vida, de longevidade e melhor qualidade de vida de pessoas em todo o mundo.

A saúde também é, neste sentido, foco de estudos em todo o mundo, quanto mais em países em desenvolvimento, interessados em melhorar a qualidade de seus cidadãos, dizem Alaphilippe and Bailly (2014).

Com a perspectiva de o ser humano alcançar entre 110 e 120 anos de vida nesses próximos 20-25 anos, destaca Fernández-Ballesteros (2009a, b), fica evidente a necessidade de estarmos mais preparado todos, do ponto de vista da pessoa que envelhece e dos que se preparam para cuidá-lo e acompanhá-lo pessoal/familiarmente e também profissionalmente, destacado do mesmo modo por Marchand (2005).

A Psicologia da Saúde e a Psicologia Positiva estão desafiando nosso modo de ver o conhecimento e propor nova maneiras de comportar-se, avançando no entendimento de como os seres humanos se encaminham para uma melhor construção de um novo mundo.

Estas temáticas expostas aqui sucintamente constituem um grande projeto com desafios e problemáticas afeitas a uma maneira de ver interdisciplinarmente, tão necessária está a ampliação do conhecimento, capacidades e atitudes nesses novos campos do saber, como já destacávamos anteriormente (Mosquera and Stobäus, 1984). Convém lembrar que uma postura de investigação mais crítica, tal como já destacava Carr (1996) há vários anos, leva a melhores dados e sua aplicabilidade.

Gostaríamos também de chamar a atenção de que estes temas foram objeto de nossos estudos durante nossa vida acadêmica, desde 1976, em especial depois da década de 90, através d e debates em encontros científicos, e nas publicações correspondentes, coo veremos adiante.

## 2. SOBRE O DESENVOLVIMENTO DO SER HUMANO

Como citam Fragoso and Chaves (2012, p. 17), Cícero disse que “[...] a natureza dota cada idade de qualidades própria. Por isso a fraqueza das crianças, o ímpeto dos jovens, a seriedade dos adultos e a maturidade da velhice são coisas naturais que devemos apreciar cada uma a seu tempo”.

Azeredo (apud Fragoso and Chaves, 2012, p. 283) chama a atenção de que “envelhecimento fisiológico normal é um processo que se inicia com a vida do ser humano e se prolonga por toda sua existência”.

Autores na área da Gerontologia Biomédica, como Stobäus, Almeida and Resende (2014) e Neri (2006) destacam a abordagem denominada Lifespan Approach, de formulação pelos estudiosos do Instituto Max Planck de Berlin, especialmente Baltes e sua esposa, com aplicações justamente à área do desenvolvimento humano tardio. Nessa área de conhecimento, envelhecimento é um processo que se dá ao longo da vida, quer seja entendida como logo na primeira divisão celular, ao nascimento, logo após a entrada na adolescência ou na vida adulta jovem, após os 60-65 anos de idade cronológica, devido a fatores biológicos, ou a intervenções do ambiente ao longo da vida, podendo ainda ser por radicais livres ou mesmo oncogenes, ou processos estressores de natureza biológica, psico-emocional e sociais, entre outras teorias que a tentam explicar.

Temos defendido que a compreensão sobre o envelhecimento, independente de sua abordagem, não se dá em uma fase da vida, mas deve ser entendida como um processo contínuo que perpassa todas as fases da vida do ser humano. Também poderia ser entendida em entrecruzamentos, por exemplo de idades como a cronológica, ligada à data de nascimento (mas como entender isso hoje com seres humanos nascidos mesmo antes dos 4/5 meses de idade gestacional?), ou ainda à idade funcional (somatório da cronológica com a do desenvolvimento físico, psicológica, a educacional, a filosófica, a espiritual), como dizem Argimon; Esteves; Cerutti; Mosquera and Stobäus (2014). Outro pode ser entendido nas aproximações com etapas da vida e um sentido mais amplo, correspondendo a ciclos, como primavera, verão, outono e inverno (Stobäus and Mosquera, 2014).

Agora nos perguntaríamos: quantas crianças, jovens, adultos estão dentro de um adulto tardio, um idoso? Ela não é descabida, representa o ‘teatro do mundo’ em que ele vive, em que cada um de nós vive ou viverá. Assim, o presente, o passado e mesmo o futuro são e contém marcas de nossa existência, que contemplam e em que podemos contemplar, através de narrativas, que dá sentido ao viver e contemplar sobre o viver, por exemplo ao pensarmos na vida de professores, mas que poderia ser também a de outros ‘cuidadores de seres humanos’ (Mosquera; Stobäus and Huertas, 2015).

O ciclo vital tem sido estudado por vários outros autores, que apresentam excelentes conceitos que nos ajudam a direção e sentido que cada ser humano se dispõe a dar à sua vida, e que os outros seres humanos observam e comentam sobre ela, ou mesmo a avaliam e nela intervêm, como os profissionais da área da Saúde.

Por isso podemos dizer que bom preparo e estruturação caracterizam a infância e adolescência, que têm sido estudadas como base para toda a vida humana. Não perderam seu valor nem o seu significado.

Gostaríamos também de explicar o adulto tardio. Alaphilippe and Bailly (2014, p. 12). Discutem muito adequadamente as terminologias utilizadas, quando destacam que “o grupo etário é, hoje, um grupo no seio do qual coabitam diversas gerações, tendo surgido diversas terminologias para o designar”.

Ainda continuam: “a partir dos anos 70, o aparecimento dos clubes de terceira idade deu lugar ao termo ‘terceira idade’ remetendo para pessoas ativas praticando uma atividade essencialmente recreativa”.

São bastante interessantes as considerações que os autores franceses fazem a respeito dos sexagenários que estão divididos entre seniores e reformados. Os idosos como tal aparecem a partir dos setenta e oitenta anos. Na Gerontologia Biomédica outra conceituação, para idosos a partir dos 90 anos, é a de que seriam longevos.

Já nossa concepção está mais próxima da explicitada por Papalia and Feldman (2013).

O Adulto tardio, no nosso entender, não abandona as características da Vida Adulta. Como é entendida nos dois séculos que assistimos, em que houve a ampliação tanto nas perspectivas de vida, de melhor saúde e, especialmente, dimensões cognitivas, afetivas e sócio-emocionais. As reflexões que até aqui nos acompanharam e nos posicionam ante um adulto velho/ adulto tardio mais saudável e confiante em si e de seu futuro e preparando-nos para um relacionamento intergeracional menos autoritários e ampliando o ciclo vital como mais respeitoso da vida e da aprendizagem, através da Educação Emocional e Cognitiva.

Ainda destacamos que a vida é, ou deveria ser, uma reflexão constante e profunda sobre nosso próprio self e sua configuração, bem como os aspectos de auto-imagem e auto-estima que nos auxiliam a distinguir melhor o mundo real e o mundo imaginado, no sentido de que devemos ter estes dois elementos bem realistas e não distorcidos, para ter sempre ao longo da vida representações simbólicas mais perto do que é a realidade em que a pessoa vive (do que da fantasia ou de um mundo irreal), em qualquer fase da vida, como destacam Mosquera and Stobäus (2006a), Mosquera; Stobäus; Jesus and Hermínio (2006) e Dohms; Stobäus and Mosquera (2012). Ainda destacamos aqui a ideia de que somos, enquanto educadores e cuidadores, além de provavelmente estar em um plano meramente cognitivo mais desenvolvido, modelos afetivos e sociais, não somente cognitivos (Fontoura; Stobäus and Mosquera, 2011).

O ciclo vital não se consolida apenas com o aspecto idade cronológica, é muito maior e incorpora também



elementos como sentimentos, que inclusive levam a uma construção de um cuidado de si mesmo, ao longo da vida, apesar de altos e baixos e de constantes redimensionamentos ante frustrações e anseios (Mosquera; Stobäus and Timm, 2009), de desenvolvimento de qualidades pessoais como por exemplo a resiliência (Timm; Mosquera and Stobäus, 2008; Sousa; Miranda; Lara Nieto and Dores, 2014; Sousa, 2006; Sousa and Rodrigues- Miranda, 2015). A seguir analisaremos alguns elementos da Educação Emocional dos Adultos, o que representam a Psicologia da Saúde e a Psicologia Positiva na atualidade e como elas podem nos ajudar a abrir horizontes para uma existência mais rica e promissora.

### 3. DESENVOLVIMENTO HUMANO E EDUCAÇÃO

Antes de iniciar a abordar o tema da Educação na Vida Adulta, faremos alguns comentários sobre o que Alaphilippe and Bailly (2014) denominam de Idade Subjetiva. Afirmam que ela se define como a idade sentida (como a sentimos). De certa forma tenta responder à pergunta de o que pesamos de nós mesmos, lá no fundo, de que sensação de idade temos mesmo?

De certo modo esta postura de idade subjetiva tem conexão com a idade funcional comentada anteriormente. O que realmente sentimos e a mais real possível percepção que temos de nós mesmos como pessoa, em um tempo a transcorrer algumas vezes lentamente, outras vezes muito rapidamente, em uma determinada cultura e ambiente em que estamos inseridos e no qual (inter)atuamos, ampliando (ou diminuindo/reduzindo) nossas (inter)relações com os demais. É nesse sentido que temos de nos dar conta de nossas experiências/experienciações no mundo, em qualquer etapa do desenvolvimento. Mas parece que esses elementos tornam mais presentes e agudos com o envelhecimento e a proximidade da nossa terminalidade.

Essas reflexões, que beiram mesmo um lado mais filosófico (Mosquera and Stobäus, 2012), mas que com o tempo todos vamos tentando realizar, o que leva ao que alguns autores denominam maturidade (momentos mais maduros de vida). Esse processo tem, na realidade, muito nexos com o processo constante de uma auto-educação pessoal, que pode ser mais complexo e profundo com o auxílio de uma Educação mais consistente e valorizada pela pessoa. Não são exatamente os anos de escolarização formal ou um grau alcançado, mas o real valor que damos ao processo educacional como um todo, o tempo todo, em seus mais variados aspectos e níveis interintrincados.

É ainda importante ressaltar o que destacam Fragoso and Chaves (2012), de que uma Educação de Sêniores seria uma educação para uma sociedade em cada vez maior envelhecimento e mais envelhecida, com esse aumento da longevidade e com melhor qualidade de vida desses adultos tardios/idosos, além de lhes se permitido viver melhor pelos ambientes com maior preparo e cuidados e cuidadores mais preparados, ele mesmo está, ou deveria estar, preparando-se para essa e nessa etapa, uma educação ao longo e para toda a vida. Aqui entra uma outra visão, a de uma Educação intergeracional, com uns aprendendo com os outros. É distinta da etapa inicial da vida, em que ocorre mais uns ensinando (e supervisionando, avaliando/ intervindo) os outros a aprender.

Ao mesmo tempo é necessário lembrar que a pessoa adulta tardia/idososa tem algumas missões que são distintas conforme as percebemos: a de preparar-se a si mesma para uma mais autêntica auto-realização, encontrar um real sentido para a sua vida e existência, finalizando por encontra-se com os outros em um sentido de ser humano. Isto é bem distinto de ‘missões pré-determinadas’ em algumas famílias ou sociedades, por exemplo quando se diz e mesmo exige que os adultos tardios cuidem dos netos, sejam os provedores materiais dos mais jovens até bem, tarde em suas vidas, deixem os filhos adultos vivendo sob sua guarda e ‘jugo’, entre outras.

É claro que essa mesma pessoa bem provavelmente passou sua vida toda ‘ensinando’ seus familiares e pessoas próximas de que devem lhe ‘cuidar e amar’, muitas vezes impondo uma escolha de quem o fará desde bem cedo, por um lado, e ‘pressionando sentimentalmente’ a que, se não o fizer, não é um ‘bom filho/a’.

Contrapondo um pouco essa reflexão, Fragoso and Chaves (2012, p. 23) afirmam que “educar para o envelhecimento é um caminho permanente de desenvolvimento e significação individualizadora e coletiva que reverte para uma Educação ao longo de toda a vida, para uma educação para a vida e para a existência sadia”. Também destaca este ponto de vista sobre o desenvolvimento do idoso Marchand (2005).

O processo de aprendizagem é, então, básico na vida do ser humano e se manifesta nas suas ações (são suas experiências ao longo da vida), tanto nas suas cognições como em suas ideias, conceitos, pensamentos e ações motoras, bem como sentimentos, afetos e emoções (Mosquera and Stobäus, 2006b), não apenas na área da Educação e da Saúde, mas extensível a todos os aspectos da vida da pessoa.

Como podemos perceber, um adulto tardio/idoso deve procurar integrar, segundo esses mesmos autores, estes elementos entre si, emoção, cognição e ação, em diversas e diferentes situações em que dinamize e realize tarefas tanto individual como coletivamente, indo ao encontro do cotidiano e da realidade como sênior.

Isto posto, reiteramos que em pleno século XXI a Educação não deve deixar de ter um cunho Humanista-Existencial, mesmo com os inúmeros avanços tecnológicos que ela deve também incorporar e saber utilizar, levando a Educação para a Saúde (Mosquera and Stobäus, 1984), Psicologia da Saúde e Psicologia Positiva.

Após a grande divulgação do Relatório da UNESCO (1996/ 2010), Educação um tesouro a descobrir, destacou-se todo um panorama para que todos os seres humanos, independente de raça, credo, cor, status, gênero ou idade possam aprender e transformar-se naquela pessoa que é capaz e que deseja ser, aprendendo com a através de sua inserção na humanidade, através de ambientes educacionais apropriados e ricos em estímulos, com a missão de sensibilizar seus sentimentos e valores/ atitudes, junto com suas cognições.

#### **4. EDUCAÇÃO PARA A SAÚDE E PSICOLOGIA POSITIVA**

Como nosso propósito é abordar o envelhecimento humano saudável, não poderíamos deixar de falar sobre Educação para a Saúde, irmã quase gêmea da Psicologia da Saúde.

Em termos de Educação para a Saúde (1984, p. 9) já dizíamos o que hoje temos como o campo interdisciplinar da Psicologia da Saúde:

Educação para a Saúde, cremos, é uma tentativa de unir a Educação com a Medicina, e apoiar-se em áreas de conhecimento como a Antropologia Cultural, receber reforço da Sociologia Institucional e da Sociologia Geral, e penetrar no campo da Psicologia Social e do Desenvolvimento.

Ainda podemos acrescentar (p. 9):

O que visaria a Educação para a Saúde? No nosso entender visa um nível de pessoa sadia, tanto física como psicológica e socialmente. Não apenas a pessoa como algo individual, mas considerada como representante de um grupo e de um todo. A saúde da pessoa representa a saúde das instituições. Na medida que as pessoas têm melhor nível de saúde. Tanto física como psíquica e social, parece-nos que as sociedades tendem a ser mais justas, equilibradas e coerentes.

Estas palavras escritas há vários anos ainda hoje permanecem importantes, mormente em seu sentido interdisciplinar.

Lima, Bernardes and Marques (2014, p. 14) atentam sobre a importância das representações sociais, assim como a influência de fatores psicossociais nos processos de avaliação e tratamento da dor por profissionais da saúde, mas também nas experiências de dor e incapacidade funcional associadas.

Assim, tanto aspectos de saúde como os de doença ficam contemplados como uma dialética importantíssima para o desenvolvimento da personalidade de uma pessoa até sua vida adulta tardia, através dessas representações sociais que se configuram em modos de pensar e agir, ter emoções e saber manejá-las em uma sociedade de tão rápidos ajustes e contínuas mudanças.

Então podemos ver que a existência humana seria na realidade uma construção que depende muito dos nossos sentidos, valores e significados com que representamos ao e no mundo que nos desenvolvemos.

Finalmente, a saúde é também um privilégio, de certa forma, que devemos tentar desenvolver através de uma Psicologia (mais) Positiva, também destacado por Snyder and Lopez (2009). Esta área, nos últimos anos, tem tentado avançar em conhecimentos e ações, privilegiando o que há de melhor dentro de cada pessoa. É necessário, então, ser feliz (ou ter momentos de felicidade mais vezes), buscando sempre o crescimento pessoal no social, com significado e valorização do nosso caminhar e o dos outros.

Outra parte desta abordagem é contemplada por Hué (2012), quando diz que “o bem-estar docente radica no desenvolvimento de competências e a liderança é garantia de bem-estar docente”, movendo apensamentos mais negativos para positivos. As competências seriam auto-conhecimento, auto-estima, controle emocional, motivação, (re)conhecimento dos demais, valorização do outro e liderança.

Cabe também lembrar trabalhos na área da Psicologia da Saúde que têm relação direta com a Educação, através de elementos como o mal/bem-estar docente e trabalhos com seu manejo e avaliação, que podem ser compatibilizados diretamente com os da área da Saúde (Zacharias; Mendes; Lettnin; Dohms; Mosquera and Stobäus, 2011; Stobäus; Mosquera and Santos, 2007; Jesus; Mosquera; Stobaus; Sampaio; Rezende and Mascarenhas, 2011).

#### **5. ENVELHECIMENTO, PSICOLOGIA POSITIVA E AFETIVIDADE**

Como já dissemos, a nossa forma de ver o envelhecimento é entendido como um processo que dura toda a vida, embora durante a vida adulta a pessoa seja chamada de adulto tardio, comum envelhecimento saudável, na perspectiva da Saúde e da Psicologia Positiva.

André (2014, p. 18-19), respondendo à pergunta ‘que é a Psicologia Positiva?’, disse:

Pois simplesmente é o estudo do que funciona bem na mente do ser humano, o estudo das capacidades mentais e emocionais que nos ajudam a disfrutar da vida a resolver os problemas e superar a adversidade. É trabalhar no cultivo d nosso otimismo, confiança, gratidão, [...].

E segue o mesmo autor: “a Psicologia Positiva repousa sobre três conceitos: é uma convicção, uma vivência e uma prática”.

Como nós entendemos convicção implica em conhecimento de cunho cognitivo-afetivo, ampliando nosso modo de vida e senti-la da forma mais profunda e sincera.

Já no sentido de vivência, é a procurada da validação científica. São somente de bons sentimentos, senão também dos bons argumentos, estudos clínicos. As dimensões biológicas, a neurociência e neuroimagens e as descobertas levadas a efeito pelos estudos do cérebro e suas consequências nas sociedades atuais.

Como aponta Seligman (2005, p. 410), o progresso da Psicologia Positiva está nas validações e intervenção.

Acompanhando André (2014), algumas regras para pôr em prática a Psicologia Positiva seriam:

- a) o importante é o que faço e não o que sei - (ter a prática da felicidade não apenas a teoria);
- b) sem suor não há felicidade? - Empenhar-se sem realizar esforços para ver o lado melhor da vida e tentando a todo momento o que é ajudar a si mesmo e aos outros;
- c) perseverar – de certa forma o perseverar não é senão dar continuidade ao nosso comportamento de obter coerência e procura da felicidade, ao mesmo tempo que de forma real, entendemos as contingências da problemática da vida;
- d) a corda e os fios – os exercícios da Psicologia Positiva obedecem ao que denomina-se a lógica da corda, composta de uma multidão de fios. Sozinhos são frágeis para levantar pesos, mas trançados se transformam em uma corda capaz de levantar e rebocar pesos ‘bem pesados’, como a infelicidade. Esses exercícios ajudam a procurar a felicidade e nosso próprio equilíbrio pessoal e sócio-profissional.
- e) um lugar para a infelicidade – A Psicologia Positiva não tem por objetivo evitar que nos sintamos, a nós mesmos, como um ser completamente infeliz, o que seria um pouco realista demais, já que a felicidade e a infelicidade fazem parte da vida humana. Ela se interessa pela resiliência, os meios com que defrontamos o sofrimento e como ampliá-los.

Procuramos estar de bem com nossa própria existência e entender a necessidade de aceitar que em nossas vidas aparece todo tipo de experiências e estar preparado para perpassá-las.

Finalmente, é importante entender que a felicidade, em realidade os momentos de felicidade em nossas vidas, tanto individual como coletivamente, são o grande objeto de estudo da Psicologia Positiva.

Mas não podemos esquecer que a felicidade não deve servir para obscurecer/escurecer a adversidade, pois ambas fazem parte da existência como um todo.

## 6. AFETIVIDADE E SAÚDE

Fragoso and Chaves (2012, p. 55) manifestam que “a vida do ser humano está repleta de vivências internas, de pensamentos, sensações, é uma imensidão tal que não conseguimos descrever em poucas palavras. A emoção da vida aos humanos e na raiz etimológica significa movimento”.

Já para Damásio (2003), o sentimento é um processo mental relativamente estável, resultante da emoção.

Fragoso and Chaves (2012, p. 67) nos diz que “na velhice, a pessoa idosa pode chegar mesmo a morrer de solidão quando não se sente amada, porque o afeto tem uma função protetora contra as adversidades da vida”.

Assim, acompanhando esse pensamento, os autores (p. 68) destacam que “os afetos valorizam tudo aquilo que está dentro e fora de nós, como os factos e os acontecimentos, bem como suas causas subjetivas”.

Lemaire and Bherer (2012, p. 33) nos evidenciam um retrato interessantíssimo e partem no seu prefácio a partir de perguntas que nos fazem meditar:

“As imagens que temos dos idosos, descritas pelos poetas ou fruto de nossa experiência, correspondem à realidade do envelhecimento?”

“Essas imagens mudaram ao longo do tempo?”

“Será que vão evoluir com as descobertas científicas sobre o envelhecimento?”

“Em que medida condicionam essas imagens as nossas atitudes, individuais e coletivas, em relação aos idosos?”

E ainda, “o que sabemos exatamente sobre a realidade do envelhecimento psicológico?”

Lembremos aqui de programas em que se intervém em atitudes consideradas como mais negativas, preparando

para atitudes mais positivas frente a vida e as possíveis superações, conforme Patrocínio and Pereira (2013).

Ou mesmo da perspectiva de Adrián (1999), para uma melhor compreensão de como funciona o complexo emaranhado de desenvolvimento na conjunção de aspectos cognitivos, afetivo-emocionais e sócio-culturais, bem como intervir para diminuir nas dificuldades de seu desenvolvimento ou nas dificuldades de aprendizagem propriamente ditas.

## **7. PRÁTICAS EM DESENVOLVIMENTO HUMANO, EDUCAÇÃO, EDUCAÇÃO PARA A SAÚDE, PSICOLOGIA POSITIVA, ENVELHECIMENTO E ASPECTOS DE LAZER**

Até aqui nossas reflexões foram, de certo modo, mais teóricas. Caberia agora destacar algumas possibilidades de aplicação em processos mais práticos.

Como seriam práticas que pudessem implementar um Desenvolvimento Humano mais pleno? Poderiam ser, por exemplo, algumas que propiciassem uma abordagem mais humanizada, de acordo com a faixa etária e as capacidades/habilidades, além de motivação. Em Europa vemos, nas estações de trem, vários cartazes com propostas de uma viagem com esta via de transporte: para algumas pessoas entre 60-65 e 70 há o trecho de trem, com acompanhamento de guias, trechos com caminhada leve, de tempos em tempos um refúgio, alguma atividade de entretenimento. Um grupo de idade mais avançada, além do guia e trechos de caminhada menores e mais lentos tem o acompanhamento de uma equipe de saúde. Mais idade e a presença de uma equipe mais completa, com médico e possibilidade de transporte em forma de resgate aparece mais claramente. Significa que, conforme as capacidades e a disposição em termos de uma idade funcional, descrita acima, e não somente a cronológica, existem patamares em que a pessoa se pode inscrever e sentir acolhida e protegida.

Essas possibilidades já começam a aparecer também em companhias aéreas e marítimas/fluviais com agências de viagem, que preparam pacotes mais específicos e personalizados para idosos. Ou mesmo as companhias de turismo, com camionetes adaptadas para idosos.

Outra atenção pode ser dada nos sistemas de saúde, e não estamos falando apenas de filas e locais especiais para atendimento. Temos de levar em conta que essa população que envelhece é cada vez maior, com mais necessidades e inclusive exigências. As ideias mais novas vão na direção de hospitais-dia, incluindo locais de estacionamento, elevadores/ escadas rolantes/ cadeiras e macas adaptadas ao ambiente, que deve ser tão agradável quanto uma área de atendimento da pediatria, com seus aspectos de cores, móveis maiores com melhores assentos e cantos arredondados, televisão com sistema 'sap' de texto com tamanho apropriado e menos rápidos.

Falando em filmes e livros, existem inúmeras possibilidade de 'clubes de filmes', 'clubes de leitura', para discussões e participação intergeracional e não apenas bingos e 'sete refeições ao dia' como chamarizes.

Se formos para unidades menores, como sejam as famílias, podemos e devemos pensar em preparar essas famílias ou alguns de seus membros, mais na direção do preparo de cuidadores, em cursos específicos como os da PUCRS, na Gerontologia Biomédica, por exemplo.

Recreação e lazer também é um campo a ser mais explorado. Temos aqui dentro, desde complexos de golfe, de talassoterapia (Fernandes and Fernandes, 2000), com as águas termais, até possibilidades de terapias mais alternativas com sais, frutas e verduras, diferentes tipos de águas, de massoterapia, pilates, acupuntura, entre outros. Normalmente são hotéis em rede mundial, integrados de tal forma que as pessoas passam temporadas entre um e outro.

Outro ponto a ser considerado no Lazer seria clubes, recantos em praias, na serra com design e arquitetura mais específicos, levando em conta suas adaptações e necessidades, por exemplo com boias, cordas, acessibilidade, salva-vidas, áreas com sombras, escadas/rampas, elevadores de acesso às piscinas, avisos para retirar aparelhos auditivos antes de entrar na água. Nos clubes de lazer que lidam com ecologia, em que existe possibilidade de mergulho, deveria haver óculos especiais ou mesmo óculos de natação com grau ou possibilidade de ajuste dos seus óculos, roupas de mergulho bem mais soltos, escadas para subir na sela de animais, e tantas outras adaptações especiais.

Sem falar em grandes parques, alguns mundiais, em que a propaganda é para crianças, esquecendo que elas às vezes vão com seus avós, não necessariamente apenas os pais.

## **8. EM SÍNTESE**

Tentamos, em nosso texto, apontar aspectos que nos possam responder a algumas das questões levantadas pelos estudiosos comentados e nossas próprias inquietudes, pois é de nosso interesse oferecer a possibilidade de uma existência melhor e com mais plenitude, para um melhor viver no presente e futuro próximo, nas temáticas do envelhecimento abordadas.

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# TEACHERS' PERCEPTIONS OF THEIR USE OF MOODLE IN HIGHER EDUCATION

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## ABSTRACT

It is a fact that there is an increasing number of university teachers using information and communication technologies in their daily academic activities. In this respect, Moodle is a learning management system with numerous possibilities for the teaching / learning process in higher education. This study shows the perceptions about the use of Moodle as a virtual learning environment by the teachers from the University of Huelva (Spain) and the University of Algarve (Portugal). The main objective of this research is to understand and analyze the perceptions of university teachers about their skills for the use of Moodle in their teaching. For this, a questionnaire has been designed and a sample of teachers from both universities has been surveyed. From the data obtained and the review of current literature, a number of profiles and needs to keep in mind when using Moodle as a tool for teaching / learning in higher education are highlighted.

Keywords: University Teachers, Perceptions, Moodle, Higher Education.

JEL Classification: I23.

## 1. INTRODUCTION

Our society is characterized by the massive presence of information and communications technology in all fields which determines certain aspects of the current educational reality. As a result, universities are gradually implementing online teaching mode as a complement to the traditional classes. In the case of the University of Huelva (Spain) and the University of Algarve (Portugal), many courses have a Learning Management System (LMS).

## 2. THEORETICAL FRAMEWORK

### 2.1. Moodle

Moodle is a learning management system that combines aspects of constructivism, which argues that knowledge is generated through mediation and interaction with the environment, and constructionism that is based on "learning by doing". According to Baumgartner (2005), depending on their use, Moodle can present three educational models: a disseminated model (transfer of knowledge), an oriented teaching model (active process where students plan, review and reflect) and a model oriented to learning (from the teacher facilitation, students produce and generate their knowledge). In addition, this tool enables collaborative learning and is set around what is called "social constructionist pedagogy" (Silva, 2011). From the eighties, many universities have been committed to the integration of technology in the classroom. Thus, it has been increasing the volume of equipment, infrastructure, software, etc. Besides these actions, they have begun to address issues such as teacher training and the development of educational materials in technological support. In fact, several studies analyze how technologies and virtual learning spaces can support the



development of cognitive functions of higher order, transforming education, creating more environments focused on students to interact with peers (critical thinking), and on the other hand they suggest that these environments support constructivist learning because they allow students to develop, read and reflect on the concepts (Schalk y Marcelo, 2010). In sum, technological innovations that favor virtual learning environments offer us greater educational opportunities (Bautista, Borges y Forés, 2006).

There are numerous studies on the use of Moodle in university education. In the study by Adell, Castellet and Gumbau (2004), several virtual teaching-learning systems are analyzed and flexibility, openness, dynamism and functionality of Moodle is highlighted. For all this, Moodle presents many advantages for both models in which the teaching-learning is fully remote (e-learning), and where the blended learning (B-learning) is given, that is, when traditional teaching is complemented by sessions or activities through a virtual classroom. Meanwhile, Sanchez-Santamaria, Sanchez-Ramos and Antolín-Pardo (2012) found that the use of Moodle is more related to theoretical and individual work than with other teaching strategies. This alerts on one of the predominant uses Moodle as a simple information repository. These same authors find that one of the problems identified regarding the use that teachers made of Moodle is their competence related to their lack of training.

In this regard, Schalk and Marcelo (2010) highlights the need for training teachers to address the processes of online communication. It is evident that the development of teaching-learning based on Moodle has important benefits for teaching but is not exempted from risks

In this sense, González-Videgaray (2007) warns us that we run the risk of misusing the possibilities that this teaching methodology offers us, as online learning requires conditions and resources related to the design, content, development tools, support faculty, student perceptions and previous experiences. It is therefore essential to recognize the importance of teachers when exercising their profession as it needs to possess certain skills related to the use of information and communication technology (ICT) for teaching. Thus we are facing a scenario that requires a protagonist role of teachers to continue leading the teaching-learning process so that students can achieve meaningful learning. It is a clear need to stay current and be able to boost the learning experiences under this new format, so it is necessary to conduct a teaching techniques review. At this point and aware of the importance of teachers in this subject, the role of teachers when they are using Moodle is presented below.

## 2.2. Teaching skills

From the definition provided by Escudero (2006) we understand the teaching skills as a “set of values, beliefs and commitments, knowledge, skills and attitudes that teachers, both personally and collectively (part of working groups and educational institutions) have to acquire and which grow to provide our share of responsibility to ensure a great education”. Immersed in this framework on the skills must have teachers for the proper performance of their profession we have to consider, in addition to matters relating to the teaching-learning those aspects related to the personality of the teacher, to work in collaboration with other teachers, with the desire to teach fairly and with passion in what we do. In the study by Alvarez-Red, Asensio-Muñoz Clares, Del-Frago Garcia-Lupión, *et al.*, (2009) we find a detailed description of the profiles of teaching skills that teachers perceived as fundamental for the performance of the new features that are demanded at present. These functions include:

- Identify the needs and demands of students.
- Schedule teaching relating their subject to professional practice and the needs of students.
- Manage (link, file, apply...) specific knowledge of their subject.
- Managing other skills (languages, ICT...).
- To analyze their own teaching practice.
- Motivate students.
- Develop critical skills of students.
- Develop in students the ability to take responsibility for their own learning.
- Teach teamwork.

This set of teaching skills are necessary for the harmonization of education in the European Union. Within this teacher profile highlights the domain of information and communications technology to be used in teaching. In this sense, media competence is defined as “those skills and attitudes needed to properly use technology resources in order to build knowledge in the educational work” (Ferres and Piscitelli, 2012). Thus, teachers are called to introduce information and communications technology as teaching tools applicable to the classroom. Therefore it is necessary to achieve the training of teachers to be able to integrate in a particular way and adapted to their needs and those of their students, aspects referring to pedagogy, technology and contents. These three elements are essential and when teachers are adequately trained in them, will be able to: create and use technologies taking into account specific

instructional design; identify and select the most appropriate technologies for specific instructional design; and especially understand and comprehend what changes in education when ICT is used.

In the study by García-Valcárcel (2008) the contributions of ICT are analyzed to improve educational processes related to methodological change advocated by the European Higher Education Area. In this context, mentoring is considered a core strategy for guidance, individualization and monitoring of student learning in any educational model but even more when methodologies that give greater autonomy to the students are proposed, as in the case of virtual learning.

In this process of analysis and transformation of the skills of teachers, the work of Gutiérrez (2014) shows the profile of teachers around the ICT skills where we can appreciate a first level characterized by having a positive attitude towards ICT and know components basic technical associated to them. A second level includes the fact of knowing and using digital tools in the classroom, meeting their own methodological strategies of networking, choosing ICT resources according to the needs of students, promoting student participation in space communication network and participating in network training activities. A third level corresponds to capacity for reflection, individually and collectively, on their action with ICT. One of the highlights of this study is the positive attitude of teachers towards ICT, both for classroom work and the future of their students. On the other hand, knowledge of more technical aspects of tools and methodologies for using ICT in the classroom are not very present. Furthermore, it is infrequent encouraging student participation in communication networks or assessing them through ICT. Other studies have analyzed in depth the skills that e-learning professionals should possess (Marcelo, 2006; Khan & Joshi, 2006).

Considering this background, our contribution is to analyze the perception of a sample of teachers from the University of Huelva and the University of Algarve on the skills required for their teaching with ICT, in order to find out in detail the use made of the technological resources available in Moodle and to reach guidelines and guidance for improvement.

The questions which tries to answer this paper are:

What are the teachers' perceptions of their use of moodle in higher education?

What needs are there to optimize the teaching-learning process under the influence of information and communication technology?

According to the questions raised above, the objectives in this research are:

- Analyze the perception that teachers have about the importance of their skills for teaching through Moodle.
- Provide guidelines for online teaching based on the results obtained and the review of existing literature.

### **3. RESEARCH METHODOLOGY**

#### **3.1. Setting**

First, a review of the literature was conducted on the subject. Then the instrument was selected and the collaboration of the teachers involved were asked. Data were collected through the online questionnaire format whose link in the Portuguese version is <http://goo.gl/forms/a2Ym6w0Kni>; and in the Spanish version is <http://goo.gl/forms/vTCtait2H7>. Finally, conclusions were drawn from the analysis of the data obtained to the current date taking into account the studies reviewed.

#### **3.2. Participants**

This study has involved a sample of 30 teachers from the University of Huelva and the University of Algarve who use Moodle. It has been taken into account the participation obtained until March 2016, although the questionnaire is still open in order to achieve more answers that will expand the research sample.

#### **3.3 Instruments and data**

An online survey created in google drive was used to collect the data, and it was implemented during February of 2016. The selection criteria for the target population were: teachers from the University of Huelva and Universidade do Algarve.

The instrument used in this study is an adaptation of the questionnaire "Uses of e-learning by teachers of Andalusian Universities" Project Excellence "Use of E-learning in Andalusian Universities: State of the situation and analysis of best practices" (Cabero *et al.*, 2010). The questionnaire was adapted to the study objectives through the trial of four experts who achieved consensus on all aspects of the instrument. The final version consists of a total of

67 items, grouped into 9 dimensions, which have a range of skills that teachers require for the exercise of the tutorial function through the use of online communication tools. Teachers must judge what their perceived competences in a Likert scale are with a numerical value ranging from 1 as lower valuation, and 5 as maximum score. In the following section the descriptive analysis of the data is presented.

#### 4. RESULTS

Of the total sample, 60% of the teachers are female and 40% are male. The average age of the participants is 44 years with a standard deviation of 10 years. The average years of teaching at the University is 13 years with a standard deviation of 8. Meanwhile, the average years teachers have been using Moodle is 8 years with a deviation of 4 years. The maximum years using Moodle is 13 years and only one person indicates that has never used it for teaching. To aid comprehension of the results in Table 1 the mean values obtained for each of the communication tools based on technical skill, didactic and frequency of use management that teachers perceive are presented. The scale score is 1-5 points. The first issue is related to the degree of knowledge that teachers considered to have regarding the instrumental technical skill of different tools used in online teaching. The results allow us to identify a number of relevant aspects. Among all highlights a tool where teachers consider themselves very competent, is the email (93,3%). On the other hand, the tools where they considered less competent are podcast (33.3%) and wikis (23.3%). Based on these results, we could consider that the teachers surveyed are moderately competent to handle different technologies. However, a number of teachers report the lack of technical management of certain tools.

The next question refers to the degree of didactic management tools, ie how teachers feel competent to use these tools in the teaching-learning process, obtaining the highest scores email and forums. The third question aims to determine the frequency of use of communication tools. Regarding the frequency of use indicated by teachers, email is a widely used tool, while other tools are much less used in the process of teaching and learning, even reaching over the central value 3 of our distribution.

**Table 1. Mean scores on the different communication tools**

Tools	Technical skill	Didactical management	Use frequency
Email	4,93	4,77	4,87
Chat	3,93	3,63	2,53
Forums	3,90	3,93	2,93
Collaborative work environments	3,57	3,43	2,40
Videoconference	3,57	3,27	1,50
Blogs	3,47	3,43	2,30
Wikis	3,07	3,17	1,83
Podcast	2,80	2,77	2,47

On the other hand, we want to know the activities that teachers perform when they carry out training activities supported by Moodle. These results indicate that teachers often use communication resources and develop some materials in basic formats for the training of their students. The others are infrequent activities because hardly reaches 3 core value. Below is the frequency of the following activities in table 2:

**Table 2. Frequency of activities in the teaching process**

Activities	<i>M</i>	<i>SD</i>
Use a communication resource such as forums, chat, email, etc.	4,53	1,00
Develop some material in HTML or PDF for students	4,30	1,26
Elaborate some material in hypertext or hypermedia format for students	2,83	1,58
Prepare audiovisual materials for students	2,80	1,50
Elaborate blogs for students	2,17	1,51
Elaborate wikis for students	2,03	1,50
Elaborate podcasts for students	1,80	1,35

The next question enables us to know for what purposes teachers use Moodle. Based on the results in Table 3, we can indicate that teachers use Moodle for a wide range of purposes. These include the presentation and exhibition of materials; management and organization of content and resources; and creating summaries for students, all above 4 points. The other purposes are above the central level 3 indicating that they are also options that are performed with moderate frequency, except working with the case study methodology, which is the least used.

**Table 3. Use frequency of Moodle for different purposes**

Purposes	<i>M</i>	<i>SD</i>
Present or display materials	4,87	0,35
Better manage and organize content and resources for students	4,77	0,68
Summarize	4,03	1,52
Monitor the implementation and delivery of work by students	3,67	1,49
Carry out collaborative work activities	3,63	1,30
Individualise teaching	3,03	1,54
Working with the project method	3,00	1,49
Working with case study methodology	2,87	1,70

Another question concerns the support received for the use of Moodle. In figure 1, we present the results of teachers as to whether they had received from their university some kind of institutional support for the implementation of online teaching. From the data obtained, we can see how the aid received to a greater extent is the technical support to resolve incidents, while other possible aids are identified to a lesser extent.

**Figure 1. Institutional support received (%)**

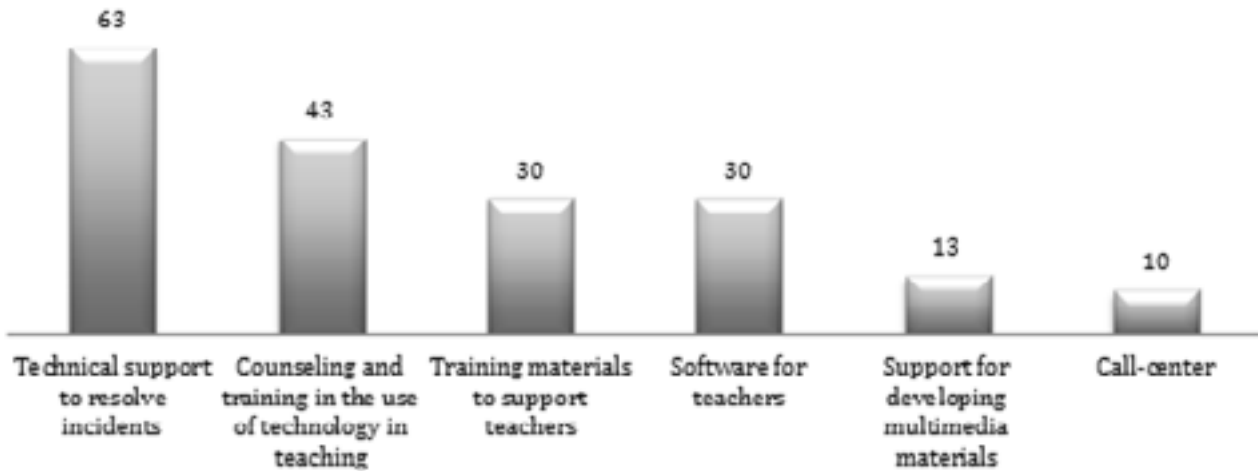
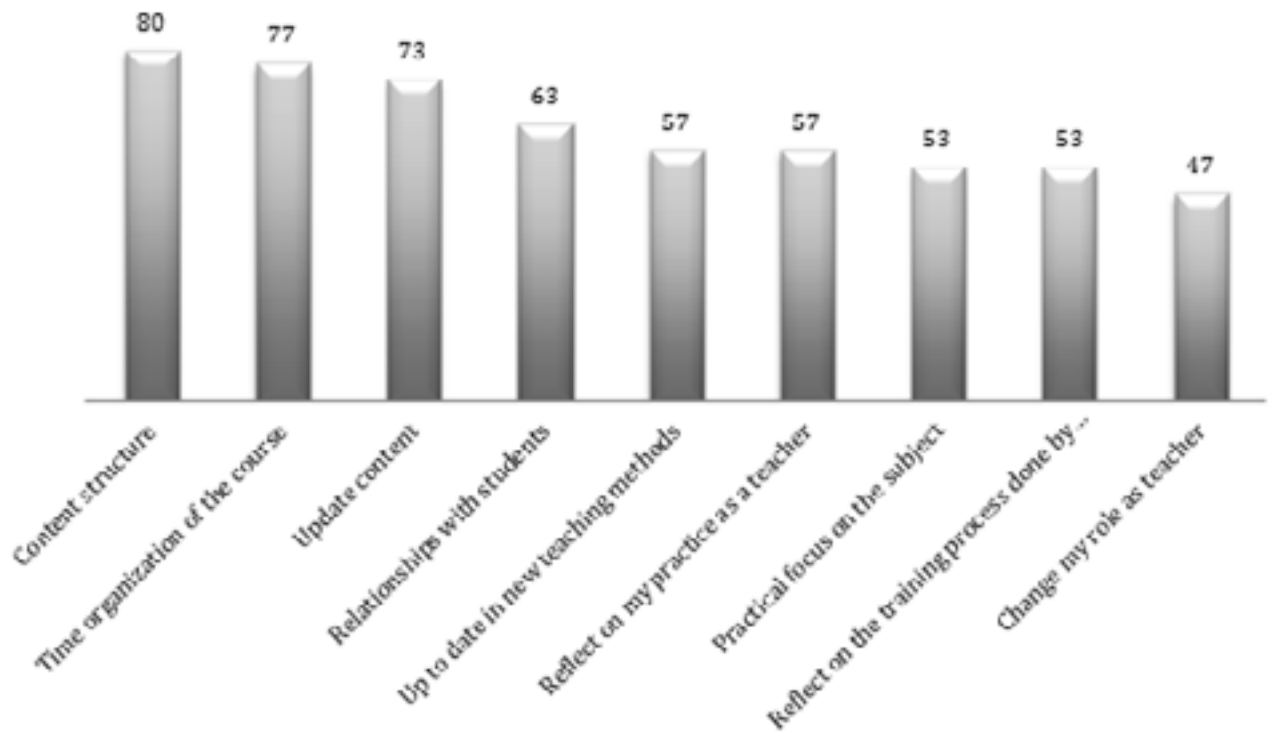


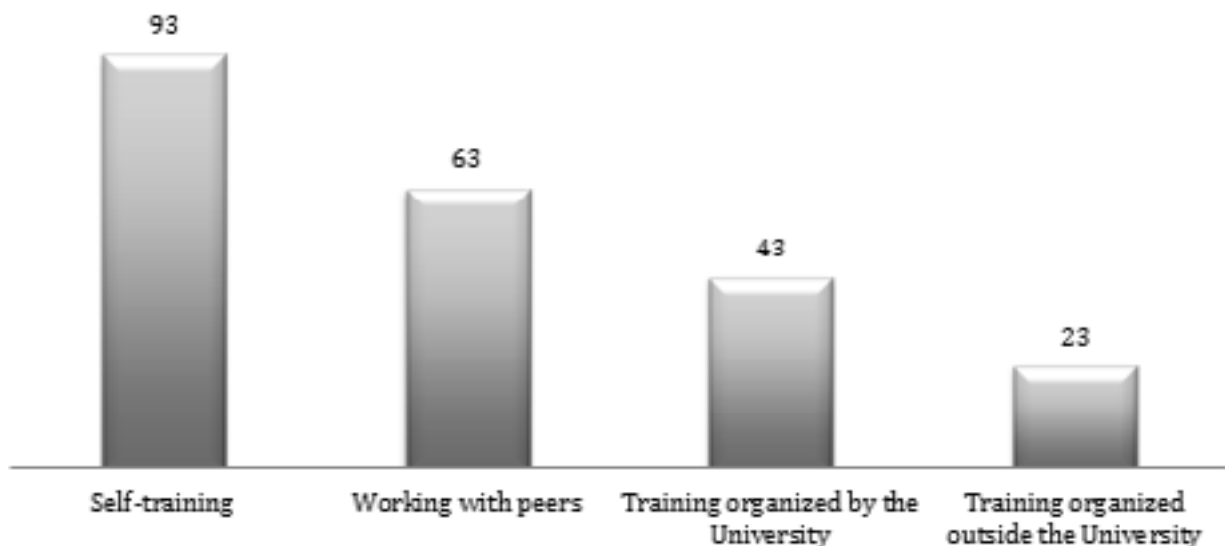
Figure 2 shows the results of the issue in which the teachers indicate whether the use of communication tools and Moodle has enabled them to change in some aspect. Based on the results, the changes that score higher are to structure, update and organize the contents taught.

Figure 2. Aspects changed as a result of using Moodle (%)



The last question seeks to know the ways in which teachers have received training to e-learning. The results are shown in Figure 3. It can be seen clearly how it is through the “self-training” (93%) the most common way in which teachers learn to use the tools.

Figure 3. Ways in which teachers got their training (%)



## 5. CONCLUSION

In this paper we have presented the descriptive results of a sample of teachers from the two universities mentioned. The two versions of the online questionnaires are open and we continue to ask the collaboration of university teachers in order to increase our research sample. Once we have collected a large number of results, in future studies we will analyze the differences in the perceptions of teachers according to different variables. Thus, we will analyze whether variables such as nationality of teachers, age, and number of years teaching or the number of years using Moodle influence their perceptions regarding the use of Moodle in the teaching and learning process.

The results obtained in the sample of this study are quite consistent with those obtained by Cabero *et al.* (2010) showing a profile of teachers in which mainly emphasizes its domain and teaching management of communication tools such as email and forums. Teachers use these tools for presentation and exhibition of materials; management and organization of content and resources and creating summaries for students. Highlights the support to resolve incidents as institutional aid. On the other hand, aspects that teachers have changed as a result of the use of Moodle are to structure, update and organize the contents taught. Finally, the usual way in which teachers have acquired training for the use of the communication tools mentioned is the “self-training”.

It is evident an increasing number of teachers who incorporate electronic resources in their daily academic activities. Thus, it can be said that current educational practices are gradually incorporating the use of technology in the teaching-learning process. In this way, virtual contexts enable communication and interaction between students and teachers. As is well known, online educational experiences can provide a number of positive aspects for students, teachers and universities such as: optimization of resources, students’ and teachers’ mobility to other universities with minimum costs, carrying the image of the university to other contexts by providing its educational model and promoting the exchange of experiences, etc. But many times, the platform is used as a mere repository of materials, despite its interactive potential for the process of teaching and learning. Throughout these pages it has been able to reflect on teaching skills in the management of virtual learning as an urgent need in the current educational reality. This competence in media and technology is not exclusive to teachers, today is a core competence for any career. We are aware that we can not consider technology exclusively in terms of platforms, tools, and network resources, but also in other aspects. These aspects have to do with learning factors, pedagogical approaches and teaching methods, which have to occupy their rightful place. If we do not control the pedagogical nature of these resources technologies and easy access to knowledge through information repositories are useless. So we need to follow a methodology focused on the meaningful learning of our students. The new teaching models mediated by communication technologies are constantly evolving, due to frequent changes that occur in this area. Therefore, we must be updated and act in accordance with the technological evolution in which we are living. In the words of Aparici and Silva (2012) “a teacher has the responsibility to mediate the construction of another way of thinking, to reinvent a new architecture of knowledge and, somehow, to reinvent their teaching profession”. In general, teachers are not opposed to the adoption of new skills as one of the cornerstones of their job, but they demand specific training to carry them out. For this reason, we consider that there should be a permanent training for teachers, through the exchange of experiences and knowledge with colleagues through seminars, debates and conferences. Therefore, teacher training should be understood as a continuous, systematic and organized process; which means understanding that it encompasses the whole teaching career.

From the results obtained and the theoretical review conducted a proposal that would describe fundamental aspects for improving the teaching-learning process with the use of Moodle are listed below:

- Teachers can provide answers to the needs raised at any time through Moodle, avoiding limitations of space and time.
- Allows customizing teaching.
- The guidance is available and guaranteed along the whole course.
- Feedback processes occur both in the discussion forums and activities.
- It increases the motivation of students as it is a format close to the reality and relates to current trends and topics.
- It reveals the famous “Learning by doing”.
- The advantages of activities through collaborative work, work projects, etc.

In sum, one of the keys to the success of a learning experience and to achieve many advantages of the previously exposed is to organize the learning platform through collaborative tasks. When we conduct good educational practices in a learning management system, an increase of student’s motivation while they are participating in activities is observed. The experience also ensures that participants increase their media and professional competence (Hernando, Aguaded & Tirado, 2011). Finally, we encourage all teaching staff, committed and excited about their work, to improve these recent experiences in online environments for teaching and learning. It is necessary to “learning by doing” to achieve success in education. We hope to continue in this line of research, trying to get evidence to guide teachers in this new stage of education where learning management systems are part of our personal learning environment.

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# INNOVACIÓN EN LA UNIVERSIDAD: CÓMO ENSEÑAR A ENSEÑAR CIENCIAS SOCIALES EN LA UNIVERSIDAD

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## RESUMEN

La comunicación que presentamos describe una experiencia innovadora en las aulas universitarias en la cual se ha tenido como objetivo enseñar didáctica de las ciencias sociales a través de estrategias, actividades y recursos didácticos innovadores utilizados en las escuelas de Educación Infantil y Primaria y en las mejores universidades del mundo. Así, hemos realizado una revisión bibliográfica para fundamentar la innovación docente en la universidad y la importancia de utilizar metodologías activas en los procesos de enseñanza-aprendizaje universitarios. Basándonos en dichos fundamentos teóricos, la experiencia que narramos se basa en el uso de los seminarios con el libro en la mano para los contenidos teóricos y los grupos interactivos para los contenidos prácticos, atendiendo a la diversidad del alumnado, para el desarrollo de la asignatura Proyectos Integrados para la enseñanza del Conocimiento Social y Cultural con cuatro grupos de estudiantes de 72 alumnos de 4º de la titulación de Educación Primaria. Los resultados de la experiencia han sido muy satisfactorios para el alumnado y el profesorado, ambos consideran que estas actuaciones han mejorado la relación profesor-alumno consiguiendo mejoras importantes en la docencia. Como conclusiones, la experiencia ha permitido vislumbrar que tanto alumnos como docentes estamos de acuerdo en que estas actuaciones innovadoras han mejorado la docencia en general y la dinámica de la clase en particular, potenciando la motivación del alumnado y pudiendo atender las necesidades individuales de cada uno e incrementando el desarrollo profesional docente del profesorado.

Palabras claves: Innovación Educativa, Educación Superior, Ciencias Sociales, Atención a la diversidad

## ABSTRACT

The article presented describes an innovative experience in university classrooms in which it has aimed to teach teaching of social sciences through innovative strategies, activities and teaching resources used in childhood and Primary Education schools and in the best universities of the world. Thus, we conducted a literature review to support teaching innovation at the university and the importance of using active methodologies in the teaching-learning university. Based on these theoretical foundations, experience that we narrate is based on the use of seminars with the book in hand to the theoretical content and interactive groups for practical content, based on the diversity of students, for the development of the subject Integrated teaching Social and Cultural Knowledge of four groups of students from 72 students in 4th of Primary Education degree projects. The results have been very satisfactory experience for students and teachers, both consider that these actions have improved the teacher-student relationship achieving significant improvements in teaching. As conclusions, the experience has allowed glimpse that students and teachers agree that these innovative actions have improved teaching in general and the dynamics of the particular class, enhancing student motivation and can meet the individual needs of each and increasing the teacher professional development of teachers.

Keywords: Educational Innovation, Higher Education, Social Sciences, Attention to Diversity.

## 1. INTRODUCCION

Entendemos la innovación educativa como un proceso sistemático, voluntario, intencionado y duradero. Comienza con la detección de una necesidad que deriva en la concepción de una idea nueva, e involucra a quien comparte



interés por esa idea. “Es inherente y consustancial a la propia acción educativa, puesto que ambas persiguen la misma finalidad: la mejora, el perfeccionamiento y la optimización de las personas, tanto en su dimensión individual como en su dimensión colectiva, y, por ello, la mejora de la sociedad” (Guillén Correas, 2005, Iglesias, Toscano, y Román, 2012 y Tejada, 1998). Surge como producto del desajuste entre lo que se tiene y que se debería tener. En el ámbito pedagógico busca la mejora sustancial del aprendizaje de los estudiantes. (Kozanitis, Iglesias, Toscano, y Román, 2012, Rivas, 2000, Salinas, 2004, Villa, Escotet y Goñi, 2007 y Zuñiga, 2013).

“Si siempre ha sido conveniente la innovación y la creatividad, en el momento actual, caracterizado por los cambios en todos los órdenes de nuestra compleja vida, es cuestión de supervivencia.” (Colom, Castillejo, Pérez-Alonso, Rodríguez, Sarramona, Touriñán, y Vázquez, 2012:7). En la Universidad, cuando se decide cambiar algo en el sentido de innovar, se piensa en la mejora del aprendizaje y la formación de los alumnos/as. Pero tanto este colectivo como el del profesorado son esenciales en el proceso de innovación; el primero porque es el referente de todo intento de mejora de la actividad educativa y el segundo porque es el profesional responsable del desarrollo de las actividades formativas. (Rosales, 2012, y 2013).

Las innovaciones serán más fáciles de alcanzar y más naturales si se implica al alumnado en el proyecto de cambio y se dota de los medios necesarios para ello. El profesorado por su parte solo cambiará si ve el beneficio del cambio y las desventajas de no cambiar, por eso “la innovación es siempre un negocio arriesgado”; no hay que cambiar por cambiar sino mantener lo bueno ya existente e incorporar lo nuevo que aporte beneficio (Llorens, 2009); el alumnado, por la suya, se implicará en el cambio si lo convertimos en el actor principal de la escena y lo encuentra rentable para su aprendizaje.

Desde hace ya algunos años las Universidades vienen desarrollando Planes de Innovación Docente para estimular e impulsar, entre el profesorado, iniciativas de innovación educativa. Hablamos por tanto de Innovación Institucional, aquellas que se realizan a través de los mecanismos oficiales. No nos referimos a las innovaciones particulares que puede desarrollar el profesorado y que entendemos que tienen tanto valor o más que aquellas objeto de nuestra investigación. Desde estas líneas nos acercamos por tanto a la percepción que profesorado y estudiantes tienen acerca de las innovaciones docentes institucionalizadas y para ello preguntamos a ambos colectivos por la eficacia de aquellas, su grado de reconocimiento y difusión y cuáles son los resultados de su evaluación. De esta manera hemos tratado de obtener una visión global de una realidad compleja, tal y como la conciben dos de los agentes implicados en ella: profesorado y alumnado.

Cada vez son más los estudios que comparten objetivos con el nuestro, aunque la mayoría se centran fundamentalmente en la opinión del profesorado, siendo menos los que recaen en el estudiante. Así nos encontramos con los de Torío-López, Vicente-Peña, y Fernández-García, (2010) que muestran los resultados de las valoraciones de los estudiantes acerca de una innovación docente planteada en la asignatura “Pedagogía Gerontológica”; cuya novedad consistía en el desarrollo de una modalidad de enseñanza diferente, dirigida a la participación del estudiante en su proceso de aprendizaje; o como los de Ramírez, Alejo, Jiménez, Marmolejo, (2013), que muestran la percepción de los estudiantes sobre una nueva metodología utilizada como son los equipos de trabajo. Otros estudios son los que aportan Gallego-Arrufat y Raposo-Rivas, (2014) sobre la percepción de los estudiantes de las universidades de Granada y Vigo respectivamente, acerca del sistema de evaluación basado en rúbricas, como novedad introducida en ciertas asignaturas. Castro Nuño, y otros (2011), por su parte, comparten con la comunidad educativa, la percepción positiva que tienen, tanto docentes como estudiantes, ante una experiencia innovadora en la evaluación de la asignatura “Introducción a la economía”, la cual se realiza a través de tecnologías interactivas. Igualmente, Ibarra Saiz y Rodríguez Gómez, (2014), analizan la percepción que, profesores/as y estudiantes de siete universidades iberoamericanas, manifiestan respecto a la utilización de la autoevaluación, evaluación entre iguales y coevaluación como fórmulas innovadoras en la docencia. En la misma línea autores como González Sanz, Barquero, y otros (2012) Miralbes, Auría, Tardía, y López, (2011), Pérez Rubio, Ureña Ureña, Ruíz Pereda, y García Nuñez, (2013) y Villalustre, (2013) muestran en los resultados de sus investigaciones las percepciones sobre diferentes innovaciones docentes puestas en marcha en sus respectivos centros.

Otras investigaciones, entre las cuales se suma la que aquí presentamos, están centradas en la innovación docente como constructo; en ellas se ofrece la perspectiva acerca de los métodos innovadores en general y los posibles beneficios que puedan generar de cara al proceso de enseñanza aprendizaje; tal es el caso de los estudios presentados por Pastor- Agustín, y Vargas-Magallón, en las II Jornadas de innovación docente, tecnologías de la información y de la comunicación e investigación educativa que tuvieron lugar en la universidad de Zaragoza en 2008, o los de Roses y Humanes (2014) sobre la importancia que le otorgan los estudiantes de periodismo de la Universidad de Málaga a la innovación educativa.

Podemos decir que el tema preocupa; en nuestro caso, esa preocupación, ha conducido a ocuparnos llevando a cabo una experiencia innovadora en las aulas de una docente con el asesoramiento de otra docente experta en innovación docente universitaria.

## 2. LA EXPERIENCIA

La experiencia comprende el estudio de un caso de una profesora y sus estudiantes del Grado de Educación Primaria en el cual se ha querido comprobar si la innovación docente produce cambios importantes en el proceso de enseñanza aprendizaje. En este caso, se han utilizado actuaciones de éxito tales como el seminario con el libro en la mano y los grupos interactivos partiendo de la premisa de que aprendemos en la medida que tenemos posibilidad de estar compartiendo opiniones, haciendo preguntas y pensando en voz alta (Greeno, 2011; Weber, Maher, Powell, & Lee, 2008; Greeno & Gresalfi, 2008 y Barron, 2003) y basándonos en los principios del aprendizaje dialógico (Aubert, García y Racionero, 2009). Esta posibilidad ha sido utilizada con idea de mejorar la interacción con el alumnado y el aprendizaje teórico-práctico del alumnado además de dar un paso adelante en el desarrollo profesional de la docente potenciando el proceso de enseñanza y aprendizaje de la asignatura.

### 2.1 Contexto y participantes

La experiencia se ha llevado a cabo en la Universidad de Huelva, en la Facultad de Ciencias de la Educación, concretamente en la titulación del Grado de Educación Primaria. En ella han participado dos docentes, una como asesora y otra como profesora, implicando un total de 280 estudiantes distribuidos en 4 grupos de 65-70 alumnos y alumnas cada uno. Esta innovación docente se ha desarrollado en los cuatro grupos ya que la docente ha impartido una misma asignatura en todos ellos, solo que por las características propias del alumnado en los grupos uno y tres se han desarrollado con mayor asiduidad que en los grupos dos y cuatro.

Estos grupos son muy variados en sus características teniendo cada uno de ellos una serie de necesidades concretas que han hecho que se desarrollen las actuaciones de éxito en mayor o menor medida, considerando la flexibilidad y apertura pertinente en la planificación didáctica de una materia siendo uno de los objetivos prioritarios de la docente atender a la diversidad de su alumnado desarrollando prácticas que le permitan dar una respuesta lo más individualizada posible que parta de las demandas del alumnado.

### 2.2 Proceso

En el comienzo del curso 2015-2016, una docente del Departamento de Didáctica de las Ciencias y Filosofía de la Universidad de Huelva decide que para el desarrollo de la asignatura Proyectos Integrados para la enseñanza del conocimiento del medio social y cultural va a llevar a cabo dos actuaciones de éxito que se desarrollan en otras universidades líderes en el mundo y en centros de Educación Infantil y Primaria para que la interacción con el alumnado sea más cercana y el aprendizaje de los contenidos sea más significativo. De esta forma, se llevaron a cabo seminarios con el libro en la mano o tertulias dialógicas y grupos interactivos. De acuerdo con la experiencia de innovación desarrollada por Chocarro (2013), consideramos importante llevar a cabo actuaciones de éxito avaladas por la Comunidad Científica (Aubert, Flecha, García, Flecha y Racionero, 2008 y Grañeras, 2011) con el objetivo de mejorar la enseñanza en esta materia.

De acuerdo con Rekalde y otros (2014), consideramos que la enseñanza en la universidad no debe quedar solo en el conocimiento de las disciplinas sino que debe ser una preocupación para el docente el cómo hacer que se desarrollen las competencias y habilidades necesarias en el alumnado para adquirir no solo conceptos sino procedimientos y actitudes que le permitan interiorizar el conocimiento conectándolo con su realidad. Es por ello, que es importante reflexionar sobre el cómo enseñar y qué estrategias, actividades y recursos didácticos son necesarios para atender a la diversidad de todo nuestro alumnado. Partiendo de esa idea, y fruto de la reflexión diaria y la preocupación de las docentes, surge esta experiencia que pretende enriquecer los procesos de enseñanza-aprendizaje

Las estrategias didácticas utilizadas para el desarrollo de la innovación docente se basan en el aprendizaje dialógico. Buscábamos un aprendizaje basado en valores sustentados en el diálogo igualitario lo que llevaba consigo la sustitución de la violencia por el diálogo basándonos en aquellas teorías que nos orienten en cómo llevar a cabo este proceso. (Vargas y Flecha, 2000).

El aprendizaje dialógico “*es el que resulta de las interacciones que produce el diálogo igualitario, entre iguales, para llegar al consenso, con pretensiones de validez*” (Valls, 2000, p.115). En dichas interacciones participa el conjunto de la comunidad educativa soñando la escuela que pretende conseguir y organizándose a través de un proceso diseñado y priorizado comunitariamente<sup>22</sup>. Para profundizar en los fundamentos de este proceso vamos a describir los diferentes principios.

El aprendizaje dialógico, por tanto, pone el foco en la dimensión intersubjetiva del aprendizaje y resulta un marco científico útil para explicar cómo las personas aprenden más y mejor. (Aubert, García y Racionero, 2009). Numerosos investigadores del Proyecto de Comunidades de Aprendizaje reconocen que actualmente la comunicación entre las personas se realiza a través del diálogo.

El diálogo ha sido reconocido como parte del ser humano desde diferentes disciplinas, entre ellas la pedagogía

<sup>22</sup> Se ha tenido en cuenta el artículo on-line de Flecha titulado “Aprendizaje dialógico y participación social. Comunidades de aprendizaje”, el cual especificamos aquí ya que el mismo no concreta el año de publicación.

(Aubert *et al.* 2009, p.130). Así, las prácticas educativas de orientación dialógica, apoyadas en estas teorías, actualmente están ofreciendo excelentes resultados para aumentar el aprendizaje de todo el alumnado, el sentido, y la mejora de la convivencia (Apple y Beane, 1997, 2007; Comer, 1980; Elboj, Puigdemívol, Soler, Valls, 2002; Flecha, 2006-2011; Rogoff, Goodman y Bartlett, 2001; Wells, 2001).

De este modo, el aprendizaje dialógico se considera el marco a partir del cual se llevan a cabo las actuaciones de éxito en esta experiencia. Desde esta perspectiva del aprendizaje, basada en una concepción comunicativa, se entiende que las personas aprendemos a partir de las interacciones con otras personas.

En el momento en que nos comunicamos, y entablamos un diálogo con otras personas, damos significado a nuestra realidad. Así que construimos el conocimiento primeramente desde un plano intersubjetivo, es decir, desde lo social; y progresivamente lo interiorizamos como un conocimiento propio (intrasubjetivo). (Flecha, 2009, p.163).

Según la concepción dialógica del aprendizaje, para aprender las personas necesitamos de situaciones de interacción. Pero no solo necesitamos un gran número de interacciones, y que estas sean diversas, sino que además el diálogo que se establezca tiene que estar basado en una relación de igualdad y no de poder, lo que significa que todos y todas tenemos conocimiento que aportar, reconociendo así, la inteligencia cultural en todas las personas.

Mediante el diálogo transformamos las relaciones, nuestro entorno y nuestro propio conocimiento. De manera que *“El aprendizaje dialógico se produce en interacciones que aumentan el aprendizaje instrumental, favorecen la creación de sentido personal y social, están guiadas por principios solidarios y en las que la igualdad y la diferencia son valores compatibles y mutuamente enriquecedores”*. (Aubert, Flecha, García, Flecha y Racionero, 2008). Los principios es los que se basa el aprendizaje dialógico son: el diálogo igualitario, la inteligencia cultural, la transformación, dimensión instrumental, la creación de sentido la solidaridad y la igualdad de diferencias (Aubert, García y Racionero, 2009).

De esta forma, este aprendizaje dialógico nos convence y nos lleva a pensar que su utilización y esta nueva forma de concebir el aula, como espacio compartido por todos y espacio total de convivencia, consiguiendo que todos sean cuales sean nuestras características tengamos las mismas oportunidades (Pérez Galán, 2009).

Concretando la experiencia en los cuatro grupos de 65-72 estudiantes, la profesora explicó que la asignatura se iba a desarrollar con una metodología diferente y, por tanto, la evaluación también iba a ser adecuada al tipo de metodología. Así, se expuso al alumnado que las clases se iban a desarrollar en base a dos tipos de actividades o estrategias, las ya mencionadas, y se les explicó cuál era el proceso de cada una de ellas.

La tertulias pedagógicas o seminarios con el libro en la mano son una actividad educativa y cultural que se puede realizar en diferentes ámbitos, con la finalidad de diferentes libros o artículos científicos de relevancia y versión original de autores representativos en la disciplina de tal forma que el alumnado base su conocimiento en fuentes originales y no en opiniones o perspectivas del profesorado, se acerque al alumnado con características diferentes. Entre todos los participantes de la tertulia se decide qué libro se va a leer, cuántas páginas y se queda para comentar lo leído. En el momento del seminario, un grupo de alumnos expone un resumen en cinco minutos con las ideas más importantes del artículo o libro. A continuación, una persona es la moderadora y va por orden de párrafos invitando a la intervención. Cada alumno ha elegido un párrafo y explica por qué lo ha elegido. Si alguno tiene el mismo párrafo hace su comentario. Al final, se recogen las principales ideas que han salido, para ello puede haber un secretario que las recoja.

Los grupos interactivos parten de un nuevo planteamiento de la organización en el aula, aumentando así el aprendizaje y mejorando la convivencia escolar. Los grupos interactivos ofrecen otra solución basada en las investigaciones científicas y en las prácticas de más éxito. La profesora o el profesor que adopta esta alternativa, en lugar de decir «como no puedo con los 24, que me saquen a esos cinco», dice «como no puedo con los 24, que vengan a ayudarme». Se organizan cuatro grupos de seis miembros. La profesora se convierte en gestora democrática e igualitaria de la formación en el aula. El interino coordina uno de los grupos; los otros tres grupos son coordinados por otras personas que pueden ser profesionales del trabajo o la educación social, voluntariado universitario, familiares, profesorado jubilado del propio centro, exalumnas o exalumnos, etc. (Puigvert y Santacruz, 2006, p. 170). En nuestro caso, los grupos interactivos han sido coordinados por la profesora y los voluntarios han sido otros profesores, profesionales, antiguos alumnos y alumnas, maestros y maestras, etc. En cada uno de los grupos, se ha realizado una actividad previamente planificada por la profesora relacionada con el proyecto final que debían entregar al final de la asignatura. Tras realizar las actividades en los diferentes grupos, se realizaba una puesta en común para evaluar la actividad y sacar conclusiones construyendo conocimiento sobre el tema abordado que ayudara a interiorizar e ir construyendo el conocimiento científico y didáctico propio que necesita un maestro o maestra para enseñar Ciencias Sociales.

Como la asignatura contaba con cuatro horas semanales, se dedicaban dos horas a tertulias dialógicas a la semana, intercalando algunas clases donde se utilizaba la lección magistral o la reflexión a través de puestas en común en gran grupo o tutorías en pequeños grupos para clarificar algunos contenidos teóricos y prácticos que no hubieran quedado claros. Los grupos interactivos se han llevado a cabo una vez en el cuatrimestre solo en el grupo 3.

### 2.3 Resultados

Para extraer los resultados de la experiencia, la docente asesora en innovación docente realizó una entrevista a la docente participante y visitó sus aulas en dos ocasiones cada una. Además, la profesora implicada en el aula administró un cuestionario cualitativo al final de la asignatura al alumnado con las siguientes cuestiones:

1. ¿Crees que los contenidos de la asignatura Proyecto integrados han sido adecuados? ¿Qué cambiarías?
2. ¿Qué piensas sobre la metodología seguida por la profesora? Aspectos positivos y negativos. ¿Consideras que ha favorecido el aprendizaje?
3. ¿Consideras que la profesora maneja y domina los contenidos de la asignatura? ¿Qué aspectos positivos y negativos destacarías de ella?
4. ¿Crees que el trato de la profesora ha sido el adecuado con los estudiantes? ¿Por qué?
5. Si hubiera otro curso en el grado ¿te gustaría que la profesora te diera otra asignatura el año que viene? ¿Por qué?

Para el análisis de resultados, se elaboró un sistema de categorías simple para el manejo de la información obtenida y el desarrollo de posibles mejoras en el curso siguiente. De esta forma, las categorías fueron: adquisición de los contenidos, rendimiento del alumnado, interacción del alumno-profesor, satisfacción del alumnado, satisfacción del profesorado y desarrollo profesional del profesorado.

Comenzando por la adquisición de contenidos, hemos podido observar que en los grupos donde se han llevado a cabo las actuaciones de éxito innovadoras con mayor frecuencia la adquisición de contenidos ha sido más satisfactoria ya que el alumnado no solo ha realizado un aprendizaje memorístico de los conceptos sino por el contrario ha conectado su realidad con los contenidos que se han ido trabajando en el aula, esto hay hecho que dichos contenidos hayan sido considerados por el alumnado como aplicables en su profesión y necesarios para el desarrollo profesional como maestros y maestras. La profesora ha observado que la adquisición de contenidos no hace referencia exclusivamente a conceptos teóricos sino que ha aumentado el aprendizaje de procedimientos y actitudes necesarios en un docente tales como el respeto, la empatía, la capacidad de análisis, la autocrítica, la reflexión, etc. La comprensión de los contenidos en todos los grupos ha mejorado aunque en los grupos dos y cuatro, salvo casos excepcionales, no ha sido tan eficiente. La diferencia entre los grupos 1 y 3 y 2 y 4 básicamente se encuentra en la motivación hacia el aprendizaje y el clima del aula. Un alumno comenta en el cuestionario *“me han encantado la metodología utilizada por la profesora, aunque conlleva mucho trabajo, yo noto que he aprendido más, que lo que hemos dado en clase me ayudará cuando sea maestro”* (Cuestionario 23).

Relacionado con la adquisición de los contenidos, hemos comprobado en los resultados académicos que los grupos uno y tres han tenido mejores resultados que los grupos dos y cuatro. De esta forma, podemos ver en la tabla 1, que el porcentaje de sobresalientes aumenta considerablemente en los grupos uno y tres, además de no existir suspensos en estos grupos, colocándose la nota media de ambos grupos en la calificación de sobresaliente. Sin embargo, en los grupos dos y cuatro se tenemos un porcentaje que oscila entre el 4,5 y el 14,04% de suspensos encontrándose la nota media del grupo en el aprobado.

**Tabla 1: Porcentajes de calificaciones de los grupos extraídos de las Actas Académicas**

GRUPO	1	2	3	4
<b>NO PRESENTADO</b>	1.470%	0%	1,43%	7.02%
<b>SUSPENSO</b>	0%	4.55%	0%	14,04%
<b>APROBADO</b>	13.23%	47.73%	21.42%	40.35%
<b>NOTABLE</b>	36.76%	2.27%	35.71%	24.56%
<b>SOBRESALIENTE</b>	44.11%	29.55%	38.57%	12.28%
<b>MAT. DE HONOR</b>	4.411%	2.27%	2.857%	1.75%

Debemos ser cautos con estos resultados, porque no solo influye la puesta en práctica de la innovación en el aula sino que existen otras variables que pueden haber causado estas diferencias entre los distintos grupos tales como la motivación del alumnado, el clima del aula, la conexión con la profesora, la implicación de la profesora en el aula, el horario, etc.

Tanto el profesorado como el alumnado consideran que la interacción alumno-profesora ha sido más cercana. El alumnado coincide en la descripción de la docente como una profesional seria en su trabajo y autoexigente lo que

le hace dar una primera imagen de distante con el alumnado, no obstante, el alumnado aclara que la metodología utilizada ha ayudado a acercarse a la profesora mejorando así el proceso de interacción en el aula *“a mí X al principio me pareció muy distante al alumnado, que no nos comprendía porque solo exigía y exigía, sin embargo, en las clases me he dado cuenta que aunque sigue siendo exigente se preocupa por nosotros. Gracias a la metodología que ha seguido le hemos podido decir qué pensamos en todo momento y ella a nosotros y yo creo que eso nos ha nutrido”*. (Cuestionario 52). La profesora reconoce que esta metodología innovadora le ha ayudado a abrirse con el alumnado y entender su papel, ha aumentado su capacidad de ser empática. *“Yo siempre digo que es muy difícil ponerse en el lugar del otro pero es verdad que escuchar a los estudiantes en clase me ha ayudado a ir mejorando mi práctica docente cada día e ir adaptándola a sus necesidades”* (Entrevista profesora). El clima del aula ha mejorado con el uso de una metodología innovadora basada en el diálogo haciendo que profesor y alumno puedan entender y ponerse en el lugar del otro.

La satisfacción del alumnado con la innovación docente ha sido alta aunque todos consideran que la metodología utilizada por la profesora ha llevado una implicación y esfuerzo en el desarrollo de la asignatura mayor. *“La metodología llevada a cabo ha sido adecuada. A mí me ha encantado pero también es verdad que hemos dedicado mucho tiempo a la asignatura”*. La mayoría del alumnado considera que cuando participa de una innovación docente, se siente más implicado y el aprendizaje es mayor.) Un grupo pequeños de alumnos considera que esta metodología innovadora dificulta su aprendizaje *“yo prefiero que el profesor me de la clase y yo después me lo estudie para un examen, es más cómodo y aprendo mucho más, me entero de cosas que no me entero con las lecturas. Creo que a veces se pasan con tanta investigación.”* (Cuestionario 34). Se ha observado en todos los grupos que existe un pequeño grupo que no está motivado con la innovación y no se implican en las actuaciones que se llevan a cabo. *“Hay un grupo de alumno que se distrae continuamente. Coincide con el resto de los grupos, hay alumnos que no quieren hacer este tipo de actividades”* (Observación en el aula).

La satisfacción de la profesora ha sido alta. La profesora considera que la puesta en práctica de esta innovación docente ha producido un gran enriquecimiento en su desarrollo como docente aunque explica que *“para otros cursos debo limar muchos aspectos que se me han escapado. He de reconocer que me ha llevado mucho trabajo. El seguimiento del alumnado con un número de estudiantes tan elevado es muy difícil, esto no sé cómo mejorarlo”* (Entrevista profesora). En general, la profesora realza lo positivo de la experiencia y considera que son más las ventajas que los inconvenientes. Admite que su participación en la innovación es mayor que con otro tipo de metodologías lo que le hace estar más motivada en el desarrollo de su docencia.

### 3. DISCUSIÓN Y CONCLUSIONES

En general el profesorado considera que las innovaciones que se ponen en marcha son eficaces, y lo son porque favorecen que se comprendan mejor los contenidos de las asignaturas en las que se ponen en marcha, aspecto en el que coinciden autores como González Sanz, Barquero, y otros (2012), al compartir los resultados de la puesta en marcha de la innovación docente que lleva por título: *“Aprender comunicando: una práctica docente innovadora en comunicación científica”*; autores como Miralbes, Auría, Tardía, y López, (2011), ya nombrados anteriormente; autores como Pérez Rubio, Ureña Ureña, Ruíz Pereda, y García Nuñez, (2013) y la autora Villalustre, (2013) con su innovación *“Aprendizaje por proyectos con la Web 2.0”*, todos/as han llegado a la misma conclusión tras la puesta en marcha de una experiencia innovadora en sus respectivas asignaturas. En la misma línea Molina Alventura, Valenciano Valcarcel y Valencia-Peris (2015), en su estudio sobre las posibles contribuciones didácticas que pueda tener una innovación docente, como es la introducción de blogs en el proceso de enseñanza aprendizaje en la educación superior, consideran que las aquellas promueven y estimulan una participación más activa y reflexiva en la construcción de los aprendizajes y ayudan a la retroalimentación del propio proceso.

Igualmente serán tanto más eficaces las innovaciones si mejoran el rendimiento del alumnado, haciendo que este crezca tanto profesional como personalmente; así lo considera nuestro profesorado, dato de nuestra investigación que concuerda con aportaciones como las de Kramarski, y Michalsky, (2009), Ojeda, Carreras, Vázquez, y Mate, (2010), Castro Nuño, y otros (2011) y Pérez Rubio, Ureña Ureña, Ruíz Pereda, y García Nuñez, (2013) ya que deducen que la metodología novedosa empleada en las innovaciones que pusieron en marcha contribuyó de manera positiva al buen rendimiento académico y a mejorar la tasa de éxito del alumnado que disfrutó de dicha metodología, frente al que no la disfrutó. Además, en nuestra investigación el profesorado está de acuerdo con que la puesta en marcha de innovaciones docentes no solo mejoran el rendimiento del alumnado, sino que le hace estar más motivado y más participativo, aspecto en el que coincide el estudio de la Doctora Castro Nuño y otros (2011), ya que específicamente señalan cómo mejoró la motivación y el interés por la asignatura en cuestión, tras la puesta en marcha de la innovación docente.

De las misma forma, para Ojeda, Carreras, Vázquez, y Mate, (2010) la innovación supuso mejorar la retroalimentación profesor-alumno. No obstante en el estudio de León Guerrero, (2009) cuando en sus conclusiones se centra en el caso de la Universidad de Granada se pone de manifiesto la falta de evidencias acerca de si la puesta en marcha de innovaciones docentes haya podido mejorar el rendimiento académico de los estudiantes, lo cual viene a contrastar

con los resultados obtenidos en nuestra investigación como se ha indicado en líneas anteriores. Habría que indagar y comprobar el impacto real de la innovación docente en la mejora del rendimiento académico, pudiendo ser que existan otras variables no controladas que hayan afectado a los resultados obtenidos.

En cuanto a la satisfacción del alumnado con la puesta en marcha de innovaciones docentes, cuando se cuenta con él para ello, suele ser muy positiva; así nos lo corroboran los estudios de Ojeda, Carreras, Vázquez, y Mate, (2010), Castro Nuño, y otros (2011) y Villalustre, (2013), ya que indican que la mayor parte de las valoraciones de los alumnos/as que participan en las experiencias innovadoras (nuevas formas de evaluación de la asignatura, en los dos primeros casos y aprendizaje por proyectos con la Web 2.0 en el último) son muy positivas. Podemos decir por tanto que, tanto los profesores/as como los alumnos/as consideran que, cuando se le hace partícipe a estos/as últimos de la innovación docente y se le permite valorarla suele darle un alto valor.

Con respecto al reconocimiento y difusión de la innovación docente, nuestro estudio muestra gran descontento al respecto entre el profesorado, ya que no considera que la difusión sea buena y el reconocimiento el adecuado; sin embargo esta idea contrasta con la expuesta en los resultados de la investigación llevada a cabo por León Guerrero, (2009), ya que el profesorado consultado en dicho estudio se muestra de acuerdo o totalmente de acuerdo con los distintos procedimientos que sus respectivas universidades ponen en marcha para dicho reconocimiento y difusión. Lo que sí viene a coincidir en ambos estudios es en la importancia de ambas acciones. Es posible que en nuestro caso al realizar de manera genérica la pregunta sobre la difusión de la innovación y no concretarla preguntando por cada una de las formas que la Universidad de Huelva tiene establecido para dicha difusión el profesorado no haya dado una respuesta real al no haber reflexionado sobre dichas formas. No obstante en los grupos de discusión la línea de reflexión corroboró los datos del cuestionario, la difusión era escasa y el reconocimiento insuficiente, ya que parece ser que éste no va más allá de la satisfacción personal por el trabajo bien hecho.

Tirado, y Aguaded, (2012) en su estudio sobre la “influencia de las medidas institucionales y la competencia tecnológica sobre la docencia universitaria a través de plataforma digitales”, exponen dos variables claves para el fomento de dicha competencia tecnológica entre el profesorado, que le permita poner en marcha particularmente innovaciones docentes en esa línea, extensible, desde nuestro punto de vista, a las innovación docente en general. Una de esas variables es precisamente el reconocimiento institucional al esfuerzo que conlleva la puesta en marcha de innovaciones docentes; así nos sugieren incentivos económicos, reconocimiento académico y reducción de créditos docentes. En el estudio enmarcado en la Universidad de Granada, coordinado por la Dra. León Guerrero, (2009) se pone de manifiesto que el reconocimiento a la innovación docente en dicha universidad se realiza mediante la difusión de los resultados de la misma a través de la publicación de memorias y jornadas y con la obtención de premios de calidad, con lo que el profesorado está bastante satisfecho.

Por su parte los profesores/as Calvo Palomares, Lorente Campos, Bendito Monleón, y Gallego Bono, (2013), al presentarnos los resultados de la experiencia del grupo de innovación INNOVA REL-LAB, pionero en la innovación docente en los estudios de Relaciones Laborales y Recursos Humanos en la Universitat de València, se detienen específicamente en la difusión de las innovaciones puestas en marcha, considerando una serie de obstáculos que vienen a frenar dicha difusión e incluso, en algunos casos, la continuidad de la propia innovación. Uno de los obstáculos son los propios grupos que ponen en marcha proyectos de innovación docente, ya que son considerados como “realidades aisladas o fragmentadas” y la organización de jornadas y encuentros, una vez finalizados dichos proyectos, son insuficientes porque no favorecen realmente la información cruzada, según exponen los autores. Por otra parte al participar en los proyectos de innovación docente los profesores/as a título personal, los departamentos y los equipos docentes no tienen porqué verse implicados, por tanto no es fácil involucrar al cuerpo de profesores que no participan del proyecto en la propia innovación, lo cual ayudaría bastante a la difusión de la misma. Por último señalan los autores que el incremento sustancial de las horas de clase para una importante porción de profesores/as, concretamente en su Universidad en el área de Ciencias Sociales, está generando tensiones que pueden dificultar la continuidad de los proyectos de innovación docente, por lo que eso afectaría a la sostenibilidad de la innovación y evidentemente a su difusión continuada.

Como se ha puesto de manifiesto, profesorado y estudiantes consideran que las innovaciones docentes institucionalizadas mejoran la docencia y la dinámica de la clase, mejoran las relaciones tanto entre el profesorado y el alumnado como entre los propios alumnos/as. Éstos están más motivados, participan más y se interesan por la materia llegando a comprenderla mejor gracias a las innovaciones docentes. Alumnado que sabe reconocer una innovación docente y suele estar satisfecho con ella cuando se le consulta ya que al participar de su evaluación suelen valorarla muy positivamente. Ambos colectivos denuncian el poco interés que despierta la difusión de la innovación docente frente a la investigación y demandan cauces más adecuados para aquella, especialmente entre los estudiantes, últimos beneficiarios de dichas innovaciones; éstos en muchas ocasiones no saben ni que forman parte de una. Tanto estudiantes como profesores/as consideran que las innovaciones docentes no están suficientemente valoradas, tanto a nivel institucional como externo, porque lo que realmente se valora es la investigación y se reivindica un mayor reconocimiento y valoración tanto a nivel de Facultad, Institución y Política Universitaria.

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## ADVENTURE SPORTS PRACTICE IN SCHOOL AND RISK CALCULATED

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### ABSTRACT

This paper aims to discuss the relationship between School Physical Education, Adventure Sport more specifically the Mountaineering and the care with the safety standards. First we try to understand, from the published studies, Mountaineering practices carried out in daily school life and what the relationship with the safety standards through the literature review. Later we promote the implementation of a teaching and learning process with the Mountain as a content of School Physical Education classes with safety standards as a backdrop of the given classes. Such action enabled the creation a product: Video guide for use of safety standards and equipment on the practice of Mountaineering with a didactic sequence of eight lessons.

Keywords: School Physical Education, Adventure Sports, Calculated Risk, Safety Standards.

### 1. INTRODUCTION

The sport, in recent decades has become the hegemonic content of physical education classes, but a few sports are elected by teachers (BETTI, 1999). Poli *et al* (2012) and Richter (2013) reiterating that background mentioning that usually the classes focus on ball sports (volleyball, basketball, football and handball).

Thus, this paper aims to discuss the relationship between the School Physical Education, the Adventure Sports, specifically the Mountaineering, and the care with the safety standards.

However, this work is justified by the significant increase in the number of physical education professionals that using that sports practice as an educational teaching resource in schools (SCHWARTZ, 2006; LUREANO 2012; LUIZ RUFINO, 2012; SANTOS; GOMES; PEREIRA, 2012; SILVA; RAMOS; PEREIRA, 2012).

As a methodological way this study was developed through literature review, “for it to provide professionals in any field, information on the current development of science and its literature” (Figueiredo, 2004, p. 23). Subsequently, the creation of a video guide covering the theme of work.

The analyzed emerge from the following journals: Scielo databases, Magazine Movement, Journal of Science and Movement, Connections and the Brazilian Congress of Adventure Activities. The choice of these was due insertion of these in the field of Physical Education and Adventure Sports.

As inclusion criteria for research in magazines was instituted original articles published from January 2010 to December 2015. The terms used to search were School Physical Education, Adventure Sports, Calculated Risk and

Safety Standards. Already in the Annals of the Brazilian CBAA- Adventure Activities Congress, we highlight the works that contemplate the practice of adventure sports in school taking into account oral presentations and posters.

## 2. ADVENTURE SPORT, CALCULATED RISK AND SCHOOL PHYSICAL EDUCATION

According to Costa (1999), the calculated risk explodes in fascination with vertigo, which favors a kind of inebriation and a domain of its effects, to the author the calculated risk is the possibility of occurring the dangerous situation, the likelihood and consequences of a particular event.

The Adventure Sports is guided by emotions, therefore, is established by a relationship with the risk, however, fictitiously due to the use of safety equipment and procedures.

Santos (2013) with respect to Adventure Sports, also mentions that the risks, uncertainty, contact with nature and equipment may contribute to the Physical Education School for the pleasure that this body practice provides students. In addition to allowing the practitioner “confronted with it, thus overcoming limits, overcome challenges, overcome barriers, having no limitation of time, space, age and sex” (p. 70).

## 3. PRESENTATION OF THE RESULTS

Initially, we chose to present the data quantitatively, to later present the results through thematic divisions created in an attempt to explain the specificities found in the investigation.

**Table 01 - Number of articles found in the SCIELO database, Magazine Movement, Journal of Science and Motion Magazine Connections**

	SCIELO	MOVEMENT	SCIENCE AND MOVEMENT	CONNECTIONS
School Physical Education	36	32	47	4
Adventure Sports	1	20	1	2
Calculated Risk	0	15	1	0
Safety Standards	0	16	1	0

In Scielo database when we use the term Physical Education found thirty-six articles, but were not related to Adventure Sports. Regarding Calculated Risk and Safety Standards did not find any article. In this database, to investigate the term Adventure Sport, only one article was found (PASSION et al, 2011). The authors show that the perception of risk by Adventure Sport instructors stem from an attitude in which the prevailing confidence in the field of technology and quality of the equipment at the time of these bodily practices with nature. However, the article was discarded because it does not include the evidence in this study that charted are sports practice in the school setting adventure.

As we begin the research in the journal Movement are faced with the following data:

Using the term School Physical Education allowed to find thirty-two articles, and none of the works referred to the Adventure Sports. By using the term Adventure Sport found twenty works, of which we highlight the study ARMBRUST *et al.*, (2010), reporting that Extreme sports have been discussions of objects due to the interest of applicability of their leisure-related content, the sport and education. However, there are still certain professional unpreparedness to undertake these activities, making it difficult to implement such practices in educational levels. The author aimed in this study present a methodology for organizing a university extension course for graduate students and physical education teachers, in order to promote reflection on the processes of initiation to the practice of skateboarding linked to sport education through a methodology that includes the elements of the body culture to be experienced in the school environment and effectively contribute to the human development process in the biological, psychological, social and cultural aspects.

Going forward, the Movement magazine, using the term “Calculated Risk” were found fifteen articles, two of which deal for sports adventure, gliding and diving, but did not include the school. But the term “Safety Standards” allowed us to find sixteen articles, which have also been discarded as they discuss the Adventure Sport School.

We also verified that the work Armbrust *et al.*, (2010) makes a reference to Adventure Sport in schools, but does not establish a relationship with the rules and safety procedures.

Looking at the above table, we realized that the Brazilian Journal of Science and Movement reveals the following data: When we employ the term “Physical Education” found forty-seven articles. The works were discarded because

they do not include the Adventure Sport in school. In that journal (Journal of Science and Movement), the terms “Adventure Sports”, “Risk Calculated” and “Safety Standards” presented as a result only one article (Silva *et al.*, 2010). Although the study bring in scope bodily practices in nature and actual or calculated risk, the product was discarded by not establishing a dialogue with the school context.

Already Magazine Connections with respect to physical education term got four jobs that were not discarded by the confluence with the Adventure Sports. Regarding the terms “Calculated Risk” and “Safety Rules” were not found work.

The term “Adventure Sport”, to be used as reference in the search, allowed to find two jobs, one of which was discarded by not contemplate the school and the other (ALMEIDA and Gaspari, 2014) emerged from an interview with Teacher Dimitri Wuo Pereira, who works in the Adventure sports area and stands out on the national scene for its pioneering and publications on the subject. In question number five the authors emphasize the inclusion of Adventure Sports in school. Professor Dimitri points out that the Adventure Sport is gaining more visibility, but take it to school is still a challenge, both for lack of space and appropriate equipment, and by the fear of coordinators and directors who still believe that this is an activity dangerous.

Another important aspect to be highlighted in the article mentioned was security within the school context. The authors report the importance of knowing the techniques and procedures of each modality so that the teacher can help your student to recognize the dangers controlling risks, and to develop teaching strategies to motivate students and prevent accidents.

Regarding the Annals of the Brazilian Adventure Activities Congress (CBAA), it is important to point out that we did not perform search to identify the Adventure Sport, as performed in periodic, because the works approved for this scientific event has already met this demand. Therefore, research has developed in an attempt to find the work that referred to the calculated risk and safety standards at the school.

**Table 02 - Number of articles found in the Brazilian Adventure Activities Congress (CBAA)**

<b>CBAA (2010 - 2015)</b>	
<b>Trabalhos orais no âmbito escolar</b>	16
<b>Pôster no âmbito escolar</b>	38
<b>TOTAL DE TRABALHOS PUBLICADOS</b>	54

It should be emphasized that in addition to complete relating to oral presentations work also analyzed the abstracts from the presentations of posters. The intention to consider such productions emerge from the need to manage to map the use of Risk Calculated notions and Safety Standards in pedagogical research and actions undertaken with the Adventure Sport School. It is important to clarify that this scientific event (CBAA), the period between January 2010 and July 2015, occurred in the following years: 2010, 2011, 2012, 2014.

As we can see the results detailed in the table - 02, the CBAA published (16) sixteen works as oral presentations, which referred to the practice of adventure in the school context.

Regarding the CBAA summaries published (38) thirty-eight works that established relationship with Adventure Sport School.

Thus, adding the number of sixteen (16) and oral presentations (38) thirty-eight abstracts were analyzed (54) fifty-four works, which later to a new analysis led to the disposal of (19) nineteen works, as were works with incipient information by being in progress and review work that did not reveal significant practices of everyday school life. Therefore (35) thirty-five works of CBAA were analyzed.

The intention to submit the data entered in the articles and their specificities, we chose to present them from two issues of interest to this research: the use of the Adventure Sport School and the use of safety standards in actions Sport Adventure in school. We consider it important to note the limitations of this study and the deepening of the data analyzed, as much of the material emerges summaries, so the material had little information about the research developed, and many studies were in development.

### **3.1 Ways to use and make the Adventure Sport**

We do not claim to present at this point, what we consider right or wrong about the way the Adventure Sport is being developed in schools because we know that modern science was formed through selection procedures, classification, prioritization, simplification data.

Thus, it should be noted that some studies show as the central motor skill issues and concerns with the technique. Clearly the body technique is part of human learning, Mauss (1974) and its prestigious imitation studies is a fact. For the author the successful actions tend to be imitated, then perhaps the understanding of the globalization of the

sport. But this will be the exclusive concern of professional physical education in school?

The work of Santos (2010), for example, emphasizes the importance of presenting some teaching methods in performing skateboard lessons. The author points out some methodological aspects developed in the Physical Education classes related to pedagogical part and mentions the lack of published works in relation to teaching and learning to skate mode.

The work of Celestino *et al.* (2011), developed at the State School Professor Francisco José Perioto, Mandaguaçu-PR, found the demand potential for adventure activity in this school, being evidenced the lack of proposals and public initiatives for skateboard practice offers. The study presents the results of initiation classes in that sport practice, aiming to identify the perception of students in the eighth year on the practice of skateboarding as a school subject. The authors realized that skateboarding is seen predominantly as a sport by the students, with a complementary view linking the adventure. We do not have parameters to state that the mentioned authors summarize their speeches to the forms of development of motor skills, but there is no evidence that you have made a break with that model.

Silva *et al.* (2011) collected information on the possibility of using adventure activities, especially activities on wheels - scooters, skates and skate - like content of physical education classes. The authors found that such practices constitute innovative curriculum component within the Physical Education area, and may extend in an integrated manner the experiences of school subjects, and thus enable experiences that lead to the acquisition of new knowledge and learning. Although the authors do not mention what knowledge or learning adventure activities can leverage, we realized that the study of Silva *et al.* (2011) is, as emphasized Betti and Zuliani (2002) concern with the other components of body culture in your life, so that the student can take maximum advantage.

Another study was analyzed Auricchio *et al.* (2011). For the authors, Physical Education is the school environment that allows students to experience the movements, and through this trial, should develop a body knowledge and awareness of the reasons that lead him to practice these movements. However, the authors mention that this does not always happen, and part of the students end up discouraging the physical education classes. For the authors, this motivation begins at the end of elementary school, when they start to have a more critical view of reality, not attributing to physical education as important as the critical adolescent did not have to use the practices to the world outside school, ie the Physical Education class, applied in the same manner and with the same content from the elementary school, does not interesting.

On the one hand we have works that seek their way to make with reference to the gesture and the ability of other find some work looking for the Adventure Sports and Environmental Education as operations and way of doing everyday. We can not tell whether increasing the number of shares related to Physical Education (Adventure Sports) and environmental education should be national guidelines indicating the need for Environmental Education implementation effectively, continuous and transversalizante (BRAZIL, 1998) or whether this increase is due to a social behavior. However, for Domingues, Kunz and Araujo (2011) This is an unquestionable fact.

For example, Schittler *et al.* (2011) present a contextualization of the issues related to adventure practical in nature, among them rock climbing, rappelling, the tree climbing, the trail, adventure and orientation races. The authors establish a relationship of these contents with the pedagogical trends of school physical education, establishing a discussion about joining the sport merely reproduced in the media means. Both are opposed to this model by Movement Body Culture.

And Cardozo and Neto (2010) observed that the Adventure Sports circulate in Brazilian culture, part of the imagination of children, youth and adolescents attending schools and consequently may be inserted in the sports group developed in the Physical Education classes. Thinking from Maffesoli (2009) realized that that imagination can approach behavior initiated by the emotional ambience, behavior that emerges from affection: shared passions.

Already Ferreira (2012) and realizes that students are suffering influences of the media. The author mentions that the adventure activities at school, through the influence of the media / technology, influence the physical education classes as the dissemination of knowledge. However, the media has a reductionist view of this activity, so that students interested in sports that are fashionable and often do not value the aspects of environmental awareness in which the adventure activities are inserted.

Richter (2010) reports that, according to the guidelines of the National Curriculum Parameters (PCN's), the Physical Education classes should cover activities that provide opportunities to develop affective dimensions, cognitive, motor and socio-cultural students.

In the study of Junior (2014), developed the verification of slackline practice in physical education, understanding it as a new pedagogical practice. The authors realized that provide differentiated pedagogical practices through slackline allowed systematize guiding principles: sport, education and nature. The author related the adventure activities in the discipline of Physical Education, based on the perspective of the National Curriculum Parameters, considering the cross-cutting theme Environment.

It seems to us that the above study approaches of Rodrigues and Darido ideas (2006), as the authors mention that the crosscutting themes in physical education classes is a possible way for teachers who intend to discuss the various

problems that emerge in relationship between society and the environment. The Souza research and Sousa (2014) reaffirms the relationship between society and the environment previously explained, because the study aimed to identify and analyze the possibilities and the challenges of adventure activities in nature in the teaching of Physical Education in Public Schools of Belém-PA. The authors conclude that, in the face of many challenges imposed by a capitalist society, the teacher can be a mediator in performing different bodily practices, providing a critical position of the student in front of reality.

The study by Euflausino (2014) presents the students' vision and attitudinal, conceptual and procedural dimensions of the contents applied to Adventure Activities. The survey data reveal that that sport has great acceptance in schools. The authors concluded that you can enter the Adventure Activities in school, provided it is in a planned and worked as the other content of physical education.

Another study that goes in the same direction is the research Martins *et al.* (2014) that discussed the physical education, specifically freediving as a space whose potential transversalizing allowing dialogue with other fields of knowledge: Geography, Biology, History, and other themes (sustainability, environment, solidarity, ethical values, among others) enabling articulation with the Environmental Education. For the authors, it was possible to understand that environmental education can be developed as an integrated educational practice of physical education, as in adventure activities, the teacher has the function of mediating the building of mutual respect, responsibility, solidarity, confidence, change behavior, ethics, conservation of natural resources, among other values that are part of environmental education and quality of life.

In this same line of thought Carvalho, Bernardes and Pinheiro (2010), argue that the Adventure Sport can be inserted as a subject in school physical education classes, contributing to the training of citizens, because it proposes a practice that goes beyond the traditional forms, allowing dialogue with other social issues. Another differentiated practice emerges from studies of Madeira (2011) finds that in-class ride a way to approach the subject of reality and cause students to build systemically its references about the complexity of the world.

Already Piovani (2010) performs the reflection on the responsibility of the teacher of physical education in the formation of knowledge, environmental awareness and the use of leisure and contribution in the formation of citizens able to leverage the essence of being human. The study's purpose was to find in physical education a tool to develop environmental education, providing knowledge of sports and adventure activities such as an awareness experience, enriching recreational opportunities, as well as generating the student of a socio-driving development and physical conditions for the practice of these activities.

Freitas and Rufino (2012) argue that the Adventure Physical Activities (AFAS) being held in the natural, urban or artificial, so that they may in fact happen in the school context should be adapted. These are activities that develop in the perspective of controlled risk and provide different sensations, and there a long time, and are gaining more space today. The authors discuss the importance of AFAS in Physical Education from the understanding of culture of body movement and report the lack of publications on the subject, and through a literature in books, articles, websites and magazines. Freitas and Rufino (2012) conclude that: being the Adventure Physical Activities belonging to the culture of body movement, it is necessary that this be introduced in school, providing the experience of other bodily manifestations, considering the learning values related to the environment, as well as diversifying the activities offered as contents in Physical Education classes.

Light *et al.* (2014) sought to analyze the canopy as a pedagogical tool educational intervention. The intention of the authors was that the concepts and definitions, as well as the experiences of tree climbing practices, contribute to the research participants to assimilate the content related to environmental preservation.

Next line of thought, Mota (2012) reports that the adventure and sports activities in natural environments have been highlighted as collective identification symbols and sporting culture that relate to ecology, adventure and courage.

The work Liryo *et al.* (2014) focuses on the description of the Green Project Athletes. The authors report that this project has been done in several public schools in the municipality of Vila Velha - ES. The project consists of performing a track in Morro Moreno, covering 4 km away in two hours, including reflective activities of recreational and ecological character. The activities had as a goal the environmental issues, using the Environment Week as guiding the actions.

Another work that seeks the Environmental Education as a dialogue for physical education classes was to Nazario *et al.* (2010). The authors create a space for reflection and critical challenge of reality in physical education classes through adventure activities. To Nazario *et al.* (2010), to discuss environmental issues, physical education becomes an important space for critical reflection to rethink the social reality in which subjects are immersed.

The study by Araújo *et al.* (2011) develops its educational activities from Surf. The survey was conducted in a public school located in the city of Saquarema - RJ. The research objective was to conduct an initial survey on how this sport is working in school and raise questions about the relationship of Adventure Sports in nature.

Soares (2012) discusses how physical education classes are presented with a space conducive to the insertion of Adventure Sport, for this discipline considers the body culture movement, in which the bodies are not only drivers of

physical structure, but develop ability to learn about themselves, enhance the environment and use up the movement to know or recognize the neighborhood, the village, the center, the city, the state and perhaps the world, making the subject feel part of the environment in which inhabits. The authors address the nature walk as an alternative that can be used during a lesson with the intention to bring the individual to the location of belonging where the person is located, and then establish an educational process of environmental awareness: “Physical Education while curricular component of basic education must then take another task: to introduce and integrate the student in the culture of body movement, forming the citizen who will produce it, play it and transforms it” (BETTI, ZULIANE, 2002, p 750).

Freitas *et al.* (2011) also relate to physical education to environmental education. The authors note the existing attitudinal behavior in relation to the practice of Adventure Physical Activities in nature with environmental education. The authors comment that would be interesting to the school community to value the practice of adventure as a way to approach the subject of nature, thus establishing three interdependent aspects: practice, environmental conservation and the educational process and may awaken in students a sensitivity and environmental responsibility.

It is important to point out that it seems that, in seeking the Adventure Sport the aforementioned studies seek to break away from a purely technicist practice approaching that mentions Rosa and Carvalhinho (2012, p. 260). For the authors currently “new educational paradigms have emerged between the scientific community, from which result different views and new issues, which tend to a complementary interaction.” Such complementation develops between theoretical (transmission of knowledge) and sensory experience.

The research and Pereira Bezerra (2012), when analyzing the practice of adventure activities in the school context for elementary school students, considered the application of adventure activities like content fosters the perception environmental partner of the students. The authors mention that the development of new themes in Physical Education classes promotes an enrichment learning in general (motor, cognitive and social), providing new findings by students. Regarding the above comments that Darido themes offer breaks to teachers seeking to hold a job overcoming the traditional proposals. For the author, one of the possibilities is the expansion of the concept of space for physical education classes, as space becomes enxergado under the dimensions of environmental elements: road conditions, air quality, sound treatment, absence of light, heat, climate change, among others.

Trauer (2011) reiterates the rupture of perspective with the traditional sport and its spaces to mention that the curricular organization of content in school and joints that offer adventure activities are subsidies to overcome the hegemonic educational practices. The testimony below reveals signs of necessity of overcoming the traditional practice in Physical Education:

#### **Teacher 09:**

I found it interesting that proposal by the difference of what we normally see ... in other schools I came from another school physical education activity was only with ball and it was kind of poorly organized, mountain climbing is very interesting.

Regarding the above, Rodrigues and Darido (2006, p.1) mention the Adventure Sport emerges as an “opposition to institutionalized aspect of the spectacle sport in which prevail mechanized practices, the effectiveness of the body yield and production of goods and services “. The authors also emphasize that the intention is to rescue the values such as self-realization, autonomy, cooperation and solidarity. In this sense, the authors mention the need to look carefully at the relationship between adventure sports scene and the culture of body movement.

In the work of Melo and Soares (2010), while discussing the importance of Adventure Activities in nature (AFAN), the authors develop an experience or actions using such content, just check through questionnaire, if AFAN are being held in the public school in the city of Bonito, MS (State of ecotourism capital), if the high school students to know and / or practice, and this knowledge / practices are acquired / held at the school.

In this line of action, also the study of Alves *et al.* (2012), aims to find out the opinion of students about the inclusion of sports in nature in physical education classes, specifically the Mountain theme emphasizes the broad acceptance of physical adventure activities in Physical Education, however it does not establish learning processes and pedagogical intervention, only has to research the perception of students.

### **3.2 Calculated and Safety Standards Risk**

Whereas the concept of calculated risk emerges from a phenomenal dimension requires adentremos in a world whose reference is symbolic because as discussed by Costa (2000), the Adventure Sport practitioner is not a suicide, but a practitioner seeking uncertainty, slips, immersion, verticality, among other factors that are beyond the security of courts and soil fixity.

Thus, it is noteworthy that for the author, the calculated risk “allows man to play with chances to win, with the destinations and adversity, printing other senses that are distant ancestors of the sixteenth century” (COSTA, 2000, p. 5).

In this line of thought, it is important to note that resort to daring and space transgression requires a greater mastery of technique and safety to be used in the practice of Adventure Sport, with no room for negligence, technical disability and lack of attention. We are not arguing here that this kind of sports practice there is not the existence of unforeseen and uncertainty, but what we are emphasizing is the need for accurate calculation of planning and accident probability.

Given the above, it is important to point out which are the safety standards that will allow the lifting of risks and accidents possibilities for safe sports.

A study that allows us to reflect on the above issues is the work of revision of Leite *et al.* (2014), because the authors observed the frequency of papers presented during the seven Congress Adventure Activities for All. The research reveals that in the school setting the number of jobs is still low-key compared to the proposals of informal spaces. However, studies have shown that is possible to develop the adventure activities at school.

One aspect that draws our attention in the aforementioned work emerges from the difficulties of accepting risk activities at school. The authors report that this sport still faces the refusal of parents, teachers and principals. This factor is considered as limiting and the study suggests that teachers seek to develop training classes with meaningful content and securely in schools.

The interview with the students of IFRJ leads us to realize the importance in the field of technology for the practice of that sport in school:

**Student 01:**

We got to see a bit of how safety practices. We must be careful with our equipment, you have to have a theoretical basis for you to make use of this equipment (Interview on 11.05.2015).

**Student 10:**

There are a number of behaviors to be respected so we can make a safe practice, learn correct use of harness, carabiner, back up and equalization ... (Interview on 11.05.2015).

**Student 11:**

There are several ways of using the equipment and must always use the correct way to minimize the issue of an accident happening (Interview on 11.05.2015).

The survey excerpts reveal the importance in the field of technique so that you can practice Adventure Sports. But how to provide this knowledge without training and experience of the teacher?

Another work that emerges in research and relates to the notion of risk calculated is the work of Luiz *et al.* (2011), which discussed the inclusion of that sport in schools in physical education classes or extracurricular activities. The author considers the relevance of educational action, because realize that young people and children in this sport, have greater autonomy movements. Another aspect highlighted by the author was the relationship of the practice with the cooperative values among its practitioners. The work is still of concern and prevent problems that may occur in relation to accidents, a fact that allows us to realize that although the study did not present the safety standards required for such sports practice, at least points out that the teacher should have care possible accidents. Interviews with students IFRJ who attended classes on Mountaineering reveal clues about the calculated risk.

**Student 01:**

always to be careful to see if in fact the equipment is in the size of your body. In practice the Top Rope, which is the technique of Rapel, where else helps you security, we see that when we are practicing the sport with another person, you do not depend on you alone ... but also your partner is there helping your security for you to practice the sport in the best possible way (Interview on 05.11.2015).



**Student 08:**

I enjoyed the thrill of climbing like the adrenaline, it was good I was pretty sure to make the safety of my friends the techniques taught were very useful and felt safe at the time he was doing.

**Student 12:**

The classes enabled us to overcome fear due to compliance with the safety standards, we must make various adjustments that are individual for each one, my concept has changed with respect to the sport after I got to know.

In the narrative we can see evidence of the risk calculated (COSTA, 2000), as the student mentions the technical precautions to be taken to avoid accidents when the practice of Rapel. Evidenced the domain by the student when he identifies the technical name of the Top Rope and how it is executed. Another important aspect that emerges from the testimony and establishes a dialogue with the above research (LUIZ *et al.*, 2011) are the values developed by the mentioned sport, because as we can see the authors mention that the cooperative values was a significant aspect among the young and teenagers and interview the student IFRJ reiterates the need for the interdependent relationship between its practitioners.

Another work that mentions the difficulties of insertion of Adventure Sports in school was the study Diogo *et al.* (2012). The research aimed to identify the reasons for non-acceptance of Adventure Sport theme as curriculum content in the classes of Physical Education. The authors concluded that that sport is not inserted within the school environment for the following reasons: Lack of training of teachers interviewed, teachers afraid to teach an activity in which there is a risk and a lack of technological resources necessary to practice the activity.

Silva, Kippert and Merlo (2010) present some limitations to the institution of the Adventure Sport at school: vocational training, school infrastructure, lack of equipment and limited understanding of the area of Physical Education.

Almeida and Gaspari (2014) to interview Professor Dimitri Wuo Pereira, an expert in Adventure Sports, mention that in relation to space the teacher should change your look to school, realizing the possibility of the practice of these sports. Regarding Dimitri Wuo Pereira materials mentions that teachers should know the procedures to create alternative equipment solutions. Another important aspect to be highlighted are the authors' observations about security. The aforementioned teacher mentions the need to know the techniques and procedures of each mode, because that way the teacher can promote in his student, recognition of the dangers controlling the risks. Regarding school teachers the teacher is emphatic: training and experience. The testimony of one of the students IFRJ reveals such learning:

**Student 02:**

The first time I was trying to find my own way without paying much attention ... anyway. But if you pay attention to the advice that the teacher gives the easiest way and the best support to climb becomes much more fun and easier you feel safer ... The first time I was halfway up the climbing wall, I was with some fear when it falls did not rise more, but when watched my friends saw that the information given by teachers actually work and made it to the top ... the orientation of teachers and the use of equipment do you feel is a safe practice that makes you want to try again ... (Interview on 05.11.2015).

**Student 03:**

In classes were explained all the equipment and how to operate the rules and the agency responsible for so equipment you are unsure about this knows that the chair and the carabiner will not drop the Tyrolean practices and tope rope these experiences in the school helps understand the feeling at the time to practice climbing and have security when done to someone else when you are up there you know that drop the equipment will hold and you will not hurt you (Interview in 05/11 / 2015).

We found in the above statement, evidence of a pedagogy that uses the calculated risk and safety standards as a knowledge to the practice of Adventure Sport, as the student seeks to overcome the fear two things: the teacher's guidance and proper use equipment. Thus, using the concept of calculated risk to realize the possibility of the accident, but overcomes this danger with the technical information they got.

A relevant aspect to highlight is the way the student "uses" the information coming to you giving a personal

consumption (CERTEAU, 2011), for realizing that in an attempt was unsuccessful, reworks the information and from the experience of others students decide to retrace your route your way, establishing a dialogue with their first experience using the experiences of colleagues, the technical information acquired in class and the teacher's guidance.

A study that goes towards meeting the technical demands of the physical education teacher was the research of Silva *et al.* (2012). The research aimed to discuss with the teachers of Physical Education the possibility, simply and securely, applying a climbing class at school level, while not having an experience in Adventure Sports.

A job that goes in the same perspective mentioned by Professor Dimitri Wuo Pereira, in relation to the technique of knowledge, was the Martins research (2010). The author emphasizes the need for improved security, but the study finds that the motor aspects is to provide greater security and confidence to the practitioner. It should be noted that this study does not approach the relationship proposed by this dissertation, security emerging standards and safe behaviors.

Junior and Bezerra (2012) also analyzed the application of Adventure Sport activities while content of physical education classes, and likewise realized that the students have minimal information on that sport in the classes of that discipline. This evidence reveals evidence of the need to take the information students can assist the technical procedures and safety standards, as required by the educational material proposed by this dissertation. The following statements reveal evidence that when the student obtains information on this practice, fears of making the Adventure Sport are minimized:

**Student 06:**

We were able to put into practice at the time of various theoretical concepts climbing that were placed in the classroom, we always have to pay attention and make it easy to minimize the mistakes and do it always with the help of teachers must take the theoretical concept and put it into practice we must always overcome our fear always very calm and always pay attention to the use of equipment whenever possible (Interview granted on 11.05.2016).

**Student 08:**

The classes we had in IFRJ they taught us how to use the equipment prepared us to get here, if we had arrived here without any theoretical knowledge that would be far more frightening than it was ... At the top of a little afraid even but very cool and the thrill of reaching La, it is important to be very careful in order to get to the end.

According to Oliveira (2012) curriculum is built from subjectivities networks in which the subjects are immersed, so starting from this perspective we realize that collectively woven practices in the school ground approach the curriculum notion as a daily creation, as for author subjects *pensampraticam* a unique curriculum that emerges from the demands, needs and aspirations of that community. Thus we see that the evidence of the student 06 meets the demands mentioned by Junior and Bezerra (2011), take students with the knowledge necessary for safe practice.

In Ferreira's research (2012), the approach is given in the context of adventure activities. The authors question the influence of the media in physical education classes through the dissemination of knowledge and practice of adventure activities. The authors conclude that this type of activity mobilizes students through the sensations of pleasure and fun, which emerge in search words and phrases: "cool", "exciting", "challenge", "butterflies", "one who It is done in the bush", "what happens in high places, "among others. We consider it important to emphasize that, in the above work, the risk involves activities was highlighted as a limiting factor of this body practice (Adventure Sports) in schools.

The working Balbino *et al.* (2012) as the aforementioned work, analyzed the motivational factors for adherence and practice of sport climbing. Those involved in the research practiced climbing for three months, which allowed the authors realize that the motivational factors for the escalation of practice are related to overcoming challenges and transgression of own limits, whether physical or psychological.

Regarding the work of Ferreira (2012) and Balbino *et al.* we realize that the Adventure Sport in the perception of the authors approach the prospect of Le Breton (2012). For the author, there are four anthropological figures intersect in characterizing the conduct of risk: ordeal, sacrifice, and no confrontation. Note that these figures are not mutually exclusive but complementary.

For him, the ordeal is a behavior that emerges from the need to engage in a personal test to test the legitimacy of life, as a result of social bonds has not yet been possible to experience: "He symbolically asks death, and the fact survive ensures the value of its existence "LE BRETON, 2012, p. 35).

Le Breton notes that the sacrifice the young "sacrifice a part of themselves to save what it considers essential"

(*ibid.*, P. 35). The scarification, anorexia, multiple forms of addiction such as substance abuse, are examples of this behavior.

Absence is a behavior that seeks deletion. For Le Breton (2012) we found examples in blind adherence to a sect, the escape from reality through drugs or other products in the coma search and not the sensations caused by substances.

Finally, the clash is a clash of behavior with others, through violent acts, attitudes considered as the absence of limits and disregard for social rules.

In line with this, the risk behaviors are symbolic actions that seek to move away from the “inability to again become an actor of his own existence” (*ibid.*, 36). Considering these assumptions, we can perhaps understand the motivation of adolescents in this type of body practice, it is through contact with the danger that the student that the student discovers potential not yet envisioned for it in their daily lives.

Araújo *et al.* (2014), through an extension project developed by Leisure Studies Group (GEL), developed a study in partnership with schools of public and private networks interested in promoting a period of pedagogical interventions in the Adventure Sport. The authors report that, in general, the comments regarding the experiences were considered significant. The project developed the Day of Adventure with the pedagogical teams of the participating schools, seeking to add to their practice the knowledge acquired and fostering Adventure Sport classes safely and systematically. The work included the Adventure Sport in schools, maintaining a dialogue with the question of security linked closely to the systematization of that body practice in Physical Education.

The study by Araújo *et al.* (2014) reveals the practice of clues that might help overcome the fear of school in developing the Adventure Sport as a content as Almeida and Gaspari (2014) mention that two difficulties encountered in the integration of that sport in school life emerge from the resistance direction of the school and later those responsible for the students. In this sense, we realized that the project (Day Adventure) provides overcoming this scenario, because in Dimitri Wuo Pereira perspective school should promote events that propitiate the presence of parents, as those responsible for the students are unaware of what we know and the experiences we have to offer to students.

In view of the studies analyzed in 2010 CBAA Annals of 2014, we can see a gap in the discussion held around the Adventure Sport in the school context in relation to the calculated risk and safety standards, because despite Luiz work *et al.* (2011), Junior and Bezerra (2012), Silva *et al.* (2012), Laureano (2012), Araújo *et al.* (2014) establish a risk with dialogue, we have not had a similarity with the proposed theme in this work: the importance of work safety rules and procedures systematically as a subject in Adventure Sports lessons, specifically Mountaineering in Physical Education.

#### 4. FINAL CONSIDERATIONS

The pedagogical rethink causes physical education teachers seek other possibilities of body culture movement and the Adventure Sports and more of them. The literature review allowed us to verify that there are several actions within the school showing such practices but we found only a work that established cartographic similarity to our study.

We believe it is elementary to use the rules and safety procedures as a background in physical education classes in relation to Adventure Sports. The intention is to significantly reduce or cancel the possibility of accidents through safety standards and procedures calculating this risk allowing an emancipatory practice.

Lastly. It highlights the importance of research due to the opening of a niche, so they can develop new research that contributes to this theme.

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## PHYSICAL EDUCATION AND THE USE OF SLACKLINE IN ENVIRONMENTAL EDUCATION

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### ABSTRACT

This study investigates the teaching and learning process of slackline in the context of a government school. The participants were 33 students of the Technical Course in Industrial Automation. The research was based on the qualitative nature approach using the Evidential Paradigm to pick up signals of the teaching and learning process of the referred sport. As data production procedure, we used the logbook and interviews on the research question. The results show the possibility of using slackline in interrelation with environmental issues. Using Environmental Education as theme represents a path to (re) signify Physical Education classes in high school.

Keywords: Sport, School, Environmental Education, Educação Física.

JEL Classification: Q56.

### RESUMO

Investigamos o processo de ensino e aprendizagem de *slackline* no contexto escolar de uma instituição pública. Participaram da pesquisa 33 discentes do Curso Técnico em Automação Industrial. A pesquisa pautou-se na abordagem de cunho qualitativo utilizando o Paradigma Indiciário para captar sinais do processo de ensino e aprendizagem da referida modalidade esportiva. Como procedimento de produção de dados, utilizamos o diário de bordo e entrevistas acerca da questão pesquisada. Os resultados apontam a possibilidade do uso do *slackline* na interrelação com questões socioambientais. A tematização da aula via Educação Ambiental representa um caminho para (re)significar as aulas de Educação Física no Ensino Médio.

Palavras-chave: Esporte, Escola, Educação Ambiental, Physical Education.

Código JEL: Q56.

## 1. INTRODUCTION

In recent decades, we have been faced with a conception of Physical Education, as a school subject, that seeks the reference in the sport itself, making it a product to be consumed, even if iconographically, by a large public, including in the school milieu.

However, Rodrigues and Darido (2008, p. 138) mention that at present, the socio-cultural approaches to Physical Education have been critical of the educational role of sport, “warning of its reproductivist and conservative character”.

Sanches Neto (2013) criticizes the teaching and learning process which draws on solely from biological and psychological approaches, since it presents no further demands relevant to the process of knowledge construction, such as the students’ political, social and economic context.

Moreira, Simões and Martins (2010) indicate that many teachers are seeking other bodily practices, aiming to break with the emphasis on sportsmanship where *Futsal*, Volleyball, Handball and Basketball are the main references. Such a break is due to an attempt to motivate students in the fight against class evasions, broadening and contextualizing pedagogical actions discussing the current consumer society and its impact on the environment.

Regarding motivation for Physical Education classes, Souza Júnior and Darido (2009) mention the high number of students exempted from classes, and we were able to realize that this phenomenon is not an isolated incident, since Dudley *et al.* (2012), when doing research on Australian teenagers, note that the level of physical activity is low and emphasize that among Eastern and Asian students the percentage of involvement in physical activity is even lower.

This study does not intend to deny the contributions of the above sporting activities, for, following Kanters *et al.* (2012), we recognize the important role court sports play both at school and beyond its walls. What we want is to investigate slackline possibilities regarding educational activities to be practiced in schools.

Sanches Neto (2013) states that to make lessons significant and comprehensive, it is necessary to question environmental demands explicitly with the students, since the influence of context in human relations cannot be refuted and the consequences of corporal practices are essential in students’ interaction with their reality.

So, considering slackline as a content in Physical Education classes we reflect on its educational role at school and in the sports context, perceiving the said sport as potential for the development of meaningful learning through the dialogue it can establish with the environmental dimension (Almeida; Gaspari, 2014; Sanches Neto, 2013).

The choice of slackline is also due from the perspective enunciated by Rodrigues and Darido (2006), for the possibility of discussing the historical and structural constitution in which subjects take ownership of public spaces for leisure, seeking alternatives to ensure minimum conditions for the practice, since “participation, adequacy and expanding the supply of spaces from public organizations are characterized as a significant pedagogical action” (p. 1).

Tahara and Carnicelli Filho (2012) reaffirm the role of the adventure sport mentioning that such a practice gains as a potential formative tool in educational tasks when articulated to environmental education.

Note that this study emerges from a larger one aimed to investigate the teaching and learning process in Physical Education classes at the Federal Institute of Rio de Janeiro, *campus* Volta Redonda (IFRJ-CVR), and its relation to environmental education, proposing the development of a teaching material in DVD format. In the present study, the association to that work stems from an intention of investigating the processes of teaching and learning through qualitative approach, more specifically using the logbook (Zabalza, 2004) and interviews with semi-structured questions in an attempt to understand the studied reality.

## 2. THEORETICAL - METHODOLOGICAL ASSUMPTIONS

### 2.1 Research Subjects and Instruments

The participants were 33 students from the 4th period Mid-Level Technician Course of Industrial Automation from IFRJ - CVR. However, we consider as subjects of research on the quotidian (Ferraço, 2007, p. 74) “all those who, more visibly or more subtly, leave their mark in this quotidian, (or everyday).” Therefore, the subject of research on quotidian are Physical Education students and teachers of the 4th period of that course. Note that daily life (or quotidian, or everyday) in this work is designed as a field of study and cannot “be reduced to the routine and / or

sameness towards the resources practices, for routine would be adverse to innovation” (Carvalho, 2009, p. 17).

A logbook was used for data production in an attempt to grasp the physical, social, and cultural environment contexts in which the narrated facts took place (Zabalza, 2004). Observations and notes in the logbook occurred in connection with the quotidian survey (Ferraço, 2007) because, as teachers, we were immersed in the teaching and learning process, since it took place during our classes (Tuesdays, from 8:50 to 10:20 a.m.).

Another instrument used in the data production was an interview with semi-structured questions, including the following: a) Have you ever practiced slacklining in Physical Education classes? b) What is the difference between classes developed with traditional sports and this adventure sport? c) What precautions should be taken regarding the environment while practicing slacklining?

Considering the need to learn the students views *vis-à-vis* the slackline teaching and learning process, interviews were used with a lapel microphone attached to an Inspiron notebook, series 15 5000, for capturing the audio.

The work was approved by the Research Ethics Committee of UNIFOA, by the number 21495013.8.0000.5237.

## 2.2 Methodological Path

The method used for dealing with the data apprehended in the survey (narratives and daily practices) approaches the Ginzburg Indicial Paradigm (1989). This paradigm allowed us to look for signs and clues of knowledge produced in the teaching and learning of slackline. For Ginzburg (1989), the **Venatical** (on the game and their universe) and **Divinatory** (on guesswork or instruments of this practice) paradigms allow access to seemingly insignificant facts (clues, hints).

Ginzburg (1989) assumes that man, being born in a tangled culture of hunters and having been the first to “tell a story”, because it was the way of conveying a coherent series of occurred events, has developed the ability to read, on the “mute” track, the route traveled by hunters. “Deciphering” or “reading” the animal tracks are metaphors used to explain the venatical knowledge, which is to move from seemingly insignificant facts (clues, evidence) to the complex reality, not observable directly (RODRIGUES, 2005).

In this sense, Ginzburg (1989), pointing to dissensions between two ways of reading and understanding a certain ‘reality’, shows the intellectual attitude and rigorous effort in both cases, and which he considers as very close: analysis, comparisons and formally identical ratings (Ginzburg, 1989).

Thus, the method allowed “hunting” for evidence which makes visible the practices carried out by the subjects in the teaching and learning of slackline and environmental education in IFRJ-CVR.

## 3. ADVENTURE SPORTS AND PHYSICAL EDUCATION

Extreme sports have currently emerged as contents in Physical Education classes, expanding the scenario of body culture in Brazilian schools (Almeida; Gaspari, 2014).

It should be noted that following Pereira, Armbrust and Ricardo (2008), this study considers radical sports subdivided into two possibilities: action sports and adventure sports.

The authors consider adventure sports to be defined by the feeling of the unknown and unpredictable, approaching the feeling of something intangible. In that context, we can see that slackline, in its trickline strand (sports that use maneuvers) is linked to action sports, because despite being practiced in the environment (between trees, in squares and yards, among others) it is entangled to movement, attitude, behavior, manifestation of power and energy and the implementation of complex technical movements which translate as emotion: the maneuvers.

Such arrangements differ from traditional practices (Volleyball, Basketball, Football and Handball) for the proposed objectives, the practice sites and motor skills, but primarily by the pursuit of risk confrontation and danger that these practices contain.

According to Pereira and Armbrust (2010), in the last decade Physical Education practiced in schools has obtained in calculated risk modalities an extension of the content of body movement culture. Regarding what is stated above, Moreira, Simões and Martins (2010) reiterate that extreme sports, especially those articulated to the environment, represent another form of rapprochement between humans and nature.

In this sense, slackline is connected to the environment, since it is practiced in various spaces such as parks, plazas, beaches, among other environments, attracting the students’ interest. As aspects beyond trickline (maneuvers), that sport has highline (height), waterline (on the water) and finally, longline (long distance), therefore being considered an adventure sport.

In the case of this study, trickline was chosen for being better known to students, easy to assemble and the most common in urban areas, causing, if not properly used, a negative impact on the environment. There is also the possibility of cost autonomy, so that students can adopt the said body culture movement in their daily lives as an exercise in search of health promotion, leisure and better quality of life.

Therefore, it is very important to stress that we recognize the benefits of slacklining for motor aspects such as postural stability, strength and balance, (Pfusterschmied *et al*, 2013; Keller *et al*, 2012). However, in this work we conceive it as a Physical Education teaching element, indicating the need for adding an educational tract to that subject (Rodrigues; Darido, 2010): “Making the sport an object of intentional pedagogical intervention allows its teaching to go beyond situations in which students only experience this element of body movement culture “(Silva Machado *et al.*, 2010, p. 143).

Thus we approach slackline to reflections on social environmental education, directed by Santos notion of prudent knowledge (2011) and, therefore, the idea that environmental initiatives are not restricted to the reductionist practices of environmental activism that have prevailed in the educational field.

#### 4. BODY MOTION CULTURE, SLACKLINE AND MODES OF “USINGDOING”

Slackline is designed as body culture movement since it is perceived as a language which surpasses the merely motor perspective, allowing the reframing of values (VAGO 2009), intentionality, meanings, contributing to the development of a teaching and learning process articulated to a social context. Therefore, when designing the school quotidian as a place of cultures, we also seek to set its practitioners, of whatever age group, as producers and *reinventors* of the practice they were presented to. (Certeau, 1994).

Knowing that the Law of Guidelines and Bases — LDB/96 — proposes that environmental education cuts across the contents taught in basic education, at the beginning of the 2nd half of 2013 it was discussed, specifically with students of the fourth period of Industrial Automation, a break with traditional sports.

Regarding that, Vago (2009) believes that the curriculum should be a space of dispute, allowing debate and tension to promote the flourishing of possibilities, welcoming and giving careful treatment to the various cultures in circulation. A student’s narrative leads us to that perception:

I could relax, feel good knowing something new, which I had seen on the streets, in my own school (LOGBOOK - 09.12.2013).

Starting from Vago’s perspective (2009) and reflecting on the testimony presented, we realize that the school, as a social institution, is entangled to the subjects’ practices, which has moved us toward the relationship between slackline and the theme of environmental education.

It is important to realize that the concept of environmental education in the present study is not associated with an ecological perspective, but with an approach that stands on “three dimensions: the ethical dimension (solidarity), the political dimension (participation) and the aesthetic dimension (the re-enchantment) “(Tristão, 2005, p. 254).

The discussion addresses the two first dimensions (ethical and political) for being the ones that interest this study. In proposing the intervention through such participation view, the author draws on two assumptions from Santos (2011): first, that the aesthetic-expressive rationality is the one that protects and “maybe the one that best incorporates the antinomies of the present situation, and therefore, the one in which the signs of the future are stronger” (p. 92); second, regarding the regulation pillars, the most overlooked was the community, once it was almost absorbed by the market and the state pillars, which caused it, however to be the least obstructed principle, therefore “the best positioned to establish a positive dialectic with the pillar of emancipation” (Santos, 2011, p. 75).

Starting from that assumption, the author points out that to determine the epistemological virtues of the community principle it becomes necessary to expand the design of two dimensions: participation and solidarity.

Thus, regarding the ethical dimension, Tristão (2005) leads us to realize that the environment is inscribed from a complexity of “intersections and dimensions, solidarity being a strong ethical-political ingredient in the search for solutions and in promoting significant daily practices with regard to joint sensitivity “(p. 256). In this sense, we can learn from Tristão that this principle, ‘respect for others’, “invites us to understand our conduct as one that will respect the other as a legitimate other in coexistence, be it a human being, a social group or the nature” (Tristão, 2005, p. 257).

As regards to the political dimension, the emphasis on solidarity turns community into the privileged field of emancipating knowledge; in this case “it is a *hic et nunc*, local and immediate, able to encompass the planet and the more distant future” (Santos, 2011, p. 81).

Thus we are not proposing the use of the notion of participation founded on the objectivity of ideas, quantity and collectivity, as proposed by the 1980s decade (Tristão, 2005). Designing participation from this perspective is to stay in the fixity and the colonial perspective of modern rationality, in which it is defined, through liberal political theory, in a restricted and narrow fashion. Here we follow the author’s conception, which idealizes participation as citizenship and representative democracy (Santos, 2011).

What we propose, following Santos (2011) and Tristão (2005) while simultaneously resisting the presented



cooptation, is an approach to aesthetic-expressive rationality, which, for representing an open source, flexible and unfinished as any work of art, nature itself, or certain domains of life.

Santos (2011) states that aesthetic-expressive rationality is constituted from three dimensions that emphasize a dynamical character as opposed to fixity: pleasure, authorship and discursive artifact character.

For the author, pleasure is beyond the reach of regulation and cannot be enclosed. “It was in the field of aesthetic-expressive rationality that pleasure, although semi-enclosed, could imagine itself, in a utopian way, more than semi free” (Santos, 2011, p. 76).

The notion of authorship disrupts with regulation and control as it enables to “give back to the subjects responsibility for their lives and destinies, the authorship of the social world which, being their weaver, is also woven by them” (Oliveira, 2012 p. 7). In this sense, authorship acts proceeding toward the artistic and literary milieu, meaning the existence of apertures so that the subjects become creators, their challenge being the constant pursuit of autonomy in their production.

Finally, the discourse artifact character, designed by Santos (2011) as an intentional production and constructive act. However, this notion is configured through an argumentative and rhetorical discourse that seeks to persuade by argumentation. The main thing to consider is the debate on the perception of reality which takes shape from “other” world views.

The author points out that this notion recognizes and emphasizes the plurality of meanings attributed to the speeches to which it is concerned and the disputes in attempting to hegemonize them.

Thus, the notion of solidarity involves an ethical dimension for the respect for the “other”, being it a subject, a social group or nature; the notion of participation here proposed is from the singular and independent manner the subjects create their manufactures, respecting the possibilities, interests, aspirations and demands on the projects proposed by the school.

Resuming the discussion on high school, Betti and Zuliani (2002) point out that the experience of various bodily cultures that the students themselves consider significant can be provided. However, the authors reiterate that logical reasoning, capacity for abstraction and critical analysis of reality permit a more complex approach, articulating contents to socio cultural problems.

Therefore, when deciding *with* students the body movement culture that would compose the educational content and learning for a two- month term, starting from the notion of explicit participation, we sought collectively, and with the group singular construction, the subject theme that would dialogue with the chosen body movement culture, slackline, “There are decisions that fit the teacher, and no one else. The choice of specific objectives and strategies is one of them “(Betti; Zuliani, 2002, p. 77).

So, thinking from the need to dialogue with an important social issue, we decided to investigate on the use of the slackline in southern Rio de Janeiro, the problem - question that supported the pedagogical actions in the IFRJ-CVR quotidian. We present a case occurred in the city of Resende-RJ: the Environment Agency forbids the use of bonds or any similar material in the trees in the Water Park, a site used for the practice of slacklining (Notice 01/2013 / <http://jornalbeirario.com.br/portal/?p=15828>).

In this light, it is important to clarify that the above elements make up the tensions and conflicts that justify the process of questioning and environmental intervention.

Considering such conflicts and tensions, we started to develop methodological classes in three phases: first, where content and lesson objectives were discussed with the students; second, that took most of the available time, the production of knowledge; finally, the third phase, in which considerations were discussed and what had been achieved was assessed, raising prospects for future classes.

In order to better explain our movement in the IFRJ-CVR quotidian, we present eight of the classes which took place during the study. The **first class** sought to contextualize slackline as a body movement culture as well as present its historical process, its different aspects (trickline, longline, waterline, highline), and finally justify the sport articulation with social and environmental problems.

At first we attempted to clarify that the teaching unit — slackline — would be mediated by the socio-environmental theme. We presented videos and photographs that showed mistakes that damaged the trees and caused environmental risk to subjects practicing the sport as well as to spectators.

The end of the class time was made available for evaluation, questions and discussions with students regarding assembly problems, curiosities on the body practice and, finally, information on the following class

However, it is important to realize that the hereby proposed process of knowledge building differs from the perspective that sees teachers as mere transmitters of knowledge, but considers them “subject producer and holder of knowledge. Knowledge that is constructed and (re) invented” (Vago, 2009, p. 31).

According to Vago (2009), corporal practices, being human creations, are the information to be taught by Physical Education. In this sense, the teaching intervention entails the need for organization, so that students practice their right “to know, taste, create, recreate and reinvent, to do it in many ways, to play with these practices” (p. 35).

In the **second class**, the contents of the first one were reviewed for addressing possible doubts and the lesson purpose was presented. In an attempt to expose the problems already stated (environmental impact), we decided to present the equipment for slackline assembling, primitive systems with ratchet and pulleys, as well as errors in assembly, their risks and consequences.

Thus we explained the mounting systems, their functions and through photos, videos and with the necessary equipment we taught how to assemble and disassemble the slackline. At the end of the class we provided time for questions and debates (evaluation). The narratives obtained through a questionnaire reveal knowledge created in class:

J: Make sure that the **webbing is stuck in a safe place**, use good quality materials, **shield the trees so as not to hurt them with webbing friction**.

B: The webbing must be in good condition, the location should be strong enough to withstand the webbing pull and the use of shield is essential **to protect both the webbing and the place where it is tied**.

E: The main concern is with nature, shielding the trees is very important. Another issue to be cared for is the **safety of equipment and people who will walk the slackline (...)**.

Q: Concerning the nature, it requires **the protection in the trees** (emphasis added)

It is important to note the students' concerns about social and environmental impact, since before starting the practice of that sport the place to which the equipment will be fixed must be protected. However, a detail in students B's and student E's speech emerges as a result of pedagogical treatment: protect the trees and the people practicing slacklining. This evidence (Ginzburg, 1989) reveals concern for the safety of those involved, an ethical and political principle: solidarity (environmental education).

It was noted another report in which student J, when referring to protection, mentions that "the xylem of the tree is not hurt." It is important to point out that the concept of xylem was not treated in Physical Education classes.

Another aspect that draws our attention and echoes Betti and Zuliani (2002), is knowledge construction. For the authors, "the cognitive dimension will always happen on this corporal substrate" (p. 75). The testimony below reveals signs (GINZBURG, 1989) of the students' knowledge construction process:

It should be noted the tree structure where the webbing is mounted to see if it could stand it or not. When installing the equipment, it is extremely important to use a protection, so that the xylem of the tree is not hurt by slack tension and consequently, one does not kill the tree.

When students seek reference contents taught in other disciplines, it spells out their own manufacturing, a way of consuming and "usingdoing" singularly everything that comes to them (Certeau, 1994): "Education Physics also provides, like other curriculum components, a certain kind of knowledge to students" (Betti; Zuliani, 2002, p. 75).

In the **third class**, we started the educational process seeking for playfulness and pleasure as the core in the practice of slackline. The first activity was developed with a game of balance and recognition of the various lines of the court, and later with a tag game which made use of the demarcation lines of a sports court. The "tagline", as students' named it, consisted of running from a catcher on the demarcation lines.

The second activity was developed in pairs or trios where students practiced the slackline. The lines were placed to a height of approximately 30 cm up from the ground so as to provide greater security to students. The dual activity was intended to enable the safety of the student who was on the line. Before starting the activities, pranks and misbehavior during the activity were discussed, using as reference the ethical principle of respect for the fellow who would be performing a balancing act on the line and the risk of accidents.

It is important to note that security only consisted of a fellow supporting using one hand, and who should not hold the practitioner's arm or any other body part. For Betti and Zuliani (2002), "it is not enough learning motor skills and physical development, a necessary learning, but not sufficient" (p. 75).

The intention of using this type of security was to allow the student on the slackline to develop balance skills without the fear of falling. Simultaneously, body techniques to exit from the line without risk of accidents were practiced. In contrast, the student who offered the help could develop values such as solidarity, respect for individual limits and cooperation, among others.

The narratives present evidence (Ginzburg, 1989) of teaching and student learning through the slackline process:

**PC:** slackline is obviously a **different** sport from those usually taught in schools, such as football, volleyball etc. I just think that the difference is mainly in the **challenge**, the preparation for balance (...).

**PB:** In the beginning I had **a bit of trouble**, but as I was improving, my interest increased, which made it a **very pleasant experience**.

**A:** It was very interesting, because the first few times I went up on the line I could not stand for even five seconds, and at the end of two months **I could walk the entire tape** (and that was very pleasant to me).

It should be noted that students were asked to experience various forms of walking on the line. We had small breaks over the class to discuss the best way (body technique) for balancing, standing or walking across the farthest possible distance.

The aim of the group work was to establish conversational moments that would help students in their discoveries. González Rey (2012) cites the chat system with the purpose of scientific research. However, we sought this methodology as a way to lead the group to “a significant field of their personal experience (...). from these spaces, the report expresses their world, their needs, their conflicts, their thoughts “(p. 126). By questioning balance difficulty we allowed students room for dialogue and exchange of experiences.

Yet another notion of conversation also influenced us to think of group work and building knowledge networks, as proposed by Alves (2005): conversations are “the different networks of intertwined and consensual coordination of language and thrill we generate while living together as human beings “(Maturana, 2001, p. 132).

**G:** O *slackline* eu acho que te proporciona **uma liberdade maior** pra você desenvolver suas habilidades dentro do esporte, **não tendo que seguir um padrão único** sempre, te dando mais liberdade e mais prazer quando praticado (DIÁRIO DE BORDO - 07/11/2013).

Thinking from the author’s viewpoint, the idea of group work to discuss difficulties and experiences proceeded from the assumption that understanding that each student, in his/ her singularity, bears the marks of culture, society and experiences that forged him/her, we would have to discuss experiences collectively, creating a complex network of information that would enable a multifaceted and plural thinking. A student’s testimony is revealing when s/he mentions that breaking with the practice of traditional sports allowed him/her escape from standards:

G: I think you slackline provides greater freedom for you to develop your skills within the sport, not having to follow a single standard ever, giving you more freedom and more pleasure when practiced (LOGBOOK - 07/11/2013)

The final part was set for assessment, conducted through conversations about the actions taken during class. The students could talk about fears, difficulties, remove doubts and report the overcoming of difficulties during the teaching and learning process.

In the **fourth class**, the above mentioned knowledge having been built, students were challenged to overcome their individual limits.

The intention was to allow the development of body awareness, balance and movement dynamics on the tape. For such variations in height and distance were sought, enabling different levels of learning in order to meet the unique demands, knowing that the each one’s progression emerges from life experiences and the relationship the person establishes with his/her corporeality.

Considering such a notion — corporeality — the students had biomechanics autonomy to interfere with and adapt to their movement the four principles taught (foot directed forward, knees semi flexed, arms above shoulder line and eyes looking at a fixed point forward) to maintain balance on the line.

In the **fifth class**, realizing the students’ development of skills and interest for slacklining, the socio-environmental theme was emphasized. We recalled the risks and accidents that may be caused during assembly, due to incorrect positioning of the equipment, failing check mounting before using the equipment, lacking concern regarding spectators distance, failing check listing of mounting points, disregarding maintenance and durability of lines and equipment, among others.

The activity developed from the class division into groups, with each team responsible for assembling and disassembling the equipment following the safety rules learned in previous lessons.

At the end of class the students related the content acquired in class to the practice and handling for installing the systems.

In the **sixth class**, considering the content developed in previous lessons and bearing in mind the announced theme — socio environmental education — a class beyond the school walls was promoted. The intention was to provide students slackline practice in urban space, where they could assemble systems using trees as anchor points. The students were taken to a square where they could experience the care for trees using the knowledge previously gained regarding the assembly of equipment. The survey excerpts reveal evidence (GINZBURG, 1989) of the students experiences:

**J:** The **technical visit gave me much more experience and security** for mounting the equipment outdoors.

**P:** The practices were also very good because **we left the high school environment** to practice slackline elsewhere, in a place with more contact with nature.

**A:** I liked it, because then it was possible to **achieve in practice everything we learned in theory**.

Practicing that sport in an out of school location made it possible for students to exercise the slackline dimension as an autonomous leisure practice, having as core its playful nature and health promotion.

As tarefas solicitadas aos alunos consistiram em trabalhar em grupo durante as atividades de montagem dos dois tipos de sistemas (primitivo e catraca). Também solicitamos aos alunos a prática do esporte e da segurança do *slackline*.

In the **seventh class**, knowing that assessment develops procedurally protecting the natural learning of the subjects involved in the knowledge construction stages, we tried another space where students could experience the placement of bonds and slackline facilities in the trees, intending to approach them to the environment where the activity is usually practiced.

Thus, we went on a technical visit to the SESC Barra Mansa-RJ, which offers a space with several trees, being favorable to the practice of slackline.

The tasks required from students consisted of working in a group during the assembling activities of the two types of systems (primitive and ratchet). We also encouraged them to practice the sport, always bearing in mind slacklining safety norms.

## 5. FINAL CONSIDERATIONS

We consider, from the purpose of the study, that the quotidian fabrications of IFRJ-CVR students produced a peculiar curriculum from the body practices emerging from the socio cultural context in which practitioners were immersed.

In this regard it is worth emphasizing that the productions explicated in this work do not intend to become a pattern or model to be followed, but to stand as a counter-hegemonic movement that sees traditional sports as the unique opportunity for Physical Education at school. Similarly, it is important to note that the data and the discussion held do not have the intention of becoming *the* truth, since we realize that such collective production (teachers and students) was possible for that *spacetime* in which it was produced, so it embodies the unique perspective advocated by *thoughtpracticed* curricula (OLIVEIRA, 2012).

We also believe that the teaching and learning process was established collectively, respecting the various possibilities regarding the movement of students and teachers involved. It is important to understand that the centrality of the proposal lies in the way practitioners construct knowledge entangling those from corporal practices contents (Physical Education) with principles from environmental education, advocated as a theme to be questioned procedurally throughout all courses.

We know the adventure sports are those practiced in environments that go beyond school walls; however, if *reinvented*, they diversify the curriculum of Physical Education, contributing as an enhancer element in favoring the discussion of issues that surround today's society lifestyle: this is being interdisciplinary.

Finally, we would like to stress that guided by the prospect of *thoughtpracticed* curriculum it was possible to present slackline as a possibility for school content, since it can be reinvented and reinterpreted according to the needs, wants and desires of the individuals who make up such educational setting.

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# AN INSIGHT INTO PAYMENTS FOR ECOSYSTEM SERVICES: PRESENTATION OF THE TOPIC AND APPLICATION TO ARBIO PROJECT IN AMAZON RAINFOREST

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## ABSTRACT

Payments for Ecosystem Services (PES) are perhaps the most innovative and fascinating market-based instrument of the ‘environmental policy toolkit’: they compensate landowners for conserving their forest and vegetative areas in order to generate environmental services like watershed protection and carbon storage (i.e. sustainable management), instead of clearing land or exploiting natural resources (a common feature of developing countries). PES have their roots in the field of public economics theory that studies possible solutions to the market failures generated by negative environmental externalities. After debating the link with Coase theorem, we offer both a theoretical and applied analysis of PES. Presenting their definition and related problems, we shall briefly discuss all the main elements of a proper PES scheme, e.g. conditionality, additionality, perverse incentives. Given the voluntary adhesion, potentialities of these tools are exceptional: indeed, possible economic implications for rural and indigenous communities shall be taken into account as well, presenting a few positive examples of their successful inclusion in PES schemes. The last part of the work focuses instead on the Peruvian-Italian project named Arbio in Amazon rainforest that aims at protecting pristine green areas by means of ‘productive conservation’: it shall be shown how PES, albeit their complex and time-consuming design, may represent a crucial asset and be exemplary for other similar small-scale projects.

Keywords: Externalities, Environmental Taxes and Subsidies, Forestry, Sustainability, Environment and Development, Relation of Economics to other Disciplines.

JEL Classification: H23, Q23, Q56, A12.

## 1. INTRODUCTION

Mainstream economic models usually tend to focus on how several different variables interact and contribute to growth. However, with the exception of few research streams in ecological and development economics, they seem to not pay enough attention to the impact of economic growth itself on environment and natural resources management (Farley and Daly, 2003): indeed, the most commonly used economic models include ‘only’ variables representing consumption, public expenditure, international trade and investments, forgetting to consider how all these affect the natural world. Unfortunately, it represents a remarkable shortage: as a matter of fact, the analysis of the most important indicators over environmental degradation depicts a worrisome scenario. Then, in next decades scholars are expected to deepen their investigations on new mechanisms and programs to protect Earth’s natural capital (Schumacher, 1973).

As a contribution to researches in the environment and development field, our work aims at introducing and presenting relevant examples of perhaps the most innovative tools for environmental protection, i.e. Payments for Ecosystem Service (PES). Shortly, these are compensations made to the manager of an Ecosystem Service (ES) to induce him not to pollute nor to excessively exploit the natural resources under his control (Wunder, 2005; Engel *et al.*, 2008). Thanks to their heterogeneity, PES represent an interesting research field: however, since these schemes are usually set up according to place-based conditions, to summarize PES main features uniformly may not be an easy task (Wunder *et al.*, 2008). Nonetheless, a few guidelines and general reports have already been issued to provide a concrete overview of the topic (Smith *et al.*, 2013). In our work there shall be several referrals to those, as well as new analysis and practical considerations. Indeed, for the sake of completeness, we find it interesting to present the most exemplary PES programs as well, so as to offer possible hints for policymaking too (Smith *et al.*, 2013 b). In particular, we shall conclude by discussing the main features of a recent project (Arbio) taking place in Peru, striving to reduce deforestation in Amazon rainforest and to promote instead its sustainable conservation in an innovative way (Recanati *et al.*, 2015).

The paper is hence structured as follows. Section 2 offers a general theoretical background on the topic, particularly on the environment-development relationship. Section 3 introduces the ES concept and briefly discusses the main tools for environmental safeguard. Section 4 presents PES from a general perspective, providing a formal definition and explanatory examples. Section 5 describes Arbio project in Peru. Section 6 concludes.

## 2. ENVIRONMENT AND DEVELOPMENT

As the recent COP held in Paris (30 November – 12 December 2015) and its still controversial results<sup>23</sup> have demonstrated, the concept of sustainable development is supposed to play a central role in future, for the well-being of future generations. Policymakers shall be required to pay much effort on this. Its widely-accepted ‘standard’ definition is that proposed in the so-called Brundtland report (1987) of the UN, stating that: “*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of ‘needs’, in particular the essential needs of the world’s poor, to which overriding priority should be given; the idea of ‘limitations’ imposed by the state of technology and social organization on the environment’s ability to meet present and future needs*”. The two concepts highlighted in that sentence may be summarized by noting that there is a complex and fragile equilibrium between economic growth (here intended as the way to produce goods and services able to satisfy people’s needs) and natural resources availability. In economic terms, it is illustrated how the limited amount of natural resources is expected to be central for future development policies. As a consequence, the concept of ‘development’ should not be confused, as often it occurs in mass-media, with that of ‘growth’. While the latter is a quantitative concept referring to the increase in the physical dimensions of the economy and of its relative waste stream, the former is a qualitative evolution, a change towards an improved (and not larger) system or structure.

After the releasing of Brundtland report, however, the concept of ‘sustainability’ and ‘development’ have been widely discussed (even *ad nauseam* in certain contexts), becoming ‘trendy’ topics; many people talk about them, even ignoring the basic points and indicators behind them. Indeed, what is now clear is that that definition should not be presented alone, being the issue more complex and deep than it would appear by only reading that sentence. The concept of ‘sustainable development’ actually includes several different aspects:

- the acknowledgement of the interrelationships between economic, social and ecologic dimensions;
- the acknowledgement that Earth’s natural capital is physically limited;
- the satisfaction of populations’ basic needs and the promotion of their life quality;
- the assumption that the natural world produces stocks of different goods and services that, almost in any case, cannot be replaced by manmade activities.

Consequently, ‘sustainability’ refers to the fair management of these stocks of natural resources, understanding their fragility and limited availability.

For the sake of completeness, we remind that of course Brundtland report is not the only outcome of UN initiatives in this research field. Indeed overtime many conferences have been held (e.g. Rio de Janeiro, 1992) and a Commission on Environment and Development established by UN General Assembly (1982). Relevant conferences have been also those, for example, in Stockholm (1972) and Johannesburg (2002) held by World Bank and further international organizations.

In the area of development economics, the most remarkable contributions have been those delivered by S. Latouche (father of the ‘degrowth’ theory, advocating, perhaps too idealistically, a reduction in our consumption patterns) and A. Sen (whose ‘capability approach’ does not view physical products as the final goods, rather as tools to develop the capabilities that allow one person to follow his favourite path of life). In a few words, we may summarize the main advices of degrowth thinkers as follows. They are in favour of a reduction of production and consumption, including limiting advertising, which raises in individuals ‘induced needs’ to consume other goods, actually not bettering their lives, but only the balance sheets of multinationals. What should be understood is that lowering consumption does not always mean decreasing well-being; rather, people would be able to better maximise their happiness by reducing waste, sharing work, spending time with family, etc. (Kallis *et al.*, 2012). Today degrowth movement articulates its reflections in several economic and social sphere, demonstrating how things may change. Of course, there is still the risk that many of its advocates remain too idealistic, avoiding thus to reconcile their new proposals with mainstream theories (Hockerts and Wustenhagen, 2010; Randelli, 2013).

Presenting further theories proposed by scholars in ecological economics results now necessary to detect the main future threats and opportunities for environment protection. In fact, the idea that we should stop acting as harmful

<sup>23</sup> Renowned experts have criticized the final text produced in Paris as it contains only promises rather than a binding treaty, while its clauses may be modified each five years.

‘cowboys’ and start looking after future generations’ world had already emerged several decades ago.

K. Boulding is commonly referred to as one of the first to debate these issues. During the 60’s he coined the expression “*spaceship Earth*” (possibly inspired by the spatial missions of that time): similarly to how astronauts have to carefully manage the limited reserves included in their carrier to survive, the same perspective may be used to describe how humanity should deal with Earth’s resources (Boulding, 1966).

Also the “*tragedy of the commons*” theory received much attention during the ’60. Among other, G. Hardin’s studies assumed that free access and market competition do not lead to optimal solutions in resources usage: being access to several natural resources (e.g. fisheries) free and there existing externalities, it follows that only non-Pareto-efficient market solutions shall be reached. The ‘tragedy’ is embedded then in the overexploitation of resources favored by the free access to them (Hardin, 1968).

An interesting approach was the one adopted by N. Georgescu-Roegen, who applied to economics the laws of thermodynamics (which state that at the end of every process, the quality of energy is always worse than at the beginning). In his opinion, an economic process aimed at goods production lowers the future availability of resources and thus the possibility of further production; according to him, these considerations should be introduced into economic modelling as well, instead of ‘only’ focusing on market mechanisms and their failures. In other words, the law of entropy and its relative ecological constraints should be put at the basis of a ‘new’ economic thinking (Georgescu-Roegen, 1971).

In 1972 the *Limits to Growth* report prepared by the Club of Rome think-tank was another key study putting evidence on the global threats caused by the fast economic growth experienced in that period: already at that time, that growth was viewed as the main cause of problems such as pollution and depletion of resources. Neoclassical economists refused to agree with that assumption (Meadows *et al.*, 1972).

One of Georgescu-Roegen’s most outstanding students, H.E. Daly, later developed an appropriate terminology. As his mentor, he strongly believed that economics students should also be equipped with principles of different disciplines, such as philosophy, ethics and biology; otherwise, neglecting the laws of thermodynamics and their implications for global ecosystems, scholars would only put their efforts on finding perpetual growth models, whose application in the future may not be that useful. Indeed, in his opinion, in the past mankind was living in an ‘empty’ world: economy was small, and the number of manmade economic services lower than that of ecosystem services (ES) provided by the nature (and not producible by means of technology). Anyhow, now we live in a ‘full’ world, where new sustainable behaviors regarding consumption, waste management, etc. are required not to compromise Earth’s ‘carrying capacity’. While for conventional economic vision, economy is the whole, and the ecosystem a part of it (being technology the only limit), for ecological economics the contrary is true. Then, since we already ‘filled’ the world with our activities, achieving a sort of ‘steady state’ would be desirable: in it, development, intended as improvements in human living conditions, would be allowed to continue growing, while economic (and material) growth should be stopped (Farley and Daly, 2003).

In last years, the most interesting theory on such issues is that of the so-called ‘planetary boundaries’, developed by J. Rockström. Given his studies in natural sciences, he has identified nine boundaries<sup>24</sup>, the crossing of which would represent a tremendous threat for life on Earth. But even if just one of these gets worse, then all the others worsen too, negatively affecting the biosphere. Two of them still need further computations, while, for those we have already reliable data, the situation appears already critical with regard to climate change, biodiversity loss and nitrogen cycle. The most astonishing evidence is the one concerning biodiversity loss. While its preindustrial value (representing the number of species becoming extinct each year) ranged between 0.1 and 1, currently it is estimated that Earth loses more than 100 species per year. It is true that precise data over total global biodiversity are still missing (just think of how many species could still be discovered in Borneo or Amazon forests), but such a speed up is impressive. As for nitrogen cycle, it is crucial for life, being it one of the fundamental nutrients involved in the production of food. Human activities are now converting “*more nitrogen from the atmosphere into reactive forms than all of the planet’s natural terrestrial processes combined*” (Rockström *et al.*, 2009). Measured as the millions of tons per year of N<sub>2</sub> removed from the atmosphere for human activities, in the pre-industrial epoch its value was 0, today 135. Nitrogen and phosphorus cycles are deeply intertwined: data for both of them are highly alarming. This affects mainly life in seas and oceans, where huge increases in nitrogen and decreases in oxygen level are creating sort of ‘dead zones’. To conclude the analysis of Rockström’s theory, and to further extend our perspective, some words on climate change are necessary as well. From a certain point of view it may appear as a tricky topic, since is not straightforward to take into account numerous elements (e.g. the consumption of fossil fuels, the use of freshwater, extreme events like droughts and tsunamis, changes in temperatures, etc.) altogether, at the same time. Anyway, the large majority (97%) of climate experts agree that climate change and ecosystems degradation is mostly caused by human activities:

<sup>24</sup> These are: climate change, ocean acidification, biodiversity loss, chemical pollution, atmospheric aerosol loading, change in land use, stratospheric ozone depletion, freshwater consumption, effects on nitrogen and phosphorus cycles.



they are not natural phenomena (Doran, 2009). It has also been created a network, *The Consensus Project*<sup>25</sup>, in order to spread evidences of human damages to the natural world. There is still who sides himself against this position, but all the main environmental indicators demonstrate that high degrees of environment depletion arose when humanity entered the industrial revolution. Unfortunately, civil society is not well-informed on this debate, and several ideas seem hard to get erased: indeed, if data are cherry-picked it is easy to induce wrong beliefs in uneducated people. This point has been widely discussed by renowned German sociologist U. Beck: in his studies, he has developed the concept of “*risk society*” to describe the globalized world as a place in which individuals tend to unfairly attribute more importance to the effects (economic, social, environmental) of globalization, rather than sincerely analysing their causes and origins. In particular, with regard to the environmental issues, he maintains that more information shall be the key for reducing the risk of a total ruin. In that way, an increasing number of individuals shall be able to be aware that their desire for a share of the ‘wealth cake’ is meaningless if the cake itself gets polluted and poisoned (Beck, 1992; Giddens, 2009).

However, a detailed report indicates that all the main scientific research centers agree that the alarming increase in global temperature started approximately at the half of past century, when heavy industrialization both in Western and Eastern blocks, alongside the first steps of development of former European colonies, occurred (EEA, 2012). Extremely similar results are obtained in the graphs relative to sea level and CO<sub>2</sub> emissions: this cannot be a simple coincidence (Stern, 2007). Note that even the definition of ‘climate change’ itself needs some brief considerations. People often tend to confuse weather and meteorology with climate. Actually, the big difference between these concepts depends on the length of the phenomena under analysis: while the commonly-defined weather is made up of short-term fluctuations in a limited area, climate is instead the results of long-term (at least 30 years) observations on a larger area and is given by statistically significant average values. Climate depends on several factors (geographical, cosmic, etc.) and is affected by the interactions of numerous spheres. Being a gradual process, it may potentially have tremendous effects. What is most worrisome is the fact that still we do not know clearly solutions to all these different issues, or even if and how they exist. What instead is certain is that now climate change speed reached alarming values (EEA, 2012). Even empirical data confirm this. For example, the analysis of the Genuine Progress Indicator (GPI) and Gross Domestic Product (GDP) (Hoffrén and Rätto, 2010; Kubiszewsky *et al.*, 2013), the trends in Ecological Footprint (EF) and Biocapacity (BC) (UNEP, 2010), the study of the Living Planet Index (LPI) (WWF, 2014), all indicate that a serious environmental degradation is currently underway<sup>26</sup>. That is why the expression “*Anthropocene*” (i.e. “era of mankind”) has become largely used, to underline how human footprint on the planet reached critical, unprecedented rates. Some positive results have been reached in last years, but the road to a sustainable development model shared worldwide is still long and contorted. Indeed, if on the one hand 2015 has been a record year for investments in renewable energies (\$ 285,9 bln), on the other hand such an impressive result has been possible thanks to developing countries efforts (China alone has spent \$ 103 bln). In general terms, low-income countries have paid for the first time in history more than high-income countries (55% vs 45% of total expenses in the sector), a point that shall boost the already mentioned debate regarding social justice and the burden of climate change for poor people (REN, 2015).

### 3. ECOSYSTEM SERVICES AND ENVIRONMENT PROTECTION

Recent economic studies have acknowledged that natural resources have an inner value, and so it makes sense speaking of a ‘natural capital’ (Schumacher, 1973). The inclusion of alternative ‘types of capital’ in models aimed at explaining current global trends in a more precise way is in line with an ongoing tendency in several areas of economics (e.g. just think of recent studies on intellectual capital, social capital and human capital). Natural capital is assumed to comprise the whole stock of natural resources on Earth, since it is responsible for providing goods and services in the long term (e.g. the flow of fish supplied by a river is potentially infinite). Not only physical goods (timber, minerals, etc.), but also energy, biodiversity and, above all, ecosystems are included in this definition (e.g. a well-managed river provides also erosion control and water catchment). Ecosystems are crucial since they include both biotic grouping and abiotic environment: whenever these two elements are mixed, they interact and provide a

<sup>25</sup> <http://theconsensusproject.com> (last retrieved 21/01/2016).

<sup>26</sup> GDP commonly measures economic growth: it estimates the market value of final goods and services produced in a country within a given period of time. Instead, the main goal of GPI is to better represent the actual economic welfare generated by economic growth: its computation assumes Personal Consumption Expenditures (GDP main component) as a starting point, but then it is adjusted using twenty four socio-environmental indicators (e.g. pollution, income inequality, car accidents, volunteer work, noise pollution etc.).

EF measures the amount of biologically productive sea and land areas required for meeting the rates of resource use within a certain geographical space by a certain population. BC can be viewed as a sort of ‘environmental bank account’, as it is the actual amount available of biologically productive area. If EF gets larger than biocapacity, then there is an ‘overshoot’, an ecological deficit, meaning that we are consuming more resources than those naturally available. Using economic terminology, EF and biocapacity could be viewed as Demand and Supply of ES in the environmental markets.

LPI’s rationale is that the number of animals currently alive can be viewed as a proxy of the quality of the environment. It measures more than 10,000 representative populations of mammals, birds, reptiles, amphibians and fish.

flow of services. To use standard economic theory's terminology, ecosystems provide different kinds of benefits, to be classified in three categories:

- a) goods (harvests, water, etc.);
- b) services (recreation, tourism, erosion control, etc.);
- c) cultural benefits (heritage, spiritual benefits, etc.).

They may thus provide, regulate or support goods and services, also those with an inner cultural value. For example, with regard to watershed protection, protection from soil erosion, carbon sequestration and many others, economists started to use the expression 'ecosystem services' (ES) (Daily, 1997). This goes against traditional economic thinking since it promotes the idea that non-human life is able to produce essential resources (and then, implicitly, ecological health is key). The assumption that natural world is priceless is then mistaken; rather, attributing an economic value to natural assets creates a common framework for private and public agents to work together. As some authors pointed out in last decades, manmade economic world is not independent nor autonomous; rather, economies, created by societies, are fundamentally sustained by ecosystems. Ecologists and economists should hence work side-by-side. Unfortunately, economic activities are usually conducted independently, without considering the ecosystem in which they are inserted nor other activities underway in the same area, thus neglecting long-term costs and possible future conflicts. On the contrary, an ecosystem-based approach may provide managers and policymakers with an integrated tool to plan and balance human activities respecting local natural equilibria (WWF, 2014).

However, how can one concretely define such ES? Indeed, even if the idea behind this concept is quite intuitive, providing a formal definition may reduce future frictions and favour genuine cooperation. According to 2005 Millennium Ecosystem Assessment, ES are, broadly speaking, "*the benefits people obtain from ecosystems*" (MEA, 2005). Further details on ES are provided by Daily (1997): "*Ecosystem services are the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfil human life. [ . . . ] In addition to the production of goods, ecosystem services are the actual life-support functions, such as cleansing, recycling, and renewal, and they confer many intangible aesthetic and cultural benefits as well.*"

Basically, all human activities are possible because of ES presence, but at the same time we put pressure on the biodiversity that supports such systems. Since humanity is so reliant on ES natural provision, it is important to know how humanity itself interacts with surrounding environment. Note that ES are not always coming from commonly-intended natural realms. As a report by UK DEFRA illustrates well, out of the eight broad habitats identified, two (Urban and Enclosed Farmland areas) are intensively affected by human activities: nonetheless, they still provide several ES such as local climate regulation, cultural heritage, recreation, etc. (Smith *et al.*, 2013).

Unfortunately, current situation today appears to be critical, and depends on a general negative historical trend. After WW2, the emphasis that the Western economic model attributed to consumption and the maximisation of food, water and energy supplied caused an alarming decline in habitat conditions: for instance, almost 30% of UK biomes are either severely reduced or degraded (UK NEA, 2011). At the global level, over two thirds of vital natural services are in decline (MEA, 2005). Indeed, a serious analysis of ES may not limit itself to discuss ecological issues: since humans live in and affect natural areas, social and environmental issues are to be discussed at the same time, highlighting possible trade-offs and opportunities.

Exact computations are hindered by the fact that a parcel of land usually provide two or more ES at the same time: for example, forests contribute to preserve biodiversity, store carbon and defend from soil erosion. Being nature so interconnected and multiple benefits supplied altogether (cf. Rockström's planetary boundaries), win-win solutions are difficult to find, and many trade-offs are involved (Wunder, 2005).

Customary instruments used to price, to economically value an ES may be misleading, not allowing to carefully assess the value of the resources. Market prices indeed misrepresent the social value of an ES, being usually lower than it is; that is why shadow prices are increasingly being used for this purpose. Moreover, from a theoretical point of view, evaluating ES is extremely difficult, since one cannot 'value the priceless' nor place monetary value to something 'of fundamental importance': but ongoing world's situation is critical, and thus efforts in this direction are necessary. Besides, De Groot *et al.* (2012) argue that attributing monetary value to ES may help raising awareness as well as conveying the importance of biodiversity and ecosystems.

Focusing on a single ES, albeit practically simpler than assessing multiple ES, may be misleading in policymaking. In any case, it is key the comparison between two or more options, where the less costly will be preferred. In doing so, policymakers should be careful not to 'restrict their horizons', but to consider all the possible ES provided by a region. That is why recent scientific literature focused on valuing multiple ES (for example, in Los Negros scheme in Bolivia, 'watershed protection' and 'local fauna protection') (Barbier and Heal, 2006). The scientific rationale behind this is that isolating and valuing single ES is often difficult, given the many interactions between two or more ES. Therefore, this valuing is not a simple task, rather it poses two important issues. The first point is that economists

cannot be left alone in this assignment, but cooperation with biologists and ecologists is key. Secondly, also thanks to this interdisciplinary collaboration, economists should ‘think outside the box’, not considering a region as an isolated system, but as an integrated economic-ecological system.

Consequently, the ‘environmental policy toolkit’ now includes several tools, in order to promote environmental safeguards in different ways. These may be summarized as follows:

- regulation and provision of services by government;
- voluntary efforts by business, communities and individuals;
- incentive or market-based mechanisms:
  - a) charges (e.g. taxes and user fees);
  - b) tradable permits (e.g. carbon sequestration offsets);
  - c) certification schemes (e.g. eco-labels);
  - d) payments for ecosystem services (PES).

As in any economic analyses, these categories distinguish between public, private and volunteering initiatives. On one side, public policy interventions sometimes result being inadequate: since they present somehow general prescriptions for a whole country, region, or territorial entity, they may not precisely affect specific, small-scale critical situations. On the other side, voluntary activities are still so few relevant to make the difference: it is true that many companies are, for example, investing in social and environmental programs (cf. CSR), but usually they do so to get a positive return in terms of reputation and propaganda, rather than for genuine sustainability concerns. As a result, the third category is the one supposed to be delivering in the future the brightest results, since its actors are usually deeply involved in all those possible activities. In particular, we shall focus on PES since they appear to be the most innovative topic in this research field (Smith *et al.*, 2013).

#### 4. PAYMENTS FOR ECOSYSTEM SERVICES: DEFINITION, FEATURES AND EXAMPLES

Payments for Ecosystem Services (PES) represent perhaps the most relevant example of well-functioning markets for ES, as these have already been largely adopted even in various developing tropical countries (i.e. nations where new environment conservation efforts are key, given their huge natural endowments and low levels of development). PES are innovative tools to translate non-marketed, external values of natural world into concrete financial incentives addressed to local actors (farmers, landowners, etc.) in return for constant and genuine ES provision (Engel *et al.*, 2008). This is a relatively young topic (first PES schemes have been implemented during the ‘90s), but overtime they have gradually proliferated around the world.

The most widely used definition of a PES scheme describes it as follows (Wunder, 2005). A PES is

1. a *voluntary* transaction where
2. a well-defined *environmental* service (or a land use likely to secure that service)
3. is being ‘bought’ by a (minimum one) *service buyer*
4. from a (minimum one) *service provider*
5. if and only if the service provider secures service provision (*conditionality*).

Several aspects of this definition need to be clarified:

- *entrance* into PES agreements occurs on a voluntary basis, it is not compulsory. Anyway, this requirement does not seem to be fully respected by some government-financed programs (e.g. SLCP in China).
- even if some projects involve intermediaries, generally payments are made *directly* from service beneficiaries to providers. Distinguishing between *de iure* and *de facto* agents is then critical.
- *additionality* must be ensured (payments are made for actions over-and-above those that service providers would commonly undertake). Thus, it must be demonstrated that the practices adopted by ES providers would have not been put into practice without the PES program.
- *conditionality* must be ensured (payments are actually made if and only if the delivery of ES benefits occurs). The relationship between the implementation of certain practices and their effect in terms of environment protection must be precisely documented.

- interventions should not be easily reversible, ensuring the *permanence* in time (even after the period of implementation of the program) of practices adopted;
- environmental *leakages* (i.e. the shifting of ‘bad practices’ to other areas as a consequence of the start of a PES project) must be avoided (Wunder *et al.*, 2008).

The rationale behind PES is that who provides one or more ES (as any other services, in economic science) should get paid for doing so (Smith *et al.*, 2013). For example, along the course of a river, a community living downstream, using the river water for drinking and farming purposes, may be willing to pay another upstream community for not polluting water itself. Alternatively, an international donor may be interested in paying a community in a forested area in a developing country to protect local species (e.g. Los Negros project in Bolivia). Hence, by means of PES, previously un-priced ES (e.g. ‘water quality’) are now economically assessed and marketed. Opportunity cost is a key concept here: as in any other economic problem, agents have to maximize their returns by choosing between two or more land uses. For example, in the case of forest conservation, local landowners usually receive low benefits from it and similar land uses; moreover, those benefits are lower than those they would get from alternative land uses (e.g. conversion to cropland). However, this deforestation (induced by the opportunistic behavior of ecosystem managers) may generate costs and/or damages to both local and global communities. Consequently, service users, paying ecosystem managers, may turn conservation into a more (economically) captivating option, convincing them to adopt it (Pagiola and Platais, 2007).

From the perspective of public economics theory, PES try to realize what Coase’s theorem prescribed: via private negotiations, what would otherwise be an externality gets instead internalized. Indeed, the one provided before is a ‘Coasean definition’ of PES, as it aims at explaining how those schemes work by means of the typical terminology used right in public economics with regard to (environmental) externalities. In Coase theorem the basic idea is that, when the externality problem arises, its ‘victims’ may reward (either with money or in-kind transfers) the polluter in return for a reduction of his (polluting) economic activity. It is then applied the ‘beneficiary pays principle’, while other traditional environmental policies (e.g. offsetting, Pigouvian taxes, etc.) follow the ‘polluter pays principle’ (Coase, 1960). Therefore, regardless of the initial allocation of rights, according to Coase, it exists a spontaneous tendency that enables the market to reach the optimal levels of production and pollution. In this way, the public sector (i.e. the government) would play a minimal role: indeed, instead of imposing other strict externalities-reducing policies (e.g. regulations, standardizations or taxes), in this case it only has to allocate rights and allow people to exchange them freely in the market. That is why Coase theorem is usually seen as a market solution (Atkinson and Stiglitz, 1980; Campa, 2013).

Given the previous considerations, the dissemination of PES idea has been relatively quick and widespread; indeed, Wunder’s definition seems to promote a win-win policy idea that is institutionally simple, direct and cost-effective at the same time. PES in fact result being efficient (only what is worth conserving gets conserved) and very sustainable (not dependent on whims of donors, but on the self-interest of service users and providers). For doing so, however, we remind that these mechanisms must be tailored to specific local conditions, payments to providers based on payments by users and, above all, services actually delivered.

Anyway, the definition by Wunder has been recently questioned, since it has been noted that actually PES are implemented in situations with high coordination and transaction costs among and within the different categories of agents, high uncertainty, asymmetric information between parties involved in negotiations and cognitive barriers for assessing the tradable services. Furthermore, since PES seem to rely heavily on market institutions, the fact that beyond carbon there still exist few markets for other ES is critical. Other questionable points are the following:

- specially for watersheds and biodiversity, ES tend to result too complex to commodify and monitor overtime;
- regulations and laws may critically affect the allocation of rights on lands and natural resources;
- no referrals to poor providers are present, even if PES often take place in developing countries, with high poverty and income inequality rates;
- the criterion of voluntary participation seem to be complied with only in relation to collective/club goods.

As a matter of fact, it has hence been noted that a PES scheme hardly succeeds in respecting the five requirements of Wunder definition altogether. However, in spite of these theoretical issues, what should be clear is that PES are to be intended as “*transfers of resources between social actors, which aim to create incentives to align individual and/or collective land use decisions with the social interest in the management of natural resources*” (Muradian *et al.*, 2010).

Previous points have highlighted the great potentialities linked to PES in the fight against environment depletion; however, these schemes are not the unique solution to this problem. It may happen that in some circumstances other tools are better-designed to address some issues. If ES provision is hindered due to credit constraints of services

providers, then it may be helpful providing them with access to credit. If local ecosystem managers do not have the authority to manage ecosystems properly, then clarifying property rights may produce positive results as well. To sum up, PES may be applied only to the case in which ecosystem managers view ES benefits as externalities, leading to a mismanagement of natural resources (Pagiola, 2011). With this regard, geographical distance does not seem to be an obstacle. Indeed, PES may bring positive effects to regions far from each other (even in different continents, depending on the location of ES buyers and sellers): in such a case, PES present the great advantage of linking two or more agents or communities, regardless of their physical proximity. And as a matter of fact, empirical evidence shows that PES may be developed at different spatial scales: international (e.g. REDD+), national (e.g. British Environmental Stewardship program), regional and local programs.

In any case, four different kinds of actors are usually involved:

1. *Buyers*. They want to secure the long-term provision of the ES they are dependent on. The main distinction to be made is that between the case in which buyers are the actual ES users and that in which buyers (usually governments and NGOs) operate as a third-party agent, on behalf of actual ES users. In the first case, we speak of ‘user-financed’ program, in the second case of ‘government-financed’ program. User-financed programs proved to be more efficient, since the actors involved have first-hand information over the ES considered, are able to observe directly the proceedings of the programs and renegotiate the terms of the contract, if necessary: this is why these programs are sometimes defined as ‘Coasian’, since agents may continuously negotiate. In government-financed programs, instead, buyers (i.e. public sector agents) have fewer information and chances to directly monitor the program, and sometimes result to be heavily driven by political pressures, rather than genuine environmentalism; this negatively affects projects’ effectiveness. Furthermore, government-financed programs are less able to adapt themselves to sudden changes in underlying conditions (for this reason, several scholars view them as a sort of ‘ordinary’ subsidy programs).
2. *Sellers*. They are able to safeguard the delivery of ES. This category then potentially includes a wide range of actors, since PES may be organized also in protected areas and public lands (being government and local authorities in this case sellers). They are of course interested in studying whether possible buyers of the ES they provide exist or not, and the chance of possible negotiations and transactions with them.
3. *Intermediaries/brokers*. They may help reducing transaction costs, such as search and negotiation costs, favoring the relationships between buyers and sellers and scheme design. Interested in environment safeguard, they basically help studying how to generate and sell ES.
4. *Knowledge providers*. They may be specialists, local policymakers, scientists, legal advisors, professional consultants: all of them have the duty of providing PES participants with key information during the various stages of project implementation, in order to ensure that a feasible PES is put in place.

Only the first two categories are strictly necessary, while brokers and external consultants may not be necessary sometimes. For example, there may be ‘one-to-one’, ‘one-to-many’, ‘many-to-one’, ‘many-to-many’ programs, according to the number of buyers and sellers involved.

Similarly, when a PES scheme deals with multiple ES, these can be ‘packaged’ and sold in different ways:

- ‘Bundling’, when one or more buyers pay for the whole package of ES arising from the same portion of land or body of water;
- ‘Layering’, when diverse buyers pay for the separate ES arising from the same portion of land or body of water;
- ‘Piggy-backing’, when not all ES generated are sold, but one (or more than one) ES is sold and the other services provided by the same portion of land or body of water are free of charge (possibility of free-riding for beneficiaries).

PES schemes may thus present quite different features (UNEP, 2008).

In any case, a cost-benefit analysis of ES values is always crucial, since start-up costs approximately are equal to payments for 10 years. Clearly, costs reflect local socio-economic conditions: in Los Negros project in South America these were worth \$ 184/ha, in Vittel project in France \$ 4800/ha (Wunder *et al.*, 2008).

Moreover, payments may be made in different ways (e.g. cash, technical assistance, in-kind transfers), according to the needs of recipients (rural communities may prefer one or a combination of these, according to local traditions and cultural values) (Smith *et al.*, 2013 b). And even if conditionality remains one of PES main elements, we can distinguish between ‘output-based’ payments (based on actual ES provided) and ‘input-based’ payments (based on the

implementation of certain resource or land management techniques). This latter category is more common, especially in user-financed schemes.

Furthermore, unintended consequences need to be studied at the very beginning of every research design process, in order to prevent possible problems at a later stage. These may deal with environmental leakages (i.e. whether a program in an area will pressure ES elsewhere or not), perverse incentives (e.g. if reforestation is rewarded, somebody may find convenient to cut down tree and replant them) and equity issues (i.e. whether payments will be equally distributed within local communities and ES providers or not).

With regard to the last issue, it is clear that PES schemes, involving rural communities either as users or providers of ES, may affect their welfare. Nonetheless, PES must be intended as instruments to improve the provision of ES, then as strict environmentally-friendly programs. Indeed, even if PES projects take place mostly in low-income countries, whether poor people shall be affected by them depends on specific conditions, such as which ES are specifically sought (Engel *et al.*, 2008). It remains however a 'derived' developmental benefit (Grieg-Gran *et al.*, 2005). Moreover empirical evidence on the ability of PES schemes to improve poors' welfare produced contrasting results. In general two great obstacles to poor inclusion are their lack of power (risking to be marginalized, not considered during negotiation phases) and transaction costs (empirical studies in Latin America illustrate that higher transaction costs indeed represent greater obstacles than households' own limitations) (Wunder, 2005). Nevertheless, if local conditions are favorable, some sort of possible synergies between the two objectives (i.e. environment protection and poverty alleviation) may still emerge. Remember that for government-financed projects considering also social issues is a way to obtain political support to the program implementation: aware of this, local communities may however assume parasitic, rent-seeking behaviors, taking advantages of the situation. In this case, of course, PES are not likely to generate benign effects. Indeed, the inclusion of several additional objectives alongside environment safeguard may undermine the success of a PES project. User-financed programs are less subject to this kind of problem: in such schemes, in fact, usually ES users and beneficiaries communities know each other, and the limited scale of the project does not allow including too many objectives in a single scheme. However, case studies analysis shows also that, even if PES produce limited gains over and above opportunity costs for ES providers, this type of schemes may lead to different improvements, for example in terms of health (e.g. better water quality thanks to a better management of a watershed) and security of (property) rights (since PES schemes may only be implemented in parcels of land the legal authority upon which must be clearly identified). But generally addressing too many issues at one time shall then make it difficult achieving any sort of good results, while the poverty-environment trade-off (i.e. choosing between maximizing benefit per \$ spent and caring of welfare impact may limit PES effectiveness, either in a sense or in the other) is likely to receive increasing attention in future research (Pagiola *et al.*, 2004).

As far as poor enrolment in PES schemes is concerned, in perfectly voluntary projects they are assumed to participate only if, of course, they would be better-off than without it, but this assumption cannot be made for those (imperfect) PES programs the participation to which is not explicitly voluntary. In addition, sometimes their participation may be hindered by the difficulty for poors to demonstrate their legal title or control over certain parcels of land, and by the fact that usually buyers, to reduce transaction costs, prefer negotiating only with few big landholders rather than with many small ones.

If the effects of PES schemes on ES sellers are usually positive (a stable flow of money, increases in land tenure, social capital and strategic 'site propaganda'), the same cannot be said for the effects on non-sellers: these include several categories of agents (service users, on-site landless people, off-site actors in the value-added chain) and problems such as free-riding may emerge (Grieg-Gran *et al.*, 2005).

Also in 'natural' terms, the measurement of PES benefits are complex, since they are computed as the difference between payments received and the cost borne to provide ES: as these estimates are really difficult to measure, discovering the actual scope of PES benefits is not that easy (Barbier and Heal, 2006).

We find it interesting presenting the 'ecosystem services curse' issue too. In fact, despite their potential in environmental protection and poverty alleviation, PES may also produce not positive effects. Some precautions must be taken, preventing PES to damage local development. Indeed, as resources-abundant nations struggle to fully enjoy the benefits delivered by their resources (e.g. due to corruption and weak governance), a similar situation may arise with PES, in ES-abundant regions. If with 'ordinary' resources problems are mostly due to poor legal systems, elements that may undermine the well-management of ES are payments volatility, rent seeking and disparities in bargaining power. Strengthening transparency, regulations and institutions, monitoring regional policies, ensuring that only 'real' ES providers are being paid are just some of the tools governments and international organizations may use to counter possible drawbacks (Pagiola and Platais, 2007).

Therefore, which are the steps to design a successful PES program? They must take into account several social, legal and technical aspects, in order to respect local traditional values, to be at the same economically convenient for parts involved and to demonstrate additionality in environment safeguard. Usually the following phases must be followed (Smith *et al.*, 2013):

1. identification of possible saleable ES, related sellers and buyers;
2. identification of PES principles and solution of technical issues;
3. negotiations and definition of agreements structure;
4. PES implementation: monitoring and impact evaluation activities;
5. analysis of further developments of PES scheme, including future inclusion of other ES (if possible).

At the beginning, the focus shall be on the study of whether ES exist in an area, are tradable, and who are their possible buyers and sellers. After these initial considerations, project design goes on by including more specific aspects such as transaction costs, payments methods, duration of the contract, M & E, 'packaging' of ES, etc. Intermediaries and consultants may participate in one or more steps, but the essential roles shall be those of ES sellers and buyers: in particular, without mutual trust between them, success (i.e. environment safeguard) shall be hardly reached. Albeit time-consuming, this procedure represents a fundamental process: only carefully facing each single issue, parts involved shall be sure that no further problem (or at least, no extremely worrisome problem) shall arise during PES implementation. Nevertheless, 'learning by doing' is an important aspects, as unexpected occurrences are likely to happen in programs aimed at lasting a long period of time.

After such a long theoretical presentation of the topic, it is now interesting presenting some practical example of successful PES programs and their key aspect. In spite of their different locations, some common features may still be identified (e.g. contract clauses dependent on place-based conditions, targeting is crucial, etc.). As mentioned in the previous paragraph, note that 'learning by doing' is a fundamental mindset, given the impossibility of including all possible occurrences in advance in the contracts.

#### 4.1 Vittel, France

In scientific literature, the Vittel case is considered to be a 'perfect' PES case study. It illustrates how private-sectors firms may participate in PES. This scheme takes place in Northeastern France, where the headquarters of Vittel (one of world's major companies in the bottled water sector) are located. In 1992 the company was bought by Nestlé. Vittel's water has always been associated with good health and wellbeing, thanks to its particular nutritional properties. French legislation for natural mineral water is severe, with many legally binding prescriptions. In the '80s, from several studies it emerged that intensive maize cultivation increased the concentration of pesticides and nitrate in Vittel catchment, putting at risk water's healthy brand. Five options were considered to solve the problem: out of these five, for both economic and environmental reasons, the best one involved the provision of incentives to local farmers for making them voluntarily change cropping practices. A detailed survey (AGREV) was conducted Vittel and INRA (France's agronomic research institute) in 1989 as well: its main objectives included the analysis of the conditions according to which farmers would have been willing to change their practices and the financial support needed to realize it. Four main categories of farmers, according to the extension and productivity of their lands, were identified, as well as several techniques to reduce nitrates and pesticides in soil. Putting into practice possible solutions has been a long (10 years of negotiations) and complex process. A constant element has always been farmers' involvement in the debate, being Vittel deeply interested in understanding their needs. Both parties showed interest in reaching an agreement. With regard to the monetary payment to farmers (around € 200/ha/year), the compensation should have not to be lower than opportunity cost of changing techniques plus an extra (as an incentive), while Vittel also had its own opportunity cost. Many elements entered the debate, including possible changes to French law on inheritance (prescribing that every son and daughter receives an equal amount of land even if not interested in farming it), considerations on Vittel importance for local economy and employment (almost 2.000 workers out of 10.000 local inhabitants) and the monopoly power of large landholders. Finally, Vittel and farmers' union agreed upon a wide package of incentives, which includes subsidies for the transition period between the use of previous (polluting) farming techniques and the adoption of the new ones, free provision by Vittel of organic compost to fertilize land and free technical assistance by Vittel and the association of local farmers. Each farmer discusses individually with Vittel other terms of the contract. With regard to conditionality, a specific type of contract has been created ("*prêt à usage*"), according to which not compliers with the terms of the contract would lose their land (it has never happened so far). Agrivair (an intermediary entity created specifically to ease the negotiations) has been later endowed with financial assets to buy the lands of retiring farmers and conceding them to young people wishing to establish a new agricultural firm, of course respecting Vittel's prescriptions. Being Agrivair's director a well-known entrepreneur has helped creating mutual trust between the two parts. By 2004 all farms in the area had implemented the new cropping techniques (cattle-ranching and composted manure replaced maize cultivation and agrochemicals pesticides) and approximately 90% of water sub-basin was protected (and water quality maintained). The long-termism of contracts (18-30 years) has been key to convince farmers to accept Vittel's proposals.

Therefore, what makes this case so interesting? At the end, everyone is fine, and better-off than starting conditions.

The ES sold by farmers to Vittel is ‘improved water quality’, necessary to guarantee Vittel’s productions (no packaging of ES is necessary, being there only one ES). Being a wealthy company afforded Vittel to invest in scientific researches and providing incentives to farmers: such investigations resulted fundamental to keep producing bottled-water and selling it around the world. Farmers receive financial and technical support by Vittel and specialized agencies for converting their cultivation techniques into more sustainable ones. Vittel has behaved well also differentiating the contracts (e.g. according to farm location) and adapting the terms of the contracts to local situations. In addition, local community received indirect benefits, since the company employs many local workers. Additionality of this program is indeed difficult to compute, but it is unlikely that water basin without direct Vittel’s intervention would have bettered on its own. Also leakages (e.g. increased maize cultivations elsewhere) are difficult to be measured, while monitoring is ensured by Agrivair. Permanence is ensured as well, since farmers find new cultivation techniques economically convenient, whereas payments for Vittel are necessary to safeguard local water basin. The case has involved numerous social, economic, legal and technical issues, being all of them necessary to understand the ongoing situation and to stipulate successful contracts. Indeed primary reasons for success proved not necessarily being of financial nature. Rather, mutual trust, involvement of local workers and consultants and sustainability considerations have been at the center of the debate. Even if initially there have been imperfect knowledge, deep and long negotiations have helped reaching a positive conclusion. Important points include also establishing a strong and trustful relationship with ES providers by means of active engagement (Déprés *et al.*, 2005; Perrot-Maître, 2006; Smith *et al.*, 2013 b).

## 4.2 Los Negros, Bolivia

The Los Negros case is captivating since it is an example of how successful PES may include two ES simultaneously: ‘habitat protection’ and ‘watershed protection’. The former is financed by US Fish and Wildlife Service, interested in preserving migratory birds’ habitat; the latter by the farmers of Pampagrande municipality, interested in regulating water supplies for their crops. Indeed, in Bolivia water wastages and inefficiencies are serious problems: in Los Negros region, farmers estimate that during dry seasons the flows of water have almost halved in last two decades. Transfers are paid each year, provided that a specific committee monitors that conditionality condition has been complied with.

Los Negros valley has a 26.900 ha extension with two main villages, Los Negros and Santa Rosa. On one side, the valley borders with Amboró National Park, for which illegal encroachments became recently a serious problem. Another issue is water management during dry seasons, a matter that raised several conflicts between local communities, since intensive agriculture is the main revenue-generating activity for farmers of that region (2-3 harvests per year). The wish to obtain larger areas available for cropping induced also deforestation, putting at risk local unique biodiversity (UNEP, 2008). A local NGO in 2003 started designing a PES scheme aiming at preserving Los Negros watershed, given the relevance of the threats for the region and the relatively small number of people (1.328) to negotiate with. Both downstream and upstream communities were interested in PES. An external donor, US Fish and Wildlife Service was included in the consultations with local stakeholders, to demonstrate them how serious the program was (there were serious mutual trust shortages between the two rural communities). US agency agreed to pay for conserving Los Negros forests, important habitats for rare bird species. However, at least initially, attention has been mostly given to regulation of water

supplies, but payments provided by US agency resulted being crucial to cover PES startup costs (\$ 46.000). At present, downstream payments for watershed protection are administered by Pampagrande municipality, while water users are not yet directly paying. On the other side, upstream landowners were invited to join the PES scheme on voluntary basis (i.e. choosing which parcel of land and for how long enrolling in the contract). As of late-2007, over 2.774 ha were being protected by almost 50 farmers; contracts’ duration ranged between 1 and 10 years. Payments are provided yearly, and to monitor actual conditionality of the project GPS tools are used too. Note that payments are not cash, but in-kind transfers. They were discussed several alternatives (including road improvements) but upstream farmers preferred receiving beehives: this would have helped them not to waste quickly the money received, creating instead something that lasts. This induced further improvements in environment conservation, since new jobs as beekeepers were created and forests as habitat for bees gained larger importance. A few farmers preferred receiving fruit tree seedling and barbed wire instead of beehives as compensation (criticizing beehives’ inflexibility as economic assets). Specific project control teams, including members from all the communities and NGOs involved, ensure decisive monitoring: costs for maps, GPS instruments, etc. are equally divided. The main task of these teams is controlling if land parcels have been actually conserved, noting any change or damage. Sanctions have been established gradually, when each problem or inefficiency emerged. With regard to additionality computations, avifaunal surveys and twelve signalers along Los Negros river and its tributaries are used to check the protection of natural habitats and watershed. In 2005 some sort of spatial differentiation has been introduced, since some vegetation types were viewed as more protection-worthy than others. Being a PES focused on environmental and resource management issues, landless and poor inclusion was not among the main objectives of the program: indeed, these, being without land to protect, are excluded. Nonetheless, a few of them still benefited from the PES, being hired to work on honey



processing or having bought beehives from participant landowners. To sum up, this PES has been developed with the purpose of providing local water users with incentives to manage their water resources sustainably. Due to the lack of detailed information and effective institutional mechanisms, this was a viable solution to overcome the problem. Improving the income of the majority of upstream farmers, the program has been able to achieve positive results both in biodiversity and watershed protection (Asquith *et al.*, 2008). Interesting peculiarities of the program are:

- the customization of payments modes, according to the needs of participants;
- the fact that two services were included in a single PES scheme (it allowed the starting of the project, overcoming initial financial constraints; free-riding problems, due to some overlaps between the areas relevant for the two types of conservation, still have to be solved);
- the practice of conducting intensive data collection activities before implementing a PES scheme in this case has not been complied with. Alternatively, learning-by-doing has been a constant feature, justified by the willingness of analyzing what was actually going on only after that money had changed hands.

### 4.3 PSA, Costa Rica

Among all Central America nations, Costa Rica is an exception for its level of economic development and environmental safeguard: for example, an outstanding result has been reached last March, when government declared that the country energetic needs were being met by using renewable energies only<sup>27</sup>.

When it was designed, Costa Rica's country-wide PES scheme (known as PSA, "*Pagos por Servicios Ambientales*") represented a pioneering experience. Nowadays, after almost 20 years from its start, it is widely considered as one of the best example of PES of its kind, and other countries in the region (e.g. Mexico) have tried to imitate it.

Established in 1997, this PES program based itself on Law 7.575 of previous year, which identified the main four ES delivered by forests:

1. hydrological services;
2. biodiversity conservation;
3. mitigation of GHG emissions via carbon sequestration;
4. ecotourism, scenic beauty and related activities.

Bundling them has progressively helped to measure their environmental relevance. In addition, that very law also established the *Fondo Nacional de Financiamiento Forestal* (FONAFIFO): it is a semi-independent agency appointed for managing PSA, composed of representatives of public and private sectors and whose budgetary decisions must be approved by the ministry of finance. PSA did not start from scratch: rather, environmental concerns had entered somehow national policies since the '70s, when incentives for timber plantations were provided. Following measures included certifications such as CAF (1986) and CPB (1995). Then, PSA had already a concrete basis, and early payments and schedules were taken from previous initiatives. However, the main changes induced by PSA included the fact that government budget was no longer appointed to sustain financially this scheme (being new taxes and payments from beneficiaries being introduced) and, above all, the very change of the general purpose of the program (i.e. from support to timber production to ES provision); note that pro-poor policies were not among primary objectives. Therefore, it would be wrong to state that PSA is a mere continuation of previous initiatives, since, especially in the last decade, several innovations have been put into practice. The main source of income is represented by a 3.5% fuel tax (generating around \$ 3-4 million per year), while others include the sale of ES to beneficiary agents. Specific new regulations are however needed, since, for example, if charging water users for upstream watershed management services has been successful (around \$ 0.5 million per year), the same cannot be said for carbon and biodiversity. Indeed, the importance of forests for hydrological services was recognized by Law 7.575 itself. PSA wished that, at least partially, PES would have been financed with payments from hydroelectric power producers. Since precise legal prescriptions were absent, FONAFIFO has been able to negotiate directly with water users and conclude several agreements. Later, the use of ES certificates (certifying the payment for the conservation of a hectare of forest) contributed to raise sharply the number of agreements

(and amounts paid): at present, such agreements cover the full cost of environmental safeguard plus the administrative costs borne by FONAFIFO. Contracts for biodiversity conservation have been financed mostly by the Global Environment Facility (GEF) managed by UNFCCC (around \$ 8 million over 5 years). Other sources of finance come from a silvo-pastoral GEF project and Conservation International (around \$ 1.2 million over 5 years). Efforts have been made to generate revenues from local tourism sector, but without success. As a consequence, a large area (over 900.000 ha), which does not present either the potential for water or carbon financing, lies outside

<sup>27</sup> <http://ecowatch.com/2015/12/24/costa-rica-renewables/> (last retrieved 30/03/2016).

protected areas in spite of being defined crucial for biodiversity conservation. Partial solutions are coming from the public sector. With regard to carbon payments, since the very beginning of PSA, FONAFIFO developed Certified Tradable Offsets (certifying a net reduction in emission of 1 ton) and sold them. Norway's government and a consortium of Norwegian entrepreneurs have been the firsts to buy a relevant number (200.000) of such CTOs. The fact, however, that such emission reductions were due to avoided deforestation, and not to reforestation or afforestation (as prescribed by Kyoto Protocol's CDM), partially hindered the initial development of this sector. To overcome this issue, also in light of REDD+ program implementation, new types of contracts have been introduced, while further financing has come from the BioCarbon Fund of World Bank. Last but not least, also landscape payments were considered a key point, but agreements with rafting companies and hotels initially did not emerge, as in the case of biodiversity conservation. In spite of its great potential, this aspect is seriously hindered by problems of collective actions (Pagiola, 2008).

In absolute terms, PSA program interests at least 10% of nation's forested area (more than proper protected areas): it involves approximately 1 million ha of forests, and helped increasing country's forest cover (from 20 to 50% of total land area). However, most finances come from the fuel tax, as service users only partly pay for the ES they benefit from: PSA may thus be viewed as a 'supply side' PES scheme. A

major cause for this is, now that PSA functioning is clear and well-described, the tendency of local people to free ride the payments borne by others. Nevertheless, a serious decline in deforestation rate has indeed been registered, monetary value to biodiversity and forests has been attributed and a deeper understanding of socio-economic features of ecosystems achieved. PSA effect on households has instead been limited (\$ 64/ha/year), since PSA itself was primarily designed to promote forest conservation (and not poverty alleviation) and poor landowners found it difficult to understand the convenience and importance of enrolling in PSA (Wunder *et al.*, 2008). This PES scheme hence has been successful in combining effectiveness, low implementation costs and balance equity: indeed, the mainstream strategies to reduce deforestation have been applied to national landscape and people. Recently priority has been given to areas at high-risk of getting deforested, rather than following the initial first-come first-served principle. Female-headed areas and indigenous communities have been included too, being each social group targeted by specific measures and contract clauses. Generating direct payments, new jobs and healthier ecosystems the benefits of these PES seem clear (Pagiola & Platais, 2007; Porras *et al.*, 2013).

To sum up, how have initial inefficiencies been tackled?

1. The lack of targeting in early stages of the program has been overcome thanks to the creation of specific priority areas since 2003 and by the fact that funds of several service users have their own targeting (e.g. watersheds with service user contracts).
2. The issue of undifferentiated payments country-wide has been solved by creating ad hoc adoptions of higher payments when needed, as in Río Segundo river basin.
3. To overcome initial undifferentiated modalities country-wide, new systems have been gradually developed: for example, agroforestry better suited to small farmers (including payment per tree methods) and natural regeneration (as a cheaper option than plantations for carbon sequestration).
4. Lastly, designing new improved impact monitoring systems and retrospective assessments has helped to solve the issue regarding the lack of information on PSA effectiveness.

In light of all these points, it should however be clear that PSA is not the unique panacea to solve all environmental degradation problems in Costa Rica; nonetheless, it is an important 'carrot' to include in a wider policy mix. After 20 years, which are then the main lessons learned from PSA?

- It is easier to introduce a new PES scheme if existing laws already regulate somehow ecosystems-related payments.
- If relevant regulations already exist, it is much easier to implement a government-financed scheme than a user-financed one.
- Payments for sustainable watershed management are easier to implement than those for carbon and biodiversity, for which serious issues regard measurement and beneficiaries' identification.
- Targeting and differentiated payments are crucial elements to solve problems
- connected with opportunity costs and differences in the level of ES provided.
- Due to changes of different nature (e.g. in national and international legislations), PES schemes should be flexible and able to be adapted to changing circumstances (Engel *et al.*, 2008).

## 5. ARBIO PROJECT IN MADRE DE DIOS, PERU

Deforestation and excessive exploitation of natural resources are serious issues affecting many developing countries; especially regions rich in rainforests (e.g. Amazon, Congo basin, Borneo) are threatened (FAO, 2015).

In South America, Madre de Dios is the third largest and the least populated Peru's department. It is on the South-East side of that country, in a strategic position at the border with Brazil and Bolivia, and presents a monsoon tropical climate. Considered as one of the most important green areas of the planet, it hosts huge intact rainforests, a unique biodiversity (rare mammals, insects and plants), and is resilient to climate change. However, unfortunately also this region has been experiencing a recent increase in habitat loss and forest degradation mainly due to logging, mining and infrastructure. Indeed, trees are getting cut to plant new (and more profitable) species (e.g. palm oil) or to obtain additional areas to crop; this is endangering those plants, such as Brazilian nut, that to flourish need a pristine environment. In addition, mining has been triggered by the exceptional endowments of this land of gold and other precious ores (think about Inca's incredible treasures) such that abusive extraction represents at the moment the illegal activity with the highest turnover (even more than drug, a well-known burden for Andean countries). Mining is dangerous also for its 'collateral' effects, such as soil erosion, mercury pollution, river contamination, etc. Last but not least, with regard to infrastructure, the creation of new networks has made accessible areas that just a few years ago were in the depth of the forest (and so, difficult to be exploited by humans); indeed, roads, channels and railways are increasingly being used by inhabitants of the poorest regions to move towards other areas where to live and exploit natural resources to survive (Barber *et al.*, 2014). Serious concern has been raised in particular by the new (opened in 2011) Interoceanic Highway (IH), locally known as *Carretera Interoceánica* (in Spanish) and *Rodovia Interoceânica* (in Portuguese). It is one of the main actions carried out by the intergovernmental forum Initiative for the Integration of the Regional Infrastructure of South America (IIRSA)<sup>28</sup>, and aims at connecting industrial clusters on Brazil's Atlantic coast with Peruvian harbors on the Pacific. Indeed, the rationale standing at the basis of its construction is of economic nature (Vitte, 2009). Given the emergence of Far East economies and the intensification of Brazil-China relations (with China becoming Brazil's first trading partner in 2009), having a new road crossing the continent almost horizontally, reducing considerably the time for sending and receiving goods from Asia, is a key element. Long discussions on the potential threats caused by IH to local biodiversity already arose even before than its construction, and continue today. In general, the impact of roads in tropical areas on natural and social life is a debated issue. On the one hand, these contribute to economic growth and lessen social tensions in high-density regions, favoring internal migrations; on the other hand, they contribute to the exploitation and loss of a rich natural patrimony, and harm indigenous people's survival, invading their lands and violating their rights. Therefore, in spite of possible socio-economic benefits, these infrastructures tend to dramatically affect environment (Barrientos Felipa, 2012). There is still space and time to keep working to minimize environmental degradation, so that economic benefits in the future shall offset IH negative ecological effects. With regard to IH, a major worry is that it was opened when Amazon already lost significant shares of its original vegetation: the fact that an important part of IH route crosses Madre de Dios department in Peru, one of the last largely environmentally-endowed areas in the planet, inhabited also by several indigenous tribes, is worrisome<sup>29</sup> (Dourojeanni, 2006).

It is in this varied scenario that several environmentalist initiatives have emerged. Some of them involve important international donors, while others are managed by local NGOs. Arbio (*Asociación para la Resiliencia del Bosque frente a la Inter-Oceánica*, Association for the resilience of forest against IH) was born in 2010, triggered by the need to lower the potential negative effects of IH construction.

Established in the forest near Puerto Maldonado (Madre de Dios capital), it now operates on a 1.631 ha concession and involves about twenty researchers and staff members, hosted in a modest base camp. Indeed, according to Peruvian Forestry Law 27.308, private agents may obtain concessions on wide national forest areas: in such a case, they are responsible for what occurs in their areas, for example paying sanctions if third-party loggers damage it. Such a concession is attainable by demonstrating the required qualifications to manage the prescribed portion of land, and lasts 40 years, with the obligation of presenting each 5 years a detailed management plan. Being concessions part of national patrimony, in theory they could not be deforested excessively. But sometimes, from the authorities' perspective, it may result convenient to turn them into agricultural terrains, since production and related fees would increase (Giudice *et al.*, 2012). To fight against these bad practices and forest destruction, Arbio's three main pillars include:

<sup>28</sup> IIRSA, established in 2000, is an intergovernmental forum composed of all twelve South American nations, with the final purpose of promoting regional integration among them by means of development in infrastructure, energy, transport and telecommunication sectors. It is a multinational and multidisciplinary forum coordinating the investments of governments, financial institutions and private sector in the above-mentioned fields.

<sup>29</sup> Indigenous communities (10.000 individuals) are important and various elements, since there are 19 ethnic groups and 7 language families (high relative presences are reported in Manu province). They crop land with traditional low-impact methods. The recent increases in urban population and migration from bordering provinces, fostered by the development of IH and its supposed economic benefits, are serious concerns for indigenous tribes' vulnerability.

1. sustainable development of the Amazon;
2. coexistence of humans and forest;
3. endorsement of locals.

To do so, Arbio deals with ‘productive conservation’: it is not totally against IH (which lies at 20 km from its base), acknowledging its importance for regional transportation and international trade, but wishes to propose alternative economic, environmental and social development models. In other words, the specific objective of Arbio is to prevent its area from getting deforested or polluted, but they want to succeed in this not via an absolute conservation, but by means of a productive model taking into account the ES provided locally and forest products attained in a sustainable way. That is why researches over the possibility for establishing a sort of PES scheme are currently underway (Recanati *et al.*, 2015).

In particular, given our previous considerations, we find it interesting to present the case of two specific ES, ‘biodiversity conservation’ and ‘ecotourism/recreational services’.

With regard to the first, we already briefly explained how Madre de Dios flora and fauna are critically endangered. Possible buyers (i.e. ES beneficiaries) may include local government, civil society agencies and international conservation donors. This latter possibility may produce significant outcomes from the very initial phases: from a managerial point of view, the serious involvement of an international donor may result crucial, and guarantee those resources needed especially to cover start-up costs (whereas local actors usually, due to corruption and opposition to projects run by Western operators, are harder to get convinced). Arbio, to better analyze the value of the biodiversity included in its concession, should contact specialized consultancy agencies or use proper methodologies such as the Business and Biodiversity Offsets Program (BBOP)<sup>30</sup> developed by Forest Trends Association or the wildlife habitat quality measures used for computing the Environmental Benefits Index (EBI)<sup>31</sup>. Payments for biodiversity conservation may be either monetary or in-kind transfers. In particular, given the location of Arbio base camp (in a wild area, difficult to be reached from a properly-called town) in-kind transfers consisting in tools and instruments to work with local flora and fauna may result more useful than money, at least in an initial phase (albeit harder to be transported). In the case of biodiversity conservation, additionality is justified by the fact that without PES Arbio would not be able to protect more effectively its land, while conditionality checks (whether biodiversity gets actually protected) may take place, for example, by means of measurements in the increase (or decrease, if things go wrong) of a sample of selected representative species or by sightings by guardians and specific monitoring staff. Perverse incentives are avoided. Since its origin, Arbio has been led by a genuine interest in preserving wildlife; therefore the idea that its staff starts to kill or transfer species just to demonstrate, at a later stage, that its work produces positive results is completely wrongful.

Ecotourism is for Arbio a second possible way to conserve environment and getting paid for it at the same time. Madre de Dios, given the uniqueness of its landscape and biodiversity, may potentially attract a discrete number of environmentally-friendly tourists. But, on the other side, this time the main problems for Arbio seem currently to be of logistic nature. Firstly, the concession is in a quite remote area, far from any international airport (Puerto Maldonado airport has flights only with Lima and Cusco) and reachable only after a long trip by boat or off-road vehicles. Secondly, accommodation possibilities are (being the concession in deep forest) still limited. Nonetheless, some sorts of ‘eco-lodge’ are being built, obviously without using polluting materials<sup>32</sup>. However, Arbio should be able to receive some benefits from this kind of activities: ecotourism in fact both fosters attention on forest conservation (to attract visitors in genuine wild areas) and generates revenues useful for the economic maintenance of the concession. The costs borne by Arbio for ecotourism shall not present extremely high figures, since these only include the efforts to improve the accommodation facilities of base camp area; the guided tours in the forest shall present minimal costs. It has all the potentialities to become a profitable activity (similar projects charge around \$ 200/night per couple), as other examples in the region already demonstrate. Therefore, the beneficiary of this ES delivery, in addition to the protected forest, would be environmentally-friendly visitors, who do not fear to be hosted in austere (at present Arbio premises are without electricity and internet) but functional accommodations. Additionality and conditionality would in this case be strictly related, since Arbio shall be able to attract tourists (i.e. to get paid for conservation) only if the area they propose to visit is actually integer and well-managed. As always, the prevention of leakages shall be crucial, to not draw the attention of potential visitors by shifting possible detrimental activities in other areas. Anyway, to foster a sound development of this kind of activity, a wider and deeper collaboration with tourism agencies is advisable, especially for international tourists. Another crucial issue regards the relationship with indigenous tribes. Visiting their villages, of course without the pretension of modifying their lifestyles nor exploiting their land, could be a plus for a real natural trip in world’s largest rainforest. This idea is already being put into practice by agencies such as Rainforest Expeditions since 1996. It has been possible also because some local communities wish to attract visitors

<sup>30</sup> <http://bbop.forest-trends.org/pages/guidelines> (last retrieved 03/11/2015).

<sup>31</sup> [www.iatp.org/files/Environmental\\_Benefits\\_IndexConservation\\_Reser.pdf](http://www.iatp.org/files/Environmental_Benefits_IndexConservation_Reser.pdf) (last retrieved 03/11/2015).

<sup>32</sup> A similar example: [www.ecoamazonia.com/en/lodge.html](http://www.ecoamazonia.com/en/lodge.html) (last retrieved 29/01/16).

as a way to defend their lands from the new infrastructures built in the region. For example, Rainforest Expeditions itself now hosts tourists in lodges managed by local people (which in return for their hospitality receive more than 60% of profits), but relationships with them are not always straightforward, since local dwellers usually tend to value time and serenity more than money. Despite these differences in mindset, this sort of ecotourism initiatives shows how revenues may be generated while benefiting at the same time both environment and indigenous tribes. Arbio should try to take advantage of it, since also in proximity of its concession some communities live.

At present, other potential ES do not seem to be eligible for a PES program managed by Arbio. Indeed, for example taking into account ‘watershed protection’, it would be difficult to demonstrate that operations carried out by Arbio, which borders a river only along one external side of its concession, actively contribute to prevent local environment deterioration.

Anyway, the following critical points may be identified when discussing the implementation of a PES scheme in Arbio concession:

- the dimension of the concession (1.642,1 ha). In spite of representing a significant area, this is even smaller than those commonly hosting the small-scale projects described in international guides and reports. This could potentially be solved with the acquisition of further land, to create a larger concession delivering an ‘appropriate amount’ of ES to be sold. However, interviewing Arbio staff on the main problems related to the enlargement of project areas, we have been answered that lack of funds is accountable for 65% of the problems, while the remaining 35% derives from lack of staff (or, better said, lack of specialized and reliable staff).
- the Peruvian concession system is, like, ‘written in stone’ and changes take place at an extremely slow rate in the bureaucratic system. Indeed a new Forestry Law has been already approved a couple of years ago but it still has to be totally implemented. Anyway, in general, from the point of view of Arbio, the legislative situation is not very critical: indeed, it has ensured so far a passable management of their area.
- The only stakeholders existing around Arbio base camp is the native community, the relationship with which requires a completely different mindset to approach. There are not relevant rural or urban communities nearby, if we do not consider people working in the other concessions and agricultural lands, while in 6 years in the area Arbio staff has never seen somebody of the government other than sporadic medical expeditions (but no inspectors). Some sort of scientific collaboration with academic scholars and researchers is possible, whereas agreements with governmental institutions other than the local universities, albeit possible, are better to be avoided (due to corruption and rent-seeking). Anyway, Arbio has a number of partners which are not governmental nor rural: these are some local organizations that work to reach a similar aim, i.e. preserving wildlife against the deterioration taken by IH (e.g. Camino Verde, Asociación Agricultura Ecológica, ACCA, etc.). Generally, given the similarity of purposes, if necessary it is possible to conclude agreements with this type of stakeholders.

## 6. CONCLUSIONS

This work aimed at presenting all the main features of PES schemes, describing their applicability and functioning, and discussing some relevant explanatory examples.

Indeed, the research stream studying the relationship between economic growth and environmental safeguard has already produced many reports and papers highlighting the critical situation of current natural resources usage. Over decades, many renowned economists and sociologists have been warning over the risk of an overexploitation of the environment to fuel economic production, but only minimal remedies have been taken. Consequently, not surprisingly, all the main indicators present worrisome data, as it seems now clear that humanity is excessively taking advantage of the natural world: at present, we would need more than one planet Earth to sustain world’s current rates of consumption and environment degradation. Likewise, the number of species getting extinct is dramatically increasing too.

In such a complex context, it is necessary to research and implement innovative tools, to lower the risk of possible extremely negative breakdowns in the future. Indeed, even though major events like COP conferences may pave the way for future binding agreements at an intergovernmental level, it is important to study other possible solutions as well, especially those related with small-scale projects. These in fact involve local communities more deeply, and do not risk to be driven almost exclusively by political considerations as government-financed initiatives usually are in developing countries. Attributing an economic value, a ‘price’ to the services we receive from the environment, albeit

complex, may help raising awareness over the topic, and trigger further investigations.

For this reason, research on PES and similar market-based instruments should be fostered. PES are likely to result successful and to increase in number all around the world given their peculiar features. In particular, what makes them so innovative is the fact that their contracts do not have to comply with many clauses set at international level, as it happens with REDD+ initiative to reduce emissions from forested areas, which prescribes a long number of requirements. Agents instead may continuously negotiate with each other and agree on a contract on the basis of specific local conditions and shared values. The examples of successful projects provided throughout this paper show how PES schemes may possibly be established in very different situations: in a developed country (France), in developing ones, either by public (Costa Rica) or private (Peru) agents. This does not mean that agents or communities are totally free in designing their projects: in fact, some basic criteria still must be complied with. Compensations thus must be paid only when the provision of one (or more than one) target ES is effectively guaranteed and ensured for a long period of time, and when such environment protection does not raise bad practices or exploitative actions elsewhere. Compensations may occur under different forms, according to local needs, but, in order to convince a ES supplier to enter the PES contract, they should always be higher than his opportunity costs related with other activities, as in any economic optimization problem. This is necessary for all the parties being fine when the PES agreement is actually put into practice: on the one side, ES suppliers are compensated for their good management, on the other side, ES beneficiary accept to pay for the safeguard of the natural resources they are interested in (or, often, dependent on).

We found it interesting discussing the new Arbio project in Peruvian rainforests, as its presentation included all the critical points characterizing every PES scheme design. In particular, the economic analysis of the possible ES provided by Arbio's concession, the considerations on local legal framework, the issue of indigenous tribes, etc. are usually faced by all project managers. It has been fascinating since Arbio's managers are genuinely concerned about environment protection, then strive for defining a possible 'sustainable business model' to be later adopted by similar initiatives in surrounding areas.

Finally, what should be clear is that PES contracts, albeit relevant and multifaceted, are not to be seen as the universal panacea for resolving all environmental critical issues: rather, they represent tools to be effectively combined with other public and private initiatives, in order to offer an integrated and complete buffer against exploitative actions. Indeed, future researches may focus on the relationships between PES and other tools for environmental protection and their combinations in different context: in such a way, it should be possible to figure out where and when applying certain policies rather than others, and to concretely contribute to the safeguard of our planet. Alternatively, as a possible hint for further studies, one may focus on a single ecosystem (e.g. forests) and try to seriously assess, both from a theoretical and an applied viewpoint, the ES provided by it, so as to possibly provide local policymakers with precise data and models to choose the appropriate environmental interventions and considerations.

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# THE WALKED CITY AND THE SOCIO-SPATIAL PLEXUS

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## ABSTRACT

A path is about more than access, or creating a trajectory. A path is constructed through space and time, allowing the walker to experience, and be part of the experienced city. In this sense this proposal aims to contribute to the comprehension of the intricacy of walking, as a way of accessing and building urban complexity.

This research looked at the city as a dynamic and continuous social production of space through the practice of walking. Two interconnected, overlapping scales are at play; the city produced by social walking practices and the experienced city; and the urban ambiance accessed, perceived and built by walking a path.

Grounded in Henri Lefebvre's theory of Space Production, the concept of a *social-spatial plexus* is used to incorporate the multi-dimensionality of walking into the interpretation and production of the city.

Three themes are explored: first of all the sensorial comprehension of the walking experience and the urban ambiance, and a strategy for an operational approach to the concept; secondly the walking and walker's perceptive attitudes; and thirdly the spatial and temporal dimension of walking and its meaning in the present socio-spatial context.

By outlining the principal arguments that pinpoint the notion of the walking practice as a socio-spatial producer, it is aimed to contribute to a theoretical discussion of the value of this practice to the essence of the city and initiate a discussion of its pragmatic importance on urban studies.

Keywords: City Path, Socio-Spatial Plexus, Social Space Production, Urban Ambiance.

JEL Classification: Z19.

## 1. INTRODUCTION

Walking is a plural concept composed by an extraordinary variety of acts, experiences and forms that adapt to the space that is traversed. The act of walking involves deciding a path, the holistic experience perceived and being part of the city accessed. Each act of walking is a continuous corporal fusion between the individual and the city.

De Certeau (1984: 97-98) proposed a preliminary definition of walking as a space of enunciation:

*The act of walking is to the urban system what the speech act is to language or to the statements uttered. At the most elementary level, it has a triple "enunciative" function:*

*- it is a process of appropriation of the topographical system on the part of the pedestrian (just as the speaker appropriates and takes on the language);*

*- it is a spatial acting-out of the place (just as the speech act is an acoustic acting-out of language);*

*- and it implies relations among differentiated positions, that is, among pragmatic "contracts" in the form of movements (...)*

Therefore this paper does not address walking as a shift in the city but rather as an action composed by the walker and the city medium. It is a continuous holistic experience, which extends over space and time and through which each person constructs a reality.

This paper aims to address the *use of walking* as a customary practice that is socially accepted and which coexists with other activities in public space. As a social practice it synthesises behaviours and collective body rhythms, referring to the physical movement of passers-by, individuals or groups and the reciprocity of its spatial coexistence (Frehse 2009: 153).

This paper also addresses the *act of walking* as the body moving and constantly interacting with the environment.

The ubiquity and the complexity of walking as a collective social practice, associated with its apparent lack of cohesion and apparent invisibility, in that it is not a material object, which can be studied, was the starting point and motivation for this research.

This study aims to highlight the value of the interpretation of the practice of walking as an active, continuous part of the socio-spatial production of the city's public realm.

## 1.1 Walking - a kaleidoscopic issue

Although the act of walking the city is universal, ubiquitous and a dominant form of collective use of the city, in academic research, it has been approached in a fragmented way. Until recently, in social science it has been addressed marginally, and its role as an essential practice of the city and its importance at a micro-social level, in terms reflexive relations with the city context, has been underestimated.

As an exception, the work of three North American architects/planners from the 1960's to the 1980's stands out: the seminal studies of Kevin Lynch on the perception of urban form, the approaches of Donald Appleyard, especially on urban perception and use of the street, and finally Michael Souttworth and his approach both to sound perception and to the design of space and the use of walking. With the same academic roots, these authors pioneered the study of the street as a sensorial perceived space.

In terms of planning, the pedestrian use of the city was (and often still is) discussed marginally, only getting some consideration when associated with the creation of pedestrian commercial streets. Again there are exceptions, especially Jan Gehl (1971, 2010) and the pioneering transformation of Copenhagen and the influence that this city, and the book *'Life between buildings'* (1971), had on other European and world cities. This author stressed the importance of walking to the material and social conditions of citizens.

In the social sciences throughout the 20<sup>th</sup> century the approach to territories for urban walking merges with the approach taken to the city as a whole. With regard to the use of urban public space, both scales are addressed in opposing ways: either as insecure spaces (Milgram 1970), or as collective spaces of interaction (Jacobs 1961; Goffman 1966 ; Lofland 1985, 1998).

In sociology the practice of walking was approached as a central object of study quite recently. Michael de Certeau's work (1984 [1980]) and the renewed interest by Georg Simmel and Walter Benjamin with narratives of emerging modernity awakened an interest in the theoretical terms of this theme. Modern planning, or rather the criticism of modern planning, combined with the technological evolution of society, contributed to the increase in scholarly attention on the subject of walking.

It is possible to identify six overlapping theoretical perspectives that address the practice of walking:

1. *Studies of mobility and urban planning*, often commissioned by municipalities dealing with a territory and the flows associated with it; approaches to sustainable mobility; and urban intermodal issues for example, the *Wallington Pedestrian Flow Report 2010 and Cardiff Centre Pedestrian Flow Survey 2011*.
2. *Public health studies and / or pedestrian safety*. There are significant studies on public health, physical activity and the quality of public space, such as the American program, Active Living by Design (<http://www.activelivingbydesign.org/>) and the Research of the *Center of Active Design (AAVV 2013)* associated with the urban planning department of New York.
3. *Projects about motorization and encouragement of pedestrian access*. It stands out as an example, the 2005 project *Pedestrian London - Enhancing The Beauty and Livability of London*, conducted by the Centre for Environmental Structure Europe and the Martin Centre, Cambridge University, coordinated by Christopher Alexander. Through a new understanding of the urban system, this study addresses the pedestrian system as the basis of urban vitality.

Another example is *Walk 21 - Walking Forward in the 21st Century*, a project designed to promote the development of sustainable and efficient communities through the option to walk – [www.walk21.com](http://www.walk21.com).

Finally, it is worth mentioning the project *Pedestrian Quality Needs* - [www.walkeurope.org](http://www.walkeurope.org), a European project involving twenty-five countries, including Portugal, and various organizations whose goal is to identify what people need to feel good and secure in their pedestrian mobility in public space. This project enhances the systemic approach, as opposed to the sectorial, seeking to relate the pedestrian needs with the structural and functional interventions and regulation of public policies to support pedestrian movements.

4. *Artistic explorations with an experimental and phenomenological character*. These approaches look at walking from a different perspective, attentive and critical towards the socio-spatial reality and / or existing policy. In this context the work of Francesco Careri (2002) and the group Stalker Osservatorio Nomade stands out <http://>

www.osservatorionomade.net/ and <http://www.stalkerlab.it>. Artistic approaches frequently identify with *Situationist* theory and the concepts of psychogeography, and also frequently with the reinterpretation of the figure of the flâneur.

Another noteworthy example in this context is the use of information technology for recording, communication or transmission of emotions (e.g. *dérivé* app: <http://7deriveapp.com/s/v2/about>).

5. *Proposals of urban ethnographic methodologies*. These approaches are mainly of an anthropological nature, concerned with access and the registration of meanings and memories of the walking practice (Eg Pauvnerová & Gibas 2014; Krase 2014; Carabelli 2014; Holgersson 2014; Ramsden 2014; Gatta & Palumbo 2014).
6. *Studies related to environmental psychology, cognitive science, and urban ambience*. In this kind of approach, walking is seen as a mode of accessing the city through our senses. In this context, it is worth highlighting the studies of Jean-Paul Thibault (2002, 2007, 2008) and Rachel Thomas (2005, 2008, 2010) associated with the *CRESSON - CNRS Grenoble, Multidisciplinary Research Center*, whose research focuses on the concept of urban ambience. Also noteworthy is the approach of Jack Nasar (1998, 2008).

Although this paper is related to all these different fields contributing to the cohesion of the subject of walking as an object of study, this particular analysis is rooted in the third and sixth aforementioned areas. As with the third group, this paper takes a systemic view of the city. As in the sixth group, the act of walking is seen here as a perceptual practice that influences and is influenced by the urban ambience experienced by the individual walker.

In this sense, and in order to understand walking as a constructive practice of the city, this paper focuses on a multidisciplinary theoretical approach, aiming to delimit concepts that clarify the understanding of this practice as a producer of social space. It proposes a reinterpretation and reorganization of dispersed sources and a systematization of the social, cultural and psychological issues of this practice.

## 2. THE SOCIO-SPATIAL PLEXUS OR THE CITY PRODUCED BY WALKING

According to De Certeau (1984: 97) following C. Alexander, the motion of walking creates spaces, linking one site to another without a trace, creating systems whose existence actually makes the city exist.

In the same direction, through appropriation of Lefebvre's concept of Space Production, we discuss walking as an essential practice in the production of the socio-spatial city.

To this end, it is considered important to first address the socio-spatial concept of the city. Lewis Mumford (1937), in his article 'What is a City?' states that, "The city in its complete sense, then, is a geographic plexus, an economic organization, an institutional process, a theatre of social action, and an aesthetic symbol of collective unity. The city fosters art and is art; the city creates".

The physical character of the city, its unity in terms of buildings and urban tissue, generates a relational symbolic reference between its inhabitants, facilitating the expression of collective social functions. The city as a stage can promote or undermine public social life and can stimulate or discourage the practice of walking.

Another important reference in this context is Lyn Lofland (1998), that 61 years later, argued that the city provides, on a permanent basis, an environment composed of people who do not know each other – a city that is composed by strangers. It is a decisive differentiator from other forms human occupation (Lofland 1998: xi).

From the perspective of the city, the practice of walking becomes as a shared socio-spatial practice, a producer of the city and of its public realm: a city of diversity, of confrontation of differences, multiculturalism, as advocated by Jane Jacobs in 1961 in *Death and Life of Great American Cities*.

### 2.1 The production of space

Lefebvre developed the concept of *Space Production*, a dialectical triadic notion, a three-dimensional picture of social reality characterized by space, time and society: space, rather than being a material reality, is interpreted as a social product. (Schmid 2012, Lefebvre 1991[1974]).

Production, according to Lefebvre, arises from the interconnection of the three processes: spatial practice, representations of space and representational spaces (2012 Schmid : Lefebvre 12 1991 [ 1974 ] : 33,38).

Therefore, in this paper these processes are used to understand the walked city as a product and a producer of social-space (Schmidt 2012 p: 12 Lefebvre 1991 [1974]: 33,38):

- *The Spatial Practice of Walking*– Meaning the material dimension of the activity and social interactions associated with it. It involves the production and reproduction of space related to the particular location and spatial

setting of each formation. It guarantees, from a level of competence and performance, continuity and some degree of cohesion within space and society.

- *Representations of the Walked Space* – Meaning the dimension of the conceived space, connecting perception and lived space; creating narrated space that is described, designed, mapped, photographed. It is a dimension associated with knowledge, signs and codes, which impact on spatial practice.
- *Representational Space* – The dimension concerning the meaning and the relationship established with the practiced space. Space is directly lived through images and symbols.

Following on from this, Lefebvre addresses three phenomenological realms: the perceived, the conceived and the lived - the space of experience. Through appropriation of these dimensions, the following concepts are considered important for understanding the walked city (Schmidt 2012 :14 Lefebvre 1991 [ 1974 ]):

- *Walked Perceived Space* meaning space that is apprehended in a multi sensorial way. This is an aspect closely related to the materiality of space - with the spatial surroundings and to inter-sensoriality.
- *Walked Conceived Space*, i.e. the rationalized space. Related, previously and after, to the perceived experience.
- *Walked Lived Space*, i.e. the subject's relation to the world. An aspect of which relates to the size of the corporality and affectivity.

In this way the city is considered an active dynamic entity, a reality that exists related to a time and space, both on an individual and social level. It is the actual city practiced and realized by movement and, in particular, by walking. It is the captivated and captivating city in the sense of the relationship made and remade over time; perceived, conceived, lived.

## 2.2 The concept of socio-spatial plexus

Each society produces its space, which is reproduced over time in a given mode (Lefebvre 1991 [ 1974 ] : 33).

The practice of walking is very rich and complex, especially because of the nature of the continued experience between the individual and the environment, and because of the access to detail and proximity. It generates different interpretations of the accessed city and different inferences about the rest of the city. In this sense each city is constituted by several individual cities, anchored in spaces that share cultural and social memories or meanings. It is the city sum of various individual realities.

Mumford (1937), in his definition of the city, uses the term *geographic plexus*, while space expression of the complex reality. The concept of *socio-spatial plexus* is proposed in this paper as a socio-spatial dimension of the city generated by the pedestrian movement; a complex network of continuous production, promoted and promoter of collective public life.

This concept arises first, as a social construction of the city that is practiced and second, as an individual construction of the city that is produced and is the producer of routines, memories and imaginary of each individual. It is the reality that occurs from the city acceded by each individual, by the urban ambience experienced and revaluated in the individual practice of the city.

That is, each individual has an individual construction of the city. The city of each person is the result of the knowledge they have of the city that is practiced, felt and inferred. Each town is walked according to the way it is perceived and interpreted. The lifestyle adopted or daily routes in connection to the workplace, for example, influence the image of the city generated by each individual.

The socio-spatial plexus, or the city generated by pedestrian movement, is an aggregated dynamic force that is part of defining what is a city, whose balance exists for a socio-cultural sharing of languages, meanings, memories and standards. It is a continuous and dynamic socio-spatial production.

## 3. THE WALKING EXPERIENCE AND THE URBAN AMBIANCE

### 3.1 The urban ambience concept

Walking is an individual practice that allows each individual a continuing urban experience through a multisensory kinetic experience. It is a continuous and reflective appreciation of the environment. In the same sense of Lefebvre's three phenomenological dimensions of the space of experience (Lefebvre 1991 [ 1974 ]), the concept of urban ambience addresses the same subject, but is now used as a research tool.

Providing an alternative view to other approaches to the urban environment, the concept of urban ambience aims

to be an axis of connection between sensory, spatial and social forms of research. Less related to the assessment of environment characteristics but focusing more on appraisal evaluations, it emphasizes the perception of activity of the subjects and the role of social practices in the sensitive ambience conceived, thus focusing on different emotional tones of urban life (Thibaud 2010).

There is a personal reading of a space that is centred on the sensory body of each individual. Although the surroundings are accessed through the senses, how each individual feels is influenced not only by their social and cultural context, but also by personal experiences and memories. Another important aspect is that the act of walking is a complete sensory experience, built not only in the moment, but also by multisensory comparisons, a continual reappraisal of the environment.

The profound changes in the experience of urban space, at the physical, social and cultural level, have stimulated the search for new approaches and new interpretations of space. Increasingly contemporary urban thinking is moving towards a sensitive ecology of everyday life, or an urban ecology of the senses (Thibaud 2010).

Yi-Fu Tuan (2007 [1977]) in his book *Space and Place* addresses how humans feel and think about space and how these feelings are affected by the sense of time. According to this author, the experience is a concept that covers a number of ways by which each person knows and constructs reality. These modes include, from the most direct and passive senses, such as smell, taste and touch, to visual perception and indirect way of symbolization? Composed by sensation, perception, conception (rational), the experience happens in space and time (Tuan, 2007(1977)).

In the same sense of Lefebvre's three dimension of the space experience: perceived-conceived-lived, the concept of urban ambience intends to explain the experience of the human being within a specific spatial form.

It is therefore considered that ambience is a continuous process of revaluation of the practiced and sensory character of perception. That is, the space time accumulated in sensorial terms, grounded on the continued holistic experience of the environment; experience that covers a number of ways by which each person knows and constructs reality (Tuan [1977] 2007: 8 , Thibaud 2007: 14-15, Thibaud 2010) .

### 3.2 The shared urban ambience

Therefore, it can be said that each environment is felt in a particular way for each individual. It is also undeniable that people will develop similar feelings about a space (Gifford 2007: 91). Although each individual creates his own image, there tends to be a substantial harmony between members of the same social group, producing a group of images, a ' public image ' (Lynch [1960 ] 1989 : 17). Although all humans are unique and do not share the same experiences or evaluative images, there are common factors and overlapping images of the city. The sharing of certain physical, physiological and cultural realities produce areas of consensus (Nasar 1998 p: 4). Similarly, the concept of the quality of the environment as a whole is a widely shared aspect (Rapoport (1990 [1982]:14)).

Although grounded in the individual experience, urban ambience is based on a social and cultural dimension, which covers every individual, and every experience.

If on the one hand the urban ambience is essentially a mental construct defined and evaluated individually, on the other hand, considering that the cognitive processes are also apprehended socially and culturally, urban ambience has a strong social dimension.

It is important to emphasise the role of perception and the perceptive attitude as central to an ambience oriented approach.

### 3.3 The walker's practice (s) and perceptive attitudes

The reason why someone walks will affect what aspects are highlighted or valued in a space.

Complex environments are perceived through different sensory modalities interconnected in a holistic, kinaesthetic relationship. Urban environments are complex; they have no boundaries, therefore demanding an active selective exploration, more than an attitude of passive exposure. Thus environmental perception is, much of the time, a perception with a purpose and so the relevance of the information obtained also needs to be assessed (Arthur & Passini 1992).

Therefore two types of walking practices, two kind of experience of perceived-conceived-lived space, will now be focused.

In this sense opposing perceptive attitudes are emphasized, resulting in different attitudes towards urban ambience and the realization of different city spaces; the *quotidian walking practice* and *walking per se*.

#### *The quotidian walking practice*

The use of walking in the city, for most people, is a form of transportation. It is a use that is repeated regularly, gaining its own character in the individual's relationship with the socio-spatial medium accessed.

That is, there is an *operational form of urban perception*: a perceptive attitude with a functional nature that is focused

on the functional connection between the point of departure and the destination, and the contours or elimination of obstacles to that end; and on the other hand there is an *abstraction of a cognitive awareness* enabled by repetition and routine (Appleyard 1973; Seamon 1979).

On the daily walk, what dominates perception is the *abstraction* of the environment and the 'body memory'. On the active repeated walk the use of space, the movement and the environment are incorporated; repeatedly walking the same route generates memory, the habit creates relationships that are deepened by the overlapping experiences of the walker and the space.

David Seamon (1979:38), leaning towards the habits and the nearly or completely involuntary behaviours that influence the automated choice of a route, uses the term *body-subject* (a term borrowed from Merleau-Ponty) as the "*inherent ability of the body to direct behaviours of the person intelligently, and thus function a special kind of subject which expresses itself in a pre-conscious way usually described by such words as 'automatic', 'habitual', 'involuntary and'mechanical'*".

According to the author the *body-subject* learns through action; the movement becomes familiar when the body performs the route several times and incorporates the action into its pre-reflective understanding of the environment. The individual is released from their stable, predictable environment, activating cognitive consciousness only if encounter difference from the expected ( Seamon (1979 : 48 ), There is a stability, a reliable connection with the environment, which allows a state of *obliviousness* (Seamon, 1979, pp. 103-105).

The author proposes the concept of *Place ballet* as a reality based on the individual's routines that meet in time and space, as an organization of expectations, rooted in a continuous and stable familiarity (Seamon (1979 : 56).

### *The walking per se*

The practice of walking, walking *per se*, is a way to walk, explore and interpret the city. It does not fit the rigid methodical distribution of the everyday use of time. This kind of walker is free to walk the city, exposing them selves to serendipity (Nuvolati 2014: 23-24).

Time consumption without fixed schedules, stimulates the attitude to observe and decode. One who strolls observes the city and is more or less aware of the process. One thinks, criticizes, compares, recreates new concepts, new categories ( Nuvolati 2014: 23-24).

In terms of perceptive attitude, the saunter, considering Donald Appleyard's (1973:109) categories, is a mainly *responsive perception*; open to different stimulus, active in observing and retaining images. One's perception is also largely *inferential* and probabilistic in nature, meaning it is based on the categories that each individual has of the medium and the way they match against general expectations. In this sense, perception focuses on socio-functional significance merging with cognitive processes.

Within the practice of walking *per se* the visitor takes centre stage. The visitor looks at the city partly as a spectacle, whilst also being sensitive to the space. Fleeing from their everyday experience, the visitor looks at the environment from a distance, looking from the outside, fascinated with discerning differences and with the discovery of figures and behaviours.

With a view from the 'outside', the visitor judges by appearances. They interpret the city accessed from their experience, which is predominantly visual, evaluating their surroundings according to their aesthetic canons (Tuan 1990 [ 1974 ] : 64 ). The visitor has a 'fresh' view, they are able to detect merits and defects that are not visible to the resident as they are not deeply involved or used to the environment ( Tuan 1990 [ 1974 ] : 64 ).

## **3.4 The operationalization of the walked urban ambiance concept**

Three main aspects are explored in order to operationalize the concept of the walked urban ambiance:

### *1 Definition of the activity and the type of perception expected*

The Activity components or the details of the activity (the proper way of doing it, associated activities and meaning), are determinant factors when sharing the perceived attributes and meanings associated to them (Rapoport (1990 (1982)). Each activity although multi-modal tends to be dominated by a type of urban perception; responsive, operational and inferential (Appleyard (1973).

### *2 Set of evaluative answers relevant to the interpretation of the ambiance*

On theoretical grounds drawn largely from Jack Nasar studies (and the review of his theoretical grounding - Lynch, Rapoport, Kaplan, Russel) a set of evaluative questions relevant to the ambiance description have been constructed.

Comprising three main aspects: Likable Features; Connotative and Inference Appraisals; and Affective- emotional Appraisals.

- a) Likable Features (perceptual cognitive judgments) (Nasar 1998): Naturalness (Trees, Natural elements), Upkeep (Cleanness, Graffiti and vandalism, Conservation), Openness (Vistas, Building, Density/Spaciousness), Complexity (Order & coherence, Legible, Mystery, Complex), Historic significance (Authentic historic, Unique /Rare) .
- b) Other Likable features not related to visual sensorial perception (Soundscape: Mechanical sounds, Natural sounds, Human sounds) Smell: Good, Bad.
- c) Connotative Appraisals and Inferences, for example: Perceived Status, Perceived Tolerance, Perceived Safety, Perceived Happiness, Perceived Friendliness, Perceived Territoriality
- d) Affective and Emotional Appraisals: Pleasantness (Attractive/appealing, Beautiful, Pleasant/Inviting), Excitement (Lively, Interesting) Relaxation (Calming, Refreshing)

### 3 *Analysing data*

Analysing data and the experience in the socio-spatial context and in the framework of the activity socio-cultural meaning.

The method proposed intends to allow the subjective experience of each individual perception to be crystalized in a rational and sharable description. Only then can different individual experiences contribute fairly to the understanding of a collective ambience and the social production of space in a specific reality.

## 4. THE PRACTICE OF WALKING AND CONTEMPORARY SOCIETY

Although the social production of space, more than a universal form, is a socially produced reality in the context of a particular society, this paper will focus on the European contemporary city to highlight a new perspective about the practice of walking and how it is related to new attitudes toward the city.

In this context is important to understand why walking and the production of space are considered a potentially central issue in contemporary society and urban studies.

### 4.1 Time and space - the production of abstract space and the automobile paradigm

The transformations of the city, with a special emphasis on spatial and technological changes throughout the twentieth century, inflicted changes in walking practices, causing it to contract or expand, which affected the experience and the use of urban territories. The modes of mobility were and are one of the key factors in the organization of the city.

It is undeniable that the evolution of society has been accompanied by the increased access to comfort and the related ability to control ones surrounding conditions. In this context, the act of walking as an obligatory daily practice tends to be reduced to the minimum. Technology has evolved to decrease travel time generating space contraction.

Time and space are basic categories of human existence. Changing the domination of space over time, is a determining factor in the change of spaces of social practice and therefore the production of it (Harvey (1995 [1990] : 202).

The specificity of mobility generated by the automobile became an unprecedented agent of change, not only in terms of time and space but also in terms of the ways of being in contemporary society. The automobile promotes, in a unique way, individualization through differentiation and autonomy. The flexibility of mobility, or the individual's ability to be mobile, influenced not only choices about where to work and live but most importantly the sociability of individuals, particularly at the scale of the family, the community and spaces for leisure (Sheller & Urry 2004 [2000]: 207).

The automobile enables one to move rapidly from door to door, allowing an individual to cross the environment with minimal contact: continuous trips from home-work-home can happen without spending any time at stations or making unnecessary stops, giving a higher perception of security (Sheller & Urry2004 [2000 ]: 209). The car starts to dominate the spatial and temporal organization of society. Although it generates new norms and rules shared among strangers, it limits face-to-face interaction and does not benefit from the living standards associated with pedestrian use.

This perspective was argued in 1974, by Lefebvre ( (1991 [ 1974 ] : 56-57). The author, reflecting on the production of space, posited that the production of social space tends to valorise spaces of images, to the detriment of appropriated spaces that are achieved through practice. Time is seen as a constraint, as distance and the apprehension of the meanings of the traversed space, is carried out passively without time to develop affect, or attachment. With no time and with no practice, the space is not lived-perceived-conceived, and tends to become an abstract space, neutral and dominated by functional efficiency.

## 4.2 Walking practice and the production of city space

The present society, due to new forms of communication and production, is evolving towards a revitalization of the traditional city. New technologies associated with new socio-economic and labour contacts, allow - or induce - a new attitude towards the use of the territory, that generate new individual and family strategies towards the central city.

Thus, coexisting with the elimination of the usefulness of the meeting place, there is a renewed interest in physical contact and tactile experience: the direct experience of urban life, now associated with leisure, trade and the cultural use of the traditional city.

The return to the multifunctional and multi-social street tends to become useful and functional and also an increasingly valued option in labour and housing terms. Optionally walking is for many people playing an important role in everyday life once again. That is, the status of walking is changing and gaining relevance as a way of urban life.

The practice of walking, more than being an obligation, is seen as something that restores the multi-sensorial relationship with the environment and brings to the individual the feeling of their existence. It is an active form of meditation and sensory fullness (Le Breton 2012).

In contemporary European society, mainly in the inner city, walking became a reactionary practice in response to the abstraction of space in modern life. Walking became a practice that allows the spatial and temporal experience of a lived-perceived-conceived city.

City walking can be seen as a reactive force contrary to the segregated city that is socially and culturally hyper-specialized (Lopes (2007: 72). In the same sense, quoting Frederica Gatta and Maria Anita Palumbo (2014 : 262) “*Walking, as physical exploration and as a ritualise practice, defies the formatted and dematerialized idea of the post-modern city and, is at the same time the symptom of a need for the citizen to regain power on the city, in a context of loss of direct action on his own space of life*”.

That is, the walking practice is gaining importance as a product and as a producer of the essence of the city.

## 5. FINAL REFLEXIONS

This theme, the socio-spatial practice of walking in the city, although omnipresent and timeless, is apparently something diluted, formless and interstitial that exists at an individual level and in a social way. Although it is at the core of the concept of the city, it is still something that is difficult to circumscribe, both in physical terms and in social terms.

The purpose of this study originates from the necessity to understand the processes that generate and are generated by walking. Social and individual processes and different scales contribute to the formation of the city as a social product – the socio-spatial plexus – which forms the essence of the city’s Public Realm.

This concept is grounded in a reinterpretation of Henri Lefebvre’s theory of Social Space Production, which cuts across different perspectives, essentially environmental psychology and sociology.

This study was concerned with the approach to two opposite but interconnected scales: the experience of the city by the act of walking and the meaning of walking in the concretization of social-space in the contemporary city.

The act of walking was approached as a holistic reflexive experience of the city accessed, reflected in the urban ambiance realized. In this sense, walking is a key practice in the production of space in the city.

On the one hand there is an individual experience, a phenomenological subjective reality, on the other there is a built and shared urban ambiance. The act of walking, rather than being just an individual experience of the physical and social urban environment, is also a collective social experience. This paper outlines a strategy to link the theoretical concepts to a pragmatic approach to the diagnosis of cities.

Stressing the different perceptive attitudes related to different walking practices, walking is portrayed as a relational and situational practice, generating different ambiance experiences and different realities perceived in the same territory.

Finally, in relation to the contemporary context, the purpose of this paper was to contribute to a new angle in understanding the city and to initiate a potential new perspective in the diagnosis and intervention of urban territories, addressing walking as more than a practice of healthy and sustainable mobility, but as in essence a producer of the city’s social space.

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# O LUGAR PÚBLICO NA CIDADE CONTEMPORÂNEA.<sup>33</sup>

## O CASO PARTICULAR DO JARDIM DA ESTRELA

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### ABSTRACT

Pretende-se com este estudo contribuir para a compreensão do espaço público na cidade contemporânea, enquanto entidade com capacidade de edificar e reforçar relações entre grupos sociais.

Equacionou-se esta problemática à luz da cidade contemporânea, procurando compreender as novas características do espaço de uso público e o modo como este tem evoluído na sociedade contemporânea.

Há locais onde a relação das pessoas e o espaço público é mais profunda do que as meras relações funcionais, onde mais do que uma entidade física, o espaço é Lugar, concentrando em si as relações com significado, que o indivíduo, ou o grupo social estabelece com o espaço físico. Quando nestes espaços públicos existe coexistência e interacção social, surge o Lugar Público.

Por fim, é feito um estudo do Jardim da Estrela (jardim Guerra Junqueiro) enquanto Lugar Público potencial, integrado na sua envolvente.

Com base nos resultados conclui-se que o Jardim da Estrela é um Lugar Público, ou seja, é um espaço público apropriado por diferentes grupos sociais que aí coexistem. É um espaço de partilha de experiências, entre pessoas de passados distintos, pertencentes a redes sociais diversas.

Palavras-chave: Cidade Contemporânea, Espaço Público, Coexistência Socio Espacial, Lugar, Lugar Público.

JEL Classification: Z13.

## 1. INTRODUÇÃO

Este artigo pretende contribuir para a compreensão do espaço público na cidade contemporânea enquanto entidade com uma dimensão social, capaz de edificar e reforçar relações entre grupos sociais.

Ou seja considerou-se que há locais onde a relação das pessoas e o espaço é mais profunda do que as meras relações funcionais, onde mais do que uma entidade física, o espaço é lugar, concentrando em si as relações que o indivíduo, ou grupo social estabelecem com o espaço físico.

Este estudo inicia-se por uma abordagem ao espaço público e ao espaço de uso público na cidade contemporânea, destacando-se o universo de espaços de uso público disponíveis na cidade dos nossos dias e as tendências estruturantes da sua produção e uso. É destacada a especificidade do espaço público jardim.

É proposto o conceito de Lugar Público enquanto espaço público apropriado, espaço lugar, com coexistência e interacção social. Como componente essencial ao Lugar Público explora-se, através de uma abordagem multidisciplinar o significado de lugar.

Como estudo de caso analisa-se o Jardim da Estrela (Jardim Guerra Junqueiro), reflectindo o reconhecimento do seu carácter específico como espaço público, integrado no tecido urbano envolvente e na cidade de Lisboa.

Baseada no trabalho teórico, estuda-se este espaço de um modo sistémico fazendo-se uma caracterização do seu enquadramento. Assim, aborda-se a realidade local, analisando-se as características históricas e culturais do tecido urbano e as características socio-económicas da população.

Posteriormente o estudo focaliza-se no jardim e na sua população utilizadora. Quem utiliza o espaço? Quando? Como? Que coexistências e interacções sociais são perceptíveis?

Finalmente, sintetizam-se os dados, com o intuito de responder à pergunta de partida: Será que o Jardim da Estrela é um Lugar Público?

<sup>33</sup> Este artigo é uma síntese e apresentação parcial da tese de mestrado: O Lugar Público na Cidade Contemporânea. O caso particular do jardim da Estrela. Dissertação do Mestrado de Ecologia Humana. Abril de 2008

## 2. O ESPAÇO PÚBLICO E O ESPAÇO DE USO PÚBLICO

Se num sentido estrito e simplificado espaço público, é todo aquele que é exterior, pertence ao domínio público, e é concebido para ser usufruído por toda a população, ou seja de uso livre. Num sentido lato considera-se espaço público como espaço de uso público, ou seja, todo o espaço que pode ser usufruído pela população, ou sujeito a um uso colectivo, seja exterior ou interior, público ou privado.

Actualmente, as relações de propriedade, tanto em espaço exterior como interior, são mais complexas: existem espaços privados de uso público (jardins de fundações, feiras de diversões, centros comerciais, condomínios privados com espaços exterior de acesso público) e espaços públicos, de uso condicionado e por vezes pago, por exemplo quando afectos a uma instituição (universidade, hospital, aeroporto). Temos igualmente equipamentos como espaços desportivos, parques infantis ou jardins, públicos ou privados, de uso livre, condicionado ou restrito a determinada população, geridos por particulares, pelas Juntas de Freguesia ou pelas Câmaras Municipais.

A dimensão pública da vida urbana dispersou-se é frequentemente dominada pelos espaços de uso público, que se interligam constituindo um corpo orgânico de fluxos e confluências, formado por espaços variados, em dimensão, forma e uso.

Segundo Hajer e Reijndorp (2001), pode-se falar actualmente num consumo selectivo de espaços, ou seja, tirando partido da mobilidade e da grande diversidade de escolhas, o indivíduo pode determinar que espaços pretende usufruir em detrimento de outros. É de referir que, em termos sociais, esta transformação enfatiza as situações de isolamento entre as pessoas com menor mobilidade, quer por problemas financeiros quer por problemas físicos.

Como resultado, alguns espaços dentro do tecido urbano tendem a ficar vazios de vida, e o sistema de espaços públicos a ficar com espaços ociosos. Ou seja, o sistema tornou-se muito heterogéneo em termos de distribuição de população e passou a ter pontos preferenciais de confluência, muitas vezes nos denominados espaços de uso público.

Este facto é especialmente evidenciado em alguns espaços tradicionais no centro das cidades, como por exemplo em zonas outrora residenciais, e posteriormente sujeitas a uma terciarização. Nestas zonas, as ruas, as praças e os pequenos jardins, encontram-se ao anoitecer e ao fim de semana, quase desertos.

Por outro lado, nas zonas suburbanas onde o edificado se desenvolveu sem nenhum planeamento eficaz, os espaços públicos surgem frequentemente como um conjunto não articulado de espaços sobranceiros, com pouca capacidade de atracção.

O pessimismo que ensombra o espaço público é gerado pelas dicotomias artificiais: centro da cidade/periferia e espaço público/espaço de uso público. Se olharmos a cidade e a periferia como um todo descobrimos um conjunto de inúmeros espaços públicos e espaços de uso público, que competem e simultaneamente se complementam, onde se pode encontrar diferentes modos de usar e viver o espaço.

A percepção desta realidade e o aprofundamento das capacidades do seu funcionamento como um sistema permite um melhor planeamento e gestão dos espaços, públicos e de uso público existentes.

## 3. A SOCIEDADE CONTEMPORÂNEA E AS TENDÊNCIAS ESTRUTURANTES DOMINANTES NO ESPAÇO DE USO PÚBLICO CONTEMPORÂNEO

Marteen Hajer e Arnold Reijndorp (2001) consideram que as três grandes tendências que actualmente estruturam o espaço de uso público; são o funcionalismo, a estetização e uso não inclusivo (*parochialization*).

### 3.1 O funcionalismo

Como resposta à mobilidade existente e à rivalidade gerada entre espaços, desde há muito surgiu uma tendência para os espaços de uso público estarem essencialmente dominados por uma função programada, atraindo uma grande diversidade populacional. O comportamento é programado pelo funcionamento, e conjuntamente com o desenho e a gestão do espaço permite um uso colectivo, por vezes de grande densidade, de diversos grupos, com uma diminuta probabilidade de conflito e confronto entre utentes.

O desenho e a gestão do espaço público têm actualmente como um dos objectivos principais atenuar potenciais conflitos. A ludificação de rua é utilizada como estratégia para tornar o espaço público atraente para um público diverso, que ao optar entrar na função promovida, comporta-se segundo as regras. As vantagens da funcionalização ou mesmo tematização de grandes espaços são óbvias e adaptam-se à sociedade moderna, em que para muitos o tempo é um bem escasso, e usufruir um espaço sem uma missão clara não é concebível.

A questão que se coloca é se as pessoas se relacionam, se existe interacção com os outros neste tipo de ambiente. O facto de haver a segurança por vezes promove contactos fortuitos, mas o facto de ser um espaço de anonimato onde há pouca probabilidade de reencontro, gera trocas pouco significativas em termos de relações entre diferentes grupos sociais.

### 3.2 Uso não inclusivo

As pessoas cada vez mais criam e geram a sua própria cidade, montando-a a partir dos espaços urbanos e infra-estruturas disponíveis no território, frequentando os eventos, festivais, escolas e lojas que de acordo com a sua identidade, evitando outros locais. Ou seja, diferentes grupos na sociedade seguem diferentes caminhos através do tempo e do espaço. O aumento do número e diversidade de espaços disponíveis, acessíveis por uma grande mobilidade, associado a mudanças nas estruturas familiares, e a uma sociedade cada vez mais polarizada em termos económicos, gera para muitos uma sensação de insegurança. A mudança na vivência do território está a ser muito rápida. A incerteza e a instabilidade geram medo e a sensação de vulnerabilidade (Snyder 2000).

A tendência para uso não inclusivo do espaço público, ou seja, a apropriação por determinado grupo, determinada tribo urbana em exclusivo, é visto por alguns autores como a razão mais importante para o declínio, ou mesmo o fim, do espaço público como espaço de encontro e partilha, entre diferentes grupos.

Segundo Francesco Indovina (2001), a percepção de se estar menos seguro não deriva do aumento do número de actos mas sim do facto da questão da falta de segurança ser um assunto recorrente no debate político e cultural sobre a cidade, fazendo aumentar a sua percepção subjectiva. Segundo este autor a falta de segurança, como situação colectiva, é uma construção social que espelha a situação de desconforto de uma parte da população devido a políticas económicas liberais. A intolerância perante as diferenças culturais e económicas, geram incompatibilidades que diminuem a coexistência entre diferentes grupos sociais.

Um exemplo de resposta, muito actual, é a proliferação de condomínios privados. Estes permitem um uso do espaço exterior, normalmente verde, por uma população limitada, economicamente homogénea, seleccionada. Os pais sentem segurança para deixarem as crianças e jovens usarem o espaço exterior, sem o perigo de encontros indesejáveis e normalmente sem o perigo do trânsito.

Com a difusão deste tipo de segmentação, surgem custos sociais para os que ficam do lado de fora; reduz o número de espaço público partilhado, espaços de encontro (Snyder 2000).

Neste contexto é de destacar duas forças proeminentes na produção e vivência do espaço; a necessidade de evitar confronto, ou seja o medo de vivências negativas, e o crescente consumo de experiências culturais.

Outro factor a salientar gerador de espaços de uso não inclusivo é quando, no âmbito de algumas políticas de urbanização, são criados pequenos espaços com o intuito de promover uso do espaço exterior e as relações de vizinhança em novos núcleos habitacionais. Estes espaços surgem frequentemente entre o edificado, dentro do quarteirão, separados da via pública no sentido de serem mais intimistas ou mais seguros para as crianças. Segundo Brandão Alves (2003) é esta filosofia do “enclave”, um dos problemas fundamentais mais perceptíveis no desenho urbano; numa tentativa de recrear o sentido de urbanidade geram-se espaços enclausurados. Os espaços de estadia e convívio, sobretudo os de pequena dimensão, ao serem apropriados por um grupo são implicitamente ou explicitamente menos tolerantes ao uso deste mesmo espaço por outros, sobretudo por pessoas de um grupo social diferente.

A dispersão dos diferentes espaços, como o parque infantil, o campo de jogos, um espaço com mesas, ou o espaço verde, limitam contactos entre diferentes faixas etárias, proporcionam associada à privacidade e ao sossego, isolamento e insegurança.

Por vezes verifica-se em bairros sociais com menor poder económico e em que a mobilidade é mais reduzida, que os espaços exteriores próximos tendem a ser mais utilizados. Existem situações de espaços territorializados, por vezes por grupos não permissivos.

Nesta realidade de espaço público enquanto colecção de espaços que são apropriados por grupos específicos, cultural e politicamente, dificilmente ocorre uma coexistência entre diferentes grupos, e uma apropriação partilhada.

### 3.3 Estetização

A par de um interesse renovado pelo espaço público sobretudo a partir do início dos anos 80, intensifica-se a atenção às características estéticas do espaço. O design tornou-se a solução mágica para uma série de problemas; desde a melhoria da imagem da cidade até à resposta a diversas faltas de vivência pública em certas zonas da cidade (Hajer e Reijndorp 2001).

O fenómeno do design desenvolveu-se, de um modo genérico, em torno de objectivos estéticos, sem se prender a conteúdos éticos ou a significados existentes. Assim, frequentemente o design remove signos e significados de um espaço particular, em vez de ter um papel activo na dinamização de novos sentidos, na reinterpretação dos sentidos existentes.

A relação com a história que se vive nas nossas vilas e nas nossas cidades corre o risco de uma estetização que conduza a uma artificialização, com perdas ao nível da vivência social do espaço, do habitante. A intervenção na cidade não deve ser sinónimo de estetização; pelo contrário deverá ser fruto de uma política coordenada para o desenvolvimento.

## **4. O ESPAÇO PÚBLICO EXTERIOR NA CIDADE CONTEMPORÂNEA – AS ESPECIFICIDADES DO JARDIM PÚBLICO**

Num quotidiano invadido por ambientes funcionais, seguros e limpos, será que ainda faz sentido associar os principais espaços de utilização pública à rua, à praça ou ao jardim?

As tipologias tradicionais e a linguagem a elas associada permitiam uma leitura clara da cidade. Por exemplo, tradicionalmente as praças distinguiram-se da rua não só pela forma mas pelos significados e usos a elas associados. Nas décadas recentes, a sociedade urbana mudou radicalmente; não apenas socialmente mas também no que diz respeito ao sentido do espaço.

Por inúmeras razões, a relação entre formas e significados tem-se vindo a perder. Uma delas é o facto de a tipologia de leitura clara se ter diluído com a cidade moderna. Outra é a diluição de fronteiras, a nível de espaço exterior, entre espaço público e espaço de uso público.

Apesar de tudo, considera-se que o espaço público no território urbano é um espaço com uma potencial dimensão social única, para muitos o único local onde a essência da vivência urbana pode ser atingida, favorecendo a emergência da urbanidade.

Devido à grande diversidade morfo-tipológica do espaço verde na cidade, e pelas diferentes origens do mesmo dentro da cultura ocidental, a definição de jardim público integra-se num conjunto mais lato que são os espaços verdes urbanos.

Os espaços verdes urbanos incluem desde o parque urbano, com uma forte expressão em termos de área, às zonas intersticiais verdes, com ou sem, equipamento ou mobiliário urbano.

Segundo o Dicionário da Língua Portuguesa Contemporânea (2001) o jardim público é um terreno situado num local público geralmente fechado por muros ou grades, onde se cultivam árvores, arbustos, flores e plantas ornamentais. Segundo o mesmo dicionário o conceito de parque público é “jardim público arborizado”.

Acrescenta-se ainda que o Jardim público é um espaço de dimensão variável cuja matéria e revestimento principal é o material vegetal sendo concebido para um uso mais intenso nas áreas pavimentadas. Está normalmente associado ao espaço próximo do edificado.

Dentro dos diversos espaços públicos, o jardim público é um dos espaços onde é mais socialmente aceitável estar. Estar sem intuito de consumir bens, estar sem objectivos funcionais claros.

No estudo “Condição social, Ambiente urbano e qualidade de vida na Metrópole de Lisboa” (Ferreira e Castro, 2000), os jardins, as praças e largos destacam-se como os locais que os inquiridos deste estudo privilegiam como locais de encontro. Os jardins e os parques são evidenciados como os locais preferenciais de passeio, sendo-lhes associado o prazer estético e o factor permanência. Os autores concluem também que o jardim é o lugar mais frequentemente privilegiado pelos inquiridos para desempenharem qualquer uma das funções atribuídas ao espaço público, localizado de preferência na envolvente do local de residência.

Com a evolução da cidade e da sociedade no séc. XX, com diversos tipos de abordagem ao planeamento, ou por ausência dele, o jardim público ficou frequentemente reduzido a zonas verdes, quantificadas por metro quadrado e até em número de árvores em tempo de eleições. Frequentemente é no espaço sobrando do construído, que surgem estas pequenas zonas verdes, equipadas com uns bancos e umas mesas, ou por pequenos parques infantis.

Estes espaços surgem como resposta a índices de construção impostos, ou a partir da obrigatoriedade das zonas verdes e de espaço cedido para equipamento. Da dispersão, do acaso raramente surge espaço público convidativo ao uso, à estadia, à coexistência.

A desagregação funcional do jardim público, e a ausência de utilizadores daí resultante origina fenómenos de insegurança, reforçando a tendência de abandono do espaço.

O jardim público na cidade contemporânea é um espaço com uma potencial dimensão social única. Segundo Ward Thomson (2002) este é um dos espaços na sociedade moderna onde a possibilidade de interagir com estranhos é maior.

## **5. O LUGAR PÚBLICO**

Dentro do universo de espaços públicos exteriores, pretende-se neste capítulo abordar aqueles que concentram em si relações com significado entre diferentes grupos sociais, e entre estes e o espaço. É proposto o conceito de Lugar Público.

A compreensão do conceito de lugar e o entendimento dos modos como se processa o comportamento no espaço público são essenciais à compreensão do conceito de Lugar Público.

## 5.1 O Lugar

O espaço público surge configurado na cidade não só pelas suas características físicas mas também pela dimensão sócio-espacial. A relação com significado que o indivíduo, ou grupo social, estabelece com o espaço físico, confere “alma” ao espaço, transforma-o num lugar. Em que consiste o conceito de lugar?

As abordagens teóricas do conceito de lugar são extremamente diversificadas. Segundo Williams e Vaske (2003), a Sociologia, por exemplo enfatiza como os significados simbólicos de um local influenciam o contexto social das interações humanas. A Antropologia procura o significado do lugar no dia-a-dia. A Geografia Humana tem explorado o ‘sentido de Lugar’ muito semelhante ao conceito de ‘vinculação ao Lugar’ desenvolvido pela psicologia ambiental.

Dependendo da disciplina ou subdisciplina, «o lugar» é visto como essencialmente físico, social, cognitivo, comportamental, cultural, temporal e/ou espiritual.

Para diversos autores como Rogério Proença Leite (2002) ou Vitor Matias Ferreira (2004) o conceito de espaço público (ou espaço público da cidade) aproxima-se do conceito de lugar, distinguindo-se dos demais, considerado espaço urbano ou espaço público urbano.

Às vantagens da multidisciplinaridade do conceito, alia-se o reverso, ou seja a desvantagem de apresentar diferentes significados enfraquecendo a sua definição operacional, e tornando-o por vezes um conceito enganador (Speller 2005).

No intuito de criar uma definição global e coerente do conceito de lugar, Gustafson, estudou diversas investigações teóricas e práticas com diferentes perspectivas de lugar. Assim identificou três grandes factores; o eu, os outros e o ambiente, como essenciais para entender os diferentes significados de lugar (Gustafson (2001) in Ponzetti 2004).

## 5.2 Lugar e significado

O utilizador, e a sua relação com o espaço, concentra em si o cerne do que é o lugar. Os comportamentos interpessoais na relação bilateral com um espaço, constituem os processos sociais de compreensão do espaço. Deste modo, quando estabelecidas ligações afectivas entre pessoas e espaços, estes passam a ter um significado.

Desta relação bilateral indivíduo/grupo social e ambiente físico surge o lugar. O uso e a compreensão de um meio físico reproduzem a expressão de um contexto histórico e cultural, representando a própria identidade do espaço.

No sentido individual o significado associa-se normalmente a uma ligação afectiva e a um propósito funcional do espaço. Embora a um nível micro, cada indivíduo cria o seu lugar e actua no lugar assim produzido.

No sentido de grupo, este objectiva o próprio espaço, dando-lhe um significado especial através das características próprias do grupo: consciência comum do grupo social, regras de comportamento e possibilidade de interacção. A consciência comum do grupo social consiste na memória histórica, tradição, ideologia, cuja imagem física ou exterior representam as regras de comportamento que conjugam valores comuns, desenvolvimento tecnológico e económico, leis e modos de coexistência em grupo. O grupo social e os seus elementos dão sentido ao espaço, convertem-no em lugar (Muntanõla et al 2001).

Cada espaço, ao longo do tempo ganha novas relações, novas funções, em determinado contexto histórico, sócio-cultural, transformando-se em novos lugares, acumulando em memória colectiva e individual os antigos lugares.

As características dos grupos sociais são evolutivas, ou seja, contêm uma componente temporal. Sendo o lugar a expressão física, sinal e imagem do grupo social, o significado deste modifica-se, levando à necessidade do espaço se transformar (Muntanõla et al 2001).

O significado que alguns lugares particulares têm para aqueles que aí habitam, lugares familiares, é importante para entender as suas escolhas e vontades das pessoas. Estes locais adquirem frequentemente um significado emocional muito especial. A interacção quotidiana que ocorre neste cenário cria uma vinculação ao lugar (Ponzetti 2004).

## 5.3 O Lugar antropológico

É dentro do psicologia que o conceito de lugar mais se desenvolve vindo posteriormente a despertar o interesse por parte da sociologia e antropologia para esta temática.

Marc Augé propõem dois conceitos opostos, complementares, e que simultaneamente se interpenetram; o lugar antropológico e o não-lugar. O conceito de lugar antropológico surge em função da existência de significado do território para a sociedade que o usufrui. Em oposição, o conceito de não-lugar surge da ausência de significado.

O lugar antropológico é uma construção concreta e simbólica do espaço; é simultaneamente princípio de sentido para os que o habitam e princípio de inteligibilidade para aquele que o observa (Augé 2005), ‘é a ideia materializada que aqueles que o habitam fazem da sua relação com o território, com os que lhe são próximos e com os outros’ (Augé, 2005:49).

O lugar antropológico está associado a memórias, mitos e acontecimentos. A escala do lugar antropológico é variável, mas existem pelo menos três caracteres comuns: Serem identitários, relacionais e históricos (Augé 2005).

O lugar é identitário no sentido em que o local de nascimento ou/e crescimento é constitutivo da identidade

individual. O lugar relacional no sentido em é a situação do indivíduo numa configuração de conjunto e de partilha de identidade conferida pela ocupação de um lugar-comum (Augé 2005).

#### 5.4 O conceito de Lugar Público

O conceito de Lugar Público proposto surge da intercepção de três conceitos:

- O conceito político e administrativo de ‘espaço público exterior’.
- O conceito de ‘Lugar’ como resultado da relação de um grupo social, e dos seus elementos com o espaço. O grupo objectiva o próprio espaço, dando-lhe significado especial através das características do próprio grupo, apropriando-se do espaço, vinculando-se ao espaço. Simultaneamente lugar antropológico, identitário, relacional e histórico (no sentido que possui estabilidade na conjugação do identitário e relacional).
- ‘Public Domain’ definido por Hajer e Reijndorp, como experiência de interacção e troca entre diferentes grupos sociais.

Na sua essência, o Lugar Público é um espaço público apropriado por diferentes grupos sociais que aí coexistem. É um espaço de partilha de experiências, entre pessoas de passados distintos, pertencentes a redes sociais diversas.

Esta característica destaca um ponto de vista analítico que é central e é uma característica de distinção entre ‘espaço público’ e ‘lugar público’. O espaço público é na sua essência um espaço que tem um livre acesso para toda gente: público é o oposto de privado. Mas o que não significa que qualquer espaço público seja um lugar público, para ser lugar público tem que ter requisitos adicionais; o Lugar Público consiste na sobreposição de trocas entre diferentes realidades sociais.

Um espaço é um Lugar Público quando diferentes grupos de pessoas têm interesse nesse local. Grupos esses que ficam vinculados a um lugar, e de um modo ou outro atingem um compromisso. Que códigos devem dominar? Que comportamento é tolerado? Estas questões fazem parte de um espaço público com significados para diferentes grupos.

A dinâmica do significado dos lugares é muito importante para determinar o que é que pode ser considerado Lugar Público ao nível do território urbano. O processo é sempre dinâmico pois os significados e usos são sempre passíveis de mudar.

Em princípio, estes lugares podem ser encontrados nos centros urbanos, uma rua, uma praça, um jardim. O Public Domain pode igualmente ser em espaços que não são públicos em sentido estrito, por exemplo espaços colectivos gerados por entidades privadas.

Um espaço público onde exista uma grande heterogeneidade de grupos sociais tende a ter características de espaço de uso colectivo. A não existência de qualquer tipo de factor de proximidade social aparente tende a não promover relações entre grupos.

Assim, de acordo com Alexandra Castro (2002), embora o espaço público possa ser um modo de aprendizagem de outras formas de sociabilidade e da própria diferença, não implica que o confronto com o outro produza necessariamente um sentimento de convivência e de reconhecimento. A “incapacidade” de interpretação das intenções dos outros gera sentimentos de receio e assim a dificuldade de coexistência de grupos sociais muito heterogéneos.

Porém verifica-se que a mistura social não é suficiente para fazer com que um espaço contribua para o reforço do laço social. É necessário existir algo que dê sentido à mistura, a maneira como é vivida, percebida e julgada (Castro 2002).

Segundo Mayol (1980:15, in Castro, 2002:59), é importante a existência de uma relação de conveniência, ou seja, “(...) *um compromisso, através do qual cada um, renunciando à anarquia dos impulsos individuais, fornece contributos à vida colectiva, no sentido de retirar benefícios simbólicos, diferenciados no tempo*”. Este conceito abarca dois aspectos fundamentais da vida quotidiana: o dos “comportamentos” visíveis nos espaços públicos, através da representação do corpo, dos tipos de interacção e da eleição de espaços preferenciais; e o dos “benefícios simbólicos adquiridos” que se manifestam na forma como os grupos se apropriam do espaço (Castro 2002).

Um Lugar Público sedimenta-se com o tempo, com a sobreposição de significados a ele atribuídos, com as memórias de quem o usa ou usou. De qualquer modo, o Lugar Público pode perder-se, pode tornar-se apenas um espaço público, se se alterarem as condições que o sustentam.

No intuito de ‘melhorar’ o espaço público é frequente que a valorização da imagem e o controlo da violência seja sobrevalorizada em detrimento de outras perspectivas, interferindo com a organização do espaço, e convergindo num aparente consenso acerca da importância do espaço e acerca da sua disposição e gestão, sob o lema ‘belo, limpo e seguro’.

O risco do esquecimento da dimensão pública do espaço contribui claramente para a eliminação do Lugar Público na cidade contemporânea, contribuindo de algum modo para a crise de cidadania e enfraquecimento de laços sociais, tão frequentemente referidos nos dias de hoje.



## 6. ESTUDO DE CASO

### 6.1 Apresentação

No estudo que se apresenta pretende-se analisar de um modo multidisciplinar um espaço público da cidade que aparentemente se apresentasse como um Lugar Público, de acordo com os critérios já definidos. Escolheu-se o Jardim Guerra Junqueiro, mais vulgarmente conhecido por Jardim da Estrela. Pretende-se obter uma leitura do espaço e da sua vivência integrada no ecossistema urbano actual onde se situa.

Perante a posição fatídica de crise do espaço público na cidade de Lisboa, será que pressupor a existência do Lugar Público é uma utopia? Será que o Jardim da Estrela é um Lugar Público? Ou seja, um espaço público apropriado e com significado para diferentes grupos sociais que aí coexistem e interagem?

Pretende-se estudar o Jardim da Estrela como parte de um sistema composto por diferentes camadas, ou invólucros, analisando-se os diferentes níveis de relações entre população e ambiente. Considera-se como factores de referência no estudo sistémico do espaço, os factores referentes ao enquadramento ambiental e os referentes ao enquadramento populacional.

Por fim aborda-se especificamente o sistema jardim da Estrela, nomeadamente pela caracterização do sistema ambiente, através da análise histórica e física do espaço, e do sistema população através da caracterização e análise dos utilizadores e relações destes com o espaço.

As relações entre estes factores são essenciais para um entendimento do espaço enquanto potencial Lugar Público.

### 6.2 Metodologia

Sabendo que legalmente é um espaço público temos duas questões operacionais: O jardim da Estrela é um Lugar? No jardim da Estrela coexistem e interagem diferentes grupos sociais?

Na avaliação da primeira questão específica considera-se importante a análise ao nível do enquadramento do jardim, nomeadamente a interacção entre as variáveis ambientais socio- económicas e a estrutura urbana envolvente. A origem e evolução ao longo do tempo, da envolvente urbana e do próprio espaço em estudo são factores importantes na identificação do conceito de lugar.

Por fim o estudo do uso do espaço, a representatividade da sua população e a observação comportamental, são variáveis essenciais para o entendimento da relação do utilizador com o espaço, contribuindo para o entendimento da existência do lugar neste espaço público.

A segunda questão consiste em averiguar se existem diferentes grupos sociais e se estes interagem. Para tal considerou-se importante analisar a população utilizadora do espaço. Assim considera-se importante o registo espacial dos utilizadores, associado a dados como a idade e o sexo, se estão sozinhos ou acompanhados, e que actividades efectuam no jardim. A realização destes registos em diferentes horários permite identificar coexistências e afinidades entre diferentes grupos sociais.

A observação comportamental permite a recolha de informação essencial para a análise dos dados. Permite perceber quando um grupo de pessoas próximas fisicamente comunica e formam unidades sociais identificáveis.

A partir de uma observação preliminar uma série de visitas feitas ao Jardim da Estrela em diferentes horas do dia e em diferentes dias da semana. Optou-se por estudar apenas dias de semana, situação onde é mais clara a frequência de utilizadores habituais.

#### *Recolha de dados*

No estudo da população da cidade e da área envolvente ao jardim, fez-se, além de consulta bibliográfica, uma recolha de documentação ao nível da Câmara Municipal, Junta de Freguesia e INE.

No estudo específico do Jardim, foi feito um trabalho de recolha de informação de campo, relativa aos utilizadores do espaço.

Neste estudo optou-se pelos seguintes métodos de observação:

- Observação de traços físicos - Recolha fotográfica e observação directa de características físicas do espaço.
- Observação comportamental - Recolha fotográfica e observação directa do utilizador em acção no espaço. Quem? A fazer o quê? Com quem? Tipo de relação e em que contexto? Há reconhecimento? Há interacção? (não exposto detalhadamente no artigo)
- Observação e mapeamento de uso do jardim - Localização de pessoas de acordo com idade/tipo de uso, em diferentes horas do dia.

O registo do uso do espaço ao longo do dia permite uma sistematização clara da ocupação do espaço e do

zonamento natural criado pelos actores de determinado cenário. Tendo em consideração a dimensão do jardim e a impossibilidade de fazer um registo contínuo no tempo<sup>8</sup>, para todo o espaço, optou-se por dividir a observação diária do jardim em períodos de duas horas: 7:00-9:00, 9:00-11:00, 11:00-13:00, 13:00-15:00, 15:00-17:00, 17:00-19:00, 19:00-21:00, 21:00-23:00.

Fez-se uma divisão prévia do espaço em pequenas áreas, de modo a sistematicamente serem todas percorridas e observadas em cada intervalo de tempo anteriormente referido.

Deste modo, foi possível recolher informação qualitativa, quantitativa e espacial referente aos utilizadores do espaço ao longo do dia. Esta informação assim recolhida é passível de ser trabalhada sob diversas formas (quadro, gráfico e carta) permitindo a sua análise.

A utilização de um sistema de informação geográfica, associando a informação qualitativa referente a cada indivíduo à sua localização espacial, constituiu uma ferramenta essencial para este estudo.

A recolha das variáveis foi predefinida de acordo com as situações encontradas na observação preliminar, tendo sido posteriormente aferida ao longo do estudo.

Foram recolhidas as seguintes variáveis:

- Sexo
- Idade - Estimou-se por observação a idade dos utilizadores, agrupando-os em cinco classes etárias: 0-6, 7-12, 13-20, 21-64, e superior a 65.
- Agregação - Consoante o indivíduo se encontra sozinho (1) ou acompanhado, formando um grupo de 2, 3,4 ou mais pessoas.
- Actividades – Na observação preliminar observaram-se 21 actividades, posteriormente utilizadas como variáveis a registar. Estas são agrupáveis em cinco grandes grupos:
  1. Actividade Física Funcional - Atravessar (andar determinadamente, percorrer o jardim de porta a porta sem se demorar lá dentro); Entrar e Sair da Creche (uso do espaço como acesso à creche, inclui as crianças e acompanhantes, bem como quem trabalha na creche); Passear o cão; Comer/merendar (independentemente de ser refeição -pequeno almoço, almoço, lanche ou jantar - ou só comer qualquer coisa).
  2. Actividade Física Lúdica – Jogging; Jogar à Bola, Andar de Bicicleta; Andar de Skate e Patins; Trepas às Árvores; Brincar; Observar ou/e Fotografar (atitude de olhar atento, enquanto percorre o espaço); Passear (deambular, passear mais demoradamente no jardim), Alimentar aves.
  3. Sem Actividade Física – Dormir; Estar Sentado (descansar, repousar).
  4. Actividade social – Conversar; Jogar às cartas.
  5. Actividade individual - Falar Sozinho; Falar ao Telefone; Ler ou/e Escrever; Ouvir Rádio.

Na recolha dos dados considerou-se como pressupostos válidos que:

- O uso do espaço, pelos utilizadores seleccionados (representativos de diferentes grupos) é um indicador válido da utilização da restante população utilizadora não incluída.
- Existem variantes no uso relacionadas com as condições climáticas. Foi escolhido o estudo de dias amenos de primavera.
- Existem variações ao longo do ano: dia útil, fim-de-semana ou feriado, período de férias escolares. Foi escolhido o estudo de um dia útil dentro do período escolar.

A recolha de informação foi feita durante vários dias (período entre a última semana de Maio e a primeira de Junho de 2007), abrangendo por completo dois dias da semana: segunda-feira, quarta-feira. Optou-se por não recolher informação dentro dos limites da creche e dentro da área reservada à esplanada. A esplanada, embora sendo um espaço aberto, tem o acesso condicionado pelo consumo no estabelecimento contíguo.

#### *Análise dos dados*

Os dados recolhidos foram analisados descritivamente e recorrendo à análise multivariada. A identificação espacial de cada utilizador, associado às suas características, permitiu uma análise de distribuição dos mesmos no espaço.

Para análise multivariada considerou-se o dia de segunda-feira e de quarta-feira e agruparam-se os períodos em: Manhã (7:00-11:00), Almoço (11:00-15:00), Tarde (15:00-19:00) e Noite (19:00-23:00).

Em termos de análise descritiva simples e análise descritiva espacial, optou-se por escolher um dia, Segunda-feira. Permitindo a comparação de análises, e obtendo uma imagem concreta da ocupação do espaço para um dia da semana.

### 6.3 Síntese da caracterização da envolvente

Os bairros envolventes à área em estudo caracterizam-se por serem residenciais, com história e memória, com inúmeras colectividades, associações e instituições e com um comércio local dinâmico. Neste tipo de bairro o espaço público tende a ter uma vitalidade enraizada. A multifuncionalidade desta envolvente (residencial, comércio e escritórios) alimenta de modo contínuo a vida do espaço público. A rua e os jardins são intensamente vividos.

O Jardim da Estrela, embora entre bairros tipologicamente diferentes em termos de estrutura do tecido urbano e época de desenvolvimento, encontra-se dentro do tecido urbano consolidado da cidade, com características sociais bastante semelhantes, funcionando como um jardim central em relação às diversas infra-estruturas e ao espaço público dinâmico envolvente.

O acesso pedonal entre os pólos residenciais e de comércio de Campo de Ourique e Rato, e a área residencial da Estrela, é feito pelo interior do Jardim da Estrela. O acesso pedonal às diversas instituições de ensino, existentes no tecido urbano próximo, faz-se frequentemente de modo mais expedito recorrendo ao atravessamento do jardim.

Este é um espaço próximo da população no sentido em que é de fácil acesso pedonal, e está integrado na vivência diária de parte da população através do atravessamento frequente já mencionado. Na delimitação do jardim feita pela Rua de São Bernardo e a Rua João Anastácio, ruas de trânsito local, a ligação dos edifícios residenciais com o jardim é muito intensa, sendo a visibilidade e sonoridade deste perceptível pelos residentes próximos. Na Rua da Estrela, devido ao tráfego intenso, esta ligação não é tão forte.

A Rua de S. Jorge é delimitada de um lado pelo Jardim e por outro pelo muro alto que delimita o Cemitério Inglês. Devido ao trânsito intenso à ausência de comércio, de passeio largos, é uma rua inóspita, utilizada pedonalmente, sobretudo pelos utilizadores de transporte público que aí tem algumas paragens.

Em oposição, temos a praça e a Basílica, com uma escadaria ampla e ensolarada, estabelecendo uma relação marcante com o jardim. Ambos se contrapõem em forma e cor, e se complementam como vivência de espaço público. A Praça da Estrela, com o seu reboço (carros eléctricos, estacionamento indevido) constitui a grande 'porta' do jardim.

O conjunto Basílica-Jardim, associado a uma localização privilegiada em termos de riqueza e coerência do tecido urbano e do seu património edificado, é um importante factor de atracção turística.

Apesar da elevada densidade populacional, ou seja, da função residencial se manter, o sector terciário tem sido o sector chave para o desenvolvimento económico e urbanístico desta zona da cidade.

A proximidade do jardim da Estrela é muito valorizada no campo do imobiliário, sendo um dos locais da cidade, em média, com um valor por m<sup>2</sup> mais elevado. Este facto constitui um factor que influencia o panorama populacional desta zona da cidade. Como exemplo destaca-se a existência de residentes estrangeiros, mas não associados aos fenómenos de emigração mais comuns. Este fenómeno constitui actualmente apenas uma franja muito limitada, de população de nível socioeconómico mais elevado, mas que futuramente poderá ter uma maior representatividade. De qualquer modo os dados obtidos pareceram relevantes e indicativos da realidade populacional envolvente da área em estudo.

Por outro lado, em termos globais socioeconómicos destaca-se a existência de uma população envelhecida, superior à média concelhia, em que predominam as famílias nucleares constituídas apenas por um ou dois elementos empregados no sector terciário ou sem actividade económica. É de destacar que, perante uma população envelhecida, a população com o terceiro ciclo do ensino básico e com o ensino secundário é superior à média concelhia. Destaca-se igualmente neste contexto o elevado valor de ensino superior, embora claramente abaixo da média do concelho.

### 6.4 Análise descritiva dos dados

A análise descritiva dos dados pretende caracterizar a amostra dos utilizadores do espaço ao longo do dia. Fez-se o estudo em relação ao dia útil Segunda-feira, sendo 1595 o total de indivíduos registados. Foram identificadas as actividades associadas a cada indivíduo e a agregação, ou seja, se os indivíduos estão sós ou agrupados em grupos de 2,3,4 ou > 4.

Destaca-se claramente do todo o número de indivíduos atravessar o espaço, constituindo 51,54%, significando que claramente o jardim é um espaço de comunicação entre as diferentes áreas urbanas contíguas. Em termos de agregação, é de referir que 44% dos indivíduos utilizadores do espaço estão sozinhos.

Destaca-se a classe de indivíduos com idades entre 21-64, que constituem mais de metade da população estudada (54,3%). Com excepção da terceira idade, existe uma paridade clara entre ambos os sexos, os utilizadores mais representados são adultos na classe activa (21-64), e os homens com idade superior a 65.

Verifica-se que existe, para as classes etárias dos 21-64 e superior a 65, uma clara diferença entre ambos os sexos, relativamente ao horário de uso do jardim. Embora a classe 21-64, para ambos os sexos, apresente o número máximo de utilizadores no intervalo 13:00-15:00, à hora do almoço, segundo período de utilização máxima é diferente, sendo 17:00-19:00 para o sexo feminino, e 19:00-21:00 para o masculino. Duas hipóteses que se podem colocar é o facto das

mulheres, perante as responsabilidades familiares se ausentarem mais cedo do espaço ou se empregadas, saírem mais cedo do trabalho do que os homens, atravessando o espaço no período anterior a estes. Destaca-se uma grande quebra de presença feminina entre as 15:00-17:00.

A primeira infância, para ambos os sexos, tem uma utilização do espaço sobretudo entre os períodos 11:00-13:00 e 17:00-19:00, claramente associado a períodos de saída de escola, utilizando o jardim como percurso e/ou espaço para brincar. O grupo etário dos 7-12 anos tem um comportamento semelhante, variando apenas o período de almoço, neste caso, das 13:00 às 15:00.

Em relação aos utilizadores com mais de 65 anos destaca-se uma muito maior presença masculina em relação à feminina. É de referir que os homens atingem o máximo da sua presença no período 15:00-17:00, enquanto as mulheres, com uma presença relativa muito reduzida, apresentam o máximo entre as 9:00-13:00, decrescendo a sua presença, regularmente ao longo do dia. É de salientar que esta faixa etária é a que apresenta uma maior discrepância de comportamento entre sexos, optando-se posteriormente no gráfico 5, por fazer uma caracterização percentual de variação das actividades para esta faixa etária.

O atravessamento é claramente a actividade dominante. Ou seja, o uso do espaço é um meio para atingir um objectivo externo ao próprio espaço, chegar de um local ao outro. Além desta actividade, pode considerar-se mais quatro actividades principais: conversar, estar sentado, passear e brincar. À excepção da actividade brincar, em todas estas actividades o número de indivíduos masculinos é nitidamente superior ao feminino. A actividade 'jogar às cartas' destaca-se por ser exclusivamente masculina.

Com o estudo comparativo entre os dois sexos para a classe etária superior a 65 anos verificou-se que actividade física principal é atravessar e, em menor percentagem, passear. Em termos de lazer social, mais de 25% dos membros desta classe etária foram registados a conversar, e 7,6% dos homens a jogar a cartas; actividade exclusivamente masculina. Cerca de 19,4% da população masculina estava sentada, contrastando com 14,4% da população feminina. Associada ao estar sentados existe a actividade de ler e escrever, claramente com uma maior incidência na população masculina.

Destaca-se ainda nesta classe etária a população feminina, provavelmente avós, com actividades associadas ao acompanhamento de crianças, como brincar e entrar e sair da creche. Verifica-se que ao longo do dia as actividades atravessar, passear e brincar têm uma distribuição bastante semelhante para ambos os sexos. As actividades sentar e conversar, frequentemente associadas, atingem o máximo de indivíduos do sexo masculino no período entre as 15:00-17:00, e para o sexo feminino no período entre as 13:00-15:00.

Para os indivíduos do sexo masculino o período 15:00-17:00 é o momento onde se conjuga o máximo de homens de idade superior a 65, com um valor alto com idade 21-64. Em relação ao sexo feminino, das 13:00-15:00 é o período de uso mais intenso para a idade 21-64, ou seja mulheres na idade activa, residentes ou não, no seu período de almoço.

Além das actividades, quando e por quem são praticadas, considerou-se importante analisar se esse uso de espaço se faz por indivíduos isolados, aos pares ou em grupo.

Quase metade da população masculina utiliza o espaço sozinho; usando-o como atravessamento, para estar sentado ou passear. A população feminina, apenas cerca de um terço o utiliza sem estar acompanhada.

No período nocturno, 21:00 às 23:00, a população utilizadora do espaço é muito reduzida. Destaca-se que o uso é feito maioritariamente por homens não acompanhados, sobretudo de homens na idade activa. Refere-se ainda existência de pares, frequentemente mistos que atravessam o jardim enquanto conversam.

Mulheres sós a esta hora são pouco frequentes, neste caso apenas quatro. A pouca iluminação do espaço aliada à baixa frequência existente, dissuadem o seu atravessamento.

## 6.5 Análise multivariada

Recorreu-se a uma análise Cluster no intuito de identificar grupos com o mesmo tipo de comportamento. Assim, de acordo com o critério de selecção pré determinado, classificou-se uma amostra de entidades (indivíduos) num pequeno número de grupos mutualmente exclusivos.

Na aplicação deste método, hierárquico foi escolhido como algoritmo aglomerativo principal o *Average-linkage*. Os dados foram agrupados de modo a considerar quatro grandes períodos principais: Manhã (7:00-11:00), Almoço (11:00-15:00), Tarde (15:00-19:00), Noite (19:00-23:00). Posteriormente, rejeitou-se em cada um destes períodos principais as actividades com uma representação inferior a 5% em todos os grupos etários.

Esta análise iniciou-se com a identificação do agrupamento de grupos etários/sexo em função da variável actividade (dendrograma 1 a 5).

Analisou-se, para o dia completo, o (dendrograma 1), verificando-se que existe uma clara divisão em termos comportamentais entre a população adulta activa, ou seja dos 21-64anos e a restante população, justificando-se (ver análise descritiva de dados) pela existência de uma população activa que usa o espaço sobretudo para atravessamento e a restante que o usa com um intuito de fruição do mesmo.

Na restante população há um claro distanciamento a nível comportamental entre os homens com mais de 65

anos e os outros indivíduos. Estes apresentam um tipo de comportamento específico, muito distinto das mulheres da mesma faixa etária, como observável no gráfico 5. Por fim podemos referir a existência de dois subgrupos, o que agrega a infância (0-12) e um outro subgrupo que engloba o restante.

Analisando apenas para o período da manhã (dendrograma 2) verifica-se, como no dendrograma 1, a clara divisão entre os utilizadores em idade activa e a restante população. De manhã observa-se a existência de três subgrupos, o subgrupo dos homens com idade superior a 65 anos próximo em termos comportamentais do subgrupo dos adolescentes, e o subgrupo das mulheres com idade superior a 65 anos e das crianças. Observando os dados, pode-se supor que os homens mais velhos e os adolescentes têm em comum, de manhã, o sentar a conversar.

Repetindo o mesmo estudo para a hora de almoço (dendrograma 3), detecta-se neste caso uma divisão dos indivíduos em dois grandes grupos: população idade activa e idosa masculina, e os restantes utilizadores. Ou seja, neste período de tempo (11:00-15:00) podemos intuir que a população activa (provavelmente muita não residente) utiliza o espaço no seu intervalo de almoço, por exemplo: atravessa o jardim (por vezes para ir almoçar ou beber um café à esplanada), passeia, senta-se por vezes a ler, por seu lado, os homens idosos, mesmo almoçando em casa, fazem o mesmo tipo de uso. A nível dos restantes utilizadores, destaca-se o grupo da primeira infância, que entre as 11:00-13:00 utiliza intensamente o parque infantil, indo provavelmente depois almoçar.

À tarde no período 15:00-19:00 (dendrograma 4), acentua-se a clara divisão comportamental entre os dois grupos, o da população de idade 21-64 e homens de idade superior a 65, e o grupo dos restantes.

Observando os dados verifica-se que o primeiro grupo tem um comportamento semelhante, estar sentado a conversar.

Por fim analisa-se a noite 19:00-23:00 (dendrograma 5), onde se registam dois grandes grupos, grupo da idade 21-64 e o restante dos utilizadores. Ou seja, existe uma clara separação entre o grupo que neste período utiliza o espaço quase exclusivamente para atravessar e os restantes, quase ausentes no período 21:00-23:00, que no período 19:00-21:00, ainda o utilizam para actividades diversas.

Posteriormente analisou-se o agrupamento de grupos etários/sexo em função da variável agregação. Em termos globais, ou seja numa análise para o dia todo (dendrograma 6), podemos verificar a existência de dois grupos comportamentais principais: o primeiro composto por indivíduos de idade 21-64 e homens idade > 65, e o segundo grupo com os restantes utilizadores. Após observação dos dados confirma-se que comparativamente com os restantes utilizadores, os grupos etários destacados caracterizam-se por uma grande proporção de indivíduos sós, 35% do total da população utilizadora do espaço, destes formando um subgrupo, 27% com a idade 21-64.

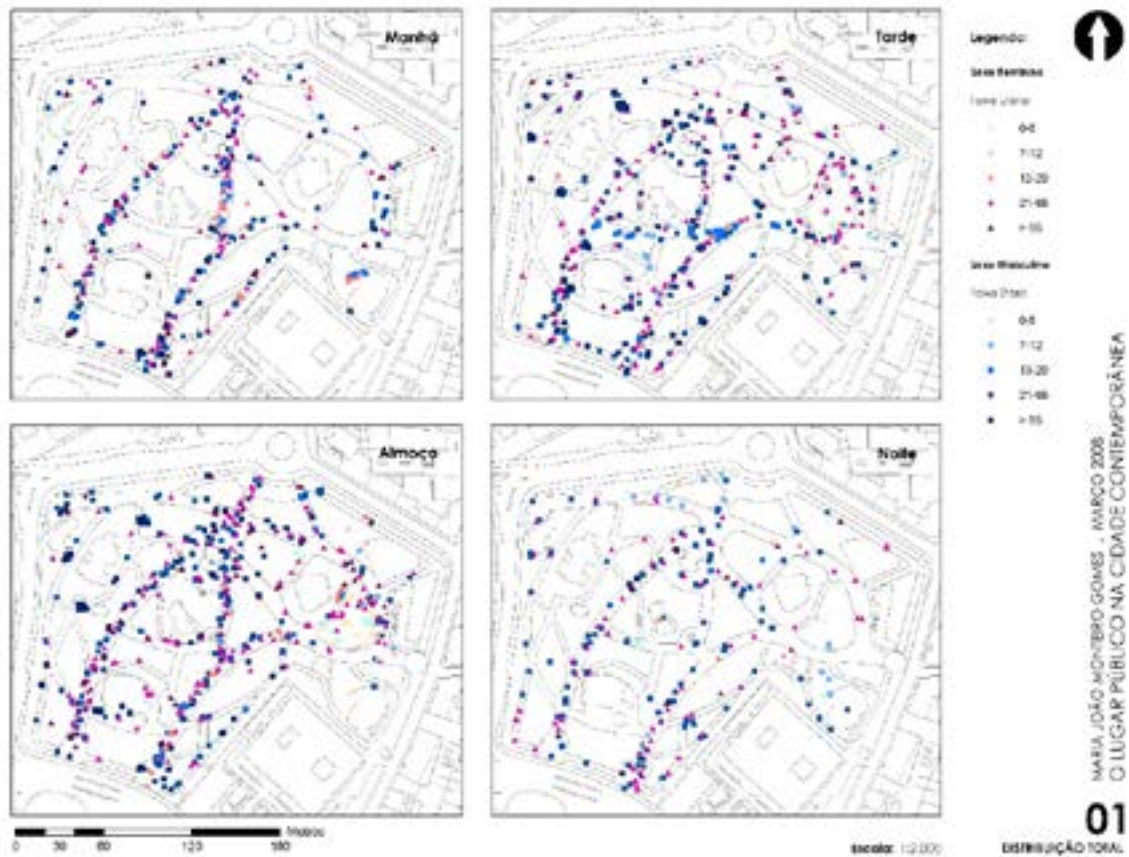
Observando agora o período da manhã (dendrograma 7), o período do almoço (dendrograma 8) e período da tarde (dendrograma 9), verifica-se a mesma grande divisão principal. No período de almoço o comportamento em termos de agregação do grupo feminino com idade superior a 65 anos destaca-se do restante, pelo facto de raramente estarem incluídas em grupos superiores a três pessoas. Em relação ao período da tarde, no subgrupo de idade 21-64 e homens idade > 65, destaca-se que os homens, deste subgrupo, têm um comportamento mais próximo. Observando os dados, é visível que este subgrupo se forma pela grande proporção conjugada de pessoas sós e pessoas aos pares, e que as mulheres tendem a andar mais aos pares do que os homens. Neste período, no outro subgrupo formado pelos restantes utilizadores, destaca-se as mulheres de idade superior a 65 anos formam um grupo, caracterizado por 89% dos seus indivíduos estarem em agregações iguais ou inferiores a 3. No período da noite (19:00-23:00), destaca-se por uma clara divisão entre indivíduos de idade activa, sós ou aos pares, e a restante população.

## 6.6 Análise espacial de uso

A análise espacial de uso foi sintetizada em quatro tipos de abordagem, considerando os quatro grandes períodos principais do dia Segunda-feira: Manhã (7:00-11:00), Almoço (11:00-15:00), Tarde (15:00-19:00), Noite (19:00-23:00). A análise espacial foi feita a partir da elaboração de peças desenhadas correspondentes.

1 - Análise da distribuição espacial dos utilizadores ao longo do dia, de acordo com o sexo e idade

Fig. 1 – Peça desenhada distribuição espacial dos utilizadores ao longo do dia



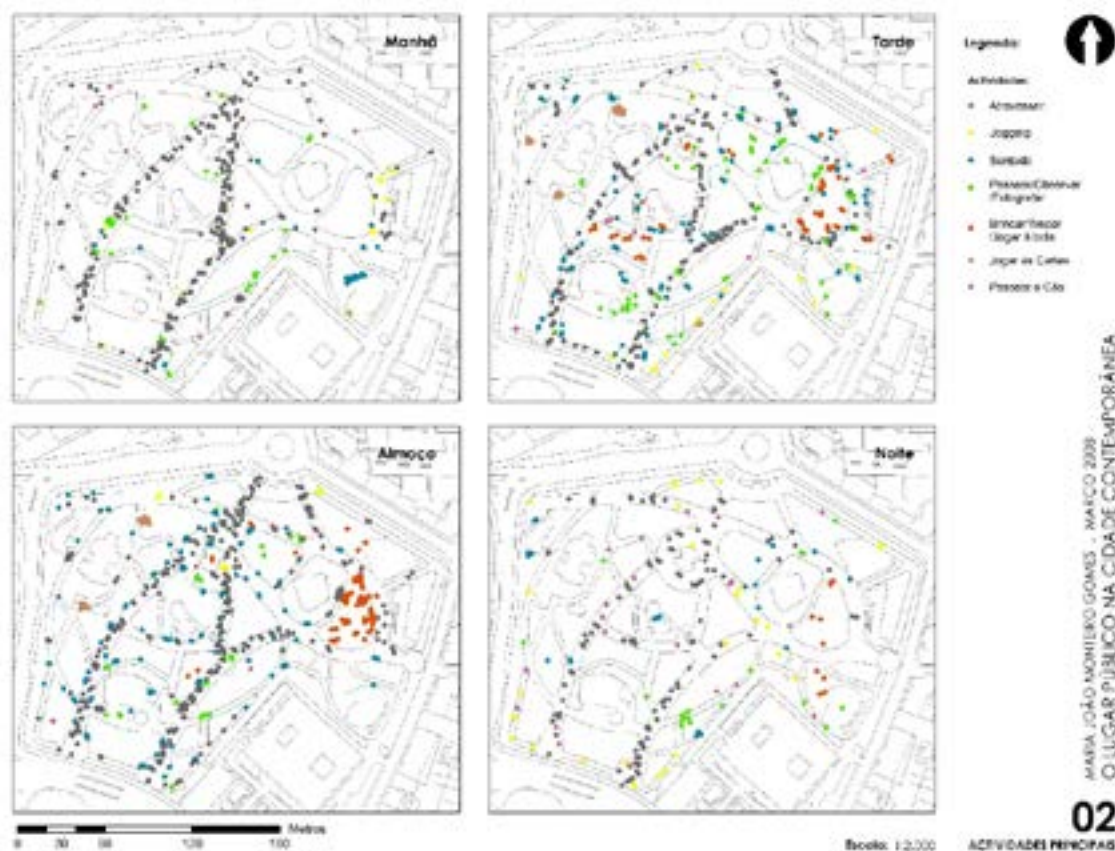
A distribuição espacial dos utilizadores ao longo do dia (peça desenhada 01), detecta-se espacialmente uma variação de uso ao longo do dia, a nível quantitativo e qualitativo. Verifica-se que o atravessamento do espaço pelos percursos principais da denominada zona central constitui uma constante ao longo de todo dia, diminuindo bruscamente entre as 21:00-23:00. É desalentar que quase metade dos utilizadores registados neste dia estavam a atravessar o jardim. Metermos etários, verifica-se uma dominância da classe etária 21-64. Observa-se que à hora de Almoço o uso dos percursos principais é muito intenso, com um uso muito acentuado da população feminina adulta.

As entradas do lado da Basílica são as que têm um uso mais intenso, sendo a entrada da Rua de São-bernardo a que regista menor uso. O parque infantil é muito frequentado durante a hora de almoço e durante a tarde, registando-se de manhã e de noite, a partir das sete horas, muito pouco uso. O acompanhamento das crianças faz-se maioritariamente por mulheres. Curiosamente o campo de jogos é utilizado apenas intensamente à tarde, verificando-se um uso quase exclusivamente masculino (ao nível da criança e do seu acompanhante).

Destaca-se a concentração de indivíduos adultos do sexo masculino, com um predomínio de idade superior a 65 anos, nos locais com mesas onde se jogam às cartas. Três destes locais são na proximidade da creche, o outro é perto da casa do idoso. Esta actividade inicia-se à hora do almoço estende-se pela tarde. É de referir a ausência de registos na zona da Cascata, e apenas um no topo do Miradouro.

## 2- Análise da distribuição espacial dos utilizadores ao longo do dia de acordo com a actividade

Fig.2- Peça desenhada distribuição espacial dos utilizadores de acordo com as actividades



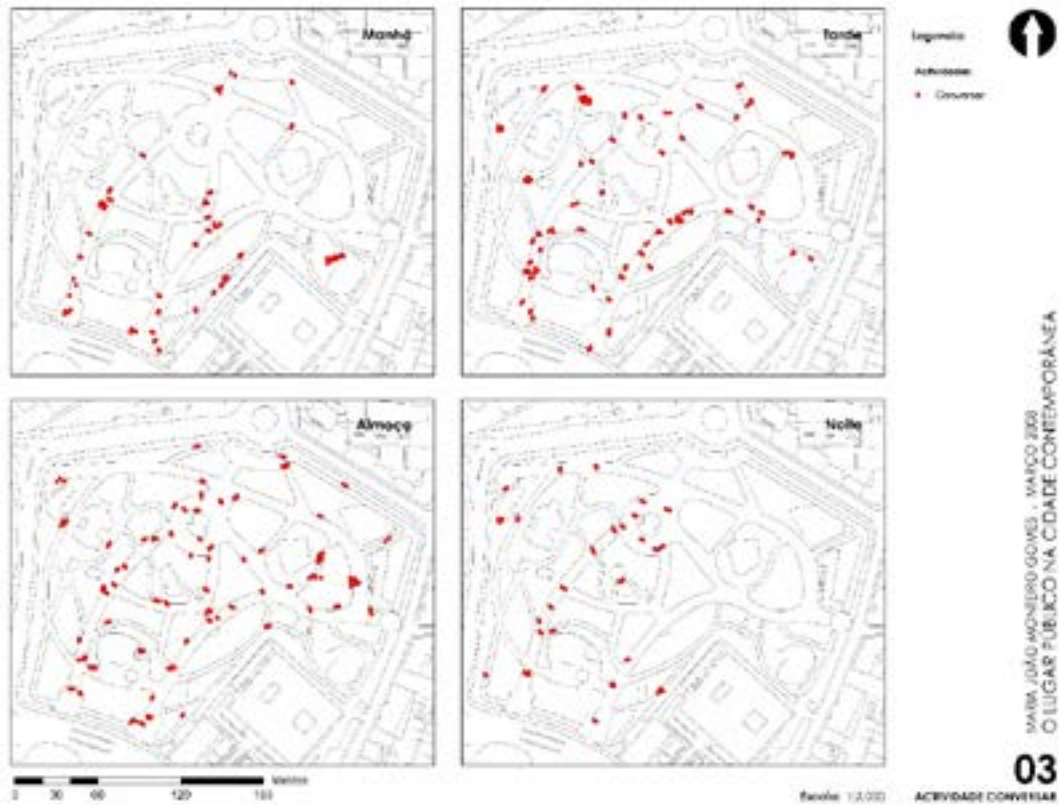
No estudo da planta 0.2-Distribuição dos indivíduos de acordo com as actividades, é possível interpretar as variações ocorridas durante os períodos em estudo.

Mais uma vez se confirma a dominância da actividade atravessar em todos os períodos, ao longo dos percursos principais na direcção Praça da Estrela, Av. Álvares Cabral. Destaca-se quantitativamente período da manhã e período de almoço.

Os períodos de almoço e tarde caracterizam-se por uma maior diversidade de usos, e maior dispersão espacial de utilizadores no espaço. O uso infantil nestes períodos é muito relevante destacando-se que o conjunto das actividades Brincar, Trepar, Jogar à Bola estão muito representados espacialmente. O período de almoço destaca-se pela grande concentração de crianças no do Parque Infantil e ausência destas a jogar à bola no campo de jogo. À tarde há uma maior dispersão. É nestes períodos igualmente que se verifica espacialmente uma maior dispersão dos indivíduos sentados.

O jogo das cartas é uma actividade que se inicia no período do almoço e se estende ao longo da tarde, período em que quatro grupos de mesas, três nas imediações da creche, um próximo da casa do idoso estão dominados por esta actividade.

Fig.3– Peça desenhada distribuição espacial dos utilizadores de acordo com a actividade de conversar



Observando a planta 03.-Distribuição dos indivíduos para actividade conversar, verifica-se que esta actividade é mais relevante no período das 11:00-19:00, com excepção dos grupos do jogo de cartas, localiza-se quase apenas na denominada zona central. Passear o cão é uma actividade que, à excepção da zona da cascata, se encontra registada dispersamente por todo o espaço.

O Jogging faz-se ao longo de todo o dia, sendo claramente uma actividade em que os indivíduos optam por um percurso circular e o mais extenso possível, utilizando muito os percursos perto do limite do espaço. Esta actividade está muito presente no período depois das 19:00.

A actividade passear é feita frequentemente de um modo circular, mas utilizando menos os percursos periféricos. Existe claramente um uso preferencial do período da tarde e da zona central, para esta actividade.



3- Análise da distribuição espacial dos utilizadores ao longo do dia de acordo com a agregação

Fig.4 – Peça desenhada distribuição espacial dos utilizadores de acordo com a agregação (indivíduos sós)

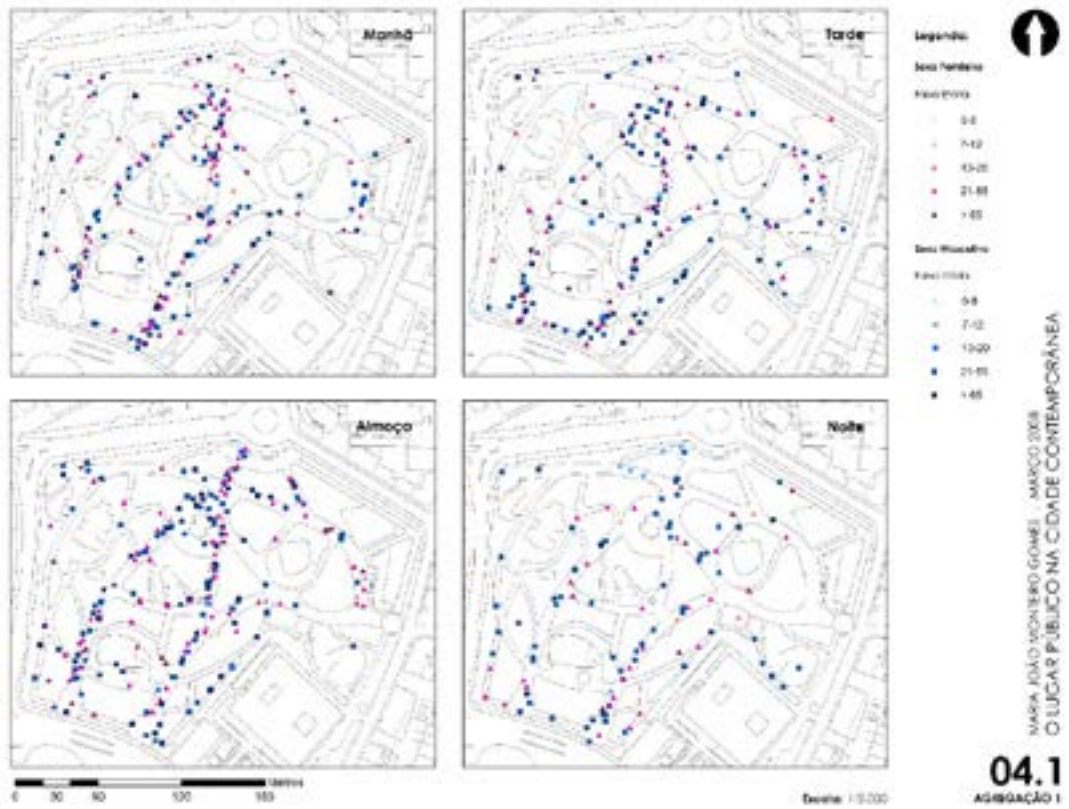
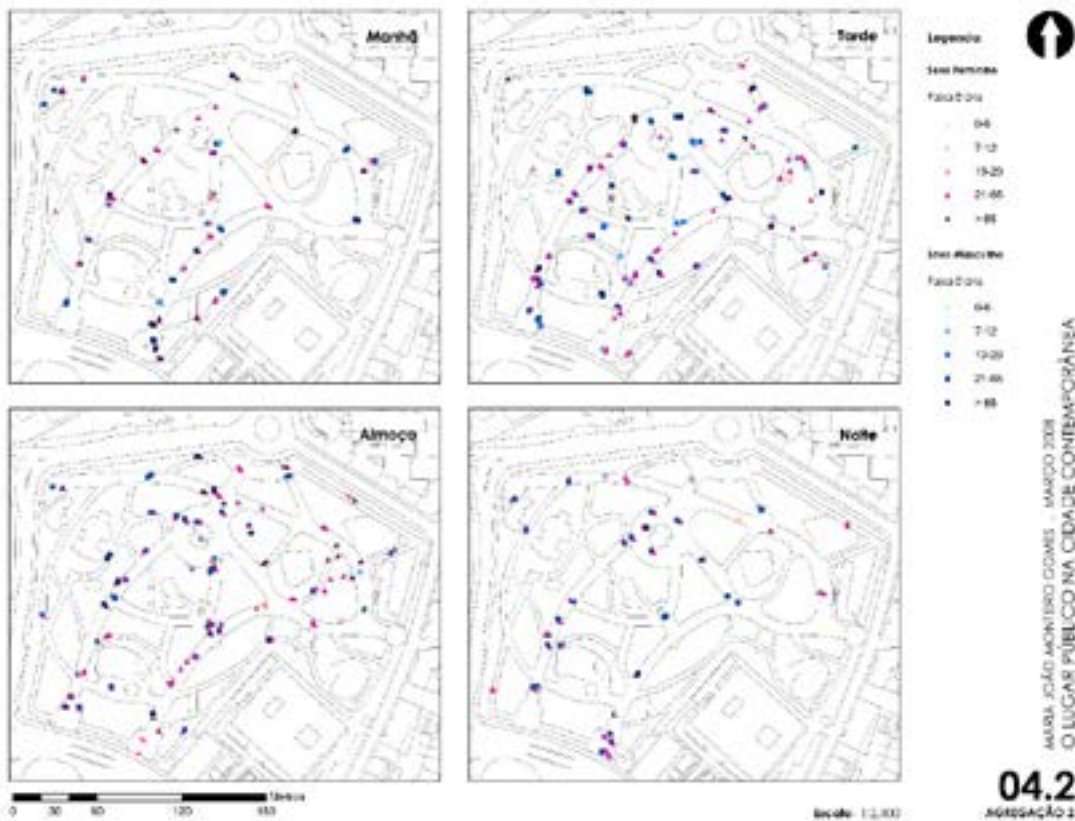


Fig.5– Peça desenhada distribuição espacial dos utilizadores de acordo com a agregação (pares)



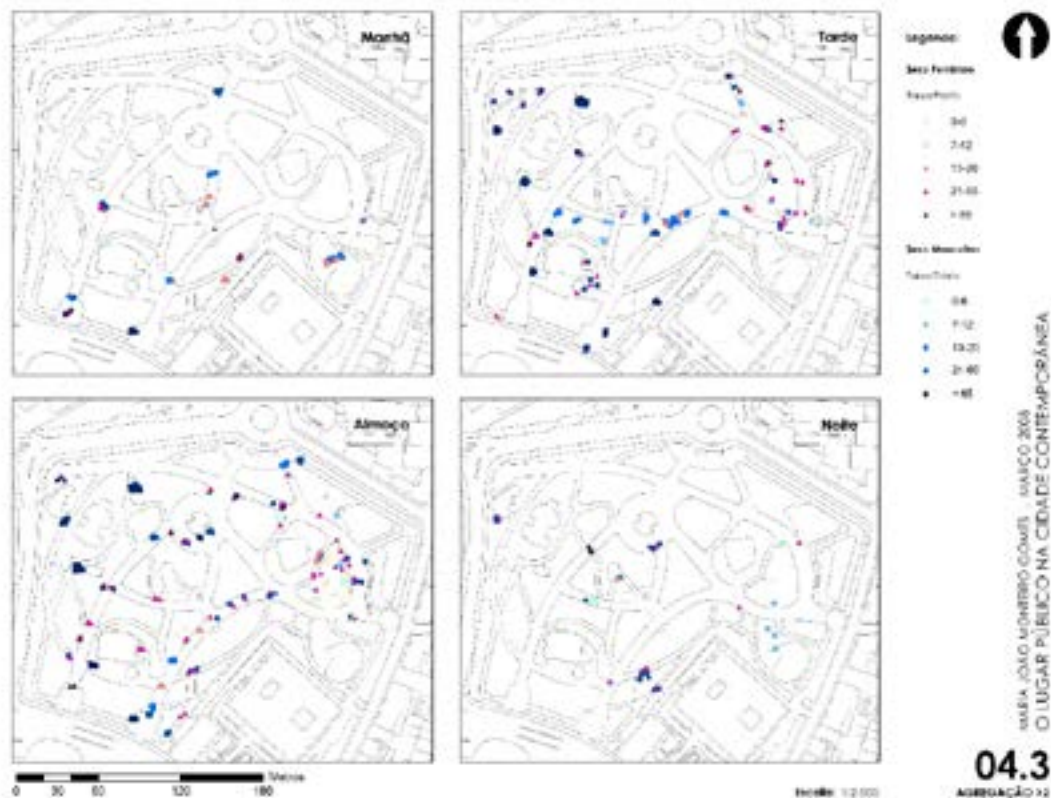
A distribuição espacial dos utilizadores (peça desenhada 04.1) sós, ao longo do dia, óbvia e notória a ausência da classe etária 0-6 anos, e a presença muito reduzida da classe etária 7-12anos, reflectindo-se na ausência de registos no parque infantil e no campo de jogos. Destaca-se de um modo global uma dominância de população adulta masculina.

Há um claro predomínio de utilizadores sós, homens e mulheres, na zona central, associados ao atravessamento do espaço. É de manhã e no período do almoço que se regista mais elementos femininos. Observa-se que, enquanto a zona Este se destaca por um uso dominante de homens adultos, a zona Oeste caracteriza-se por ter também uma marcada presença feminina. No período referente ao período nocturno 19:00-23:00, é de referir uma menor quantidade de utilizadores sós em todo o espaço, incluindo nos percursos principais. Destaca-se entre as 21:00-23:00um uso quase exclusivo de homens sós.

Observando a peça desenhada 04.2 – Distribuição espacial dos utilizadores ao pares, ao longo do dia, e comparando com a peça desenhada anterior, destaca-se por um lado uma menor quantidade de indivíduos, por outro, uma dispersão mais homogénea no espaço. Observa-se, com excepção do período da manhã, um claro predomínio de pares mistos. Existe sempre um maior número de pares femininos do que pares de indivíduos masculinos, destacando-se o período do almoço como a fase doida com muito maior número de pares femininos.

Em termos etários á excepção dos pares compostos por adultos acompanhando crianças, os pares são-na sua maioria homogéneos.

**Fig.6– Peça desenhada distribuição espacial dos utilizadores de acordo com a agregação (mais de dois indivíduos)**



Observando a peça desenhada 04.3 A distribuição espacial dos utilizadores em grupo de mais de dois indivíduos ao longo do dia, é relevante a existência de grupos no período de almoço e no período da tarde, sendo menos frequente de manhã e a partir das 19:00. Em termos etários á excepção dos grupos compostos por adultos acompanhando crianças, os grupos são na sua maioria homogéneos. No período de almoço e de tarde, verifica-se a existência de grupos de homens de idade superior a 65anos, associados aos jogos de cartas. Igualmente na proximidade da casa do idoso, com excepção do período nocturno, registam-se agrupamentos de homens de idade superior a 65 anos. Verifica-se em relação à população feminina adulta no período de almoço, a existência frequente de grupos de três mulheres.

A partir do período do almoço, e ao longo da tarde regista-se um uso do jardim infantil por crianças inseridas num grupo escolar ou mais de uma criança com um acompanhante. No campo de jogos é habitual os meninos, e por vezes também os seus acompanhantes, formarem grupos para jogar à bola.

De manhã e à tarde verifica-se existência de grupos mistos de jovens, provavelmente da Escola Secundária próxima.

## 7. SÍNTESE E DISCUSSÃO DA ANÁLISE DE DADOS

De acordo com o observado, o Jardim da Estrela constitui um elemento essencial do espaço público exterior desta zona da cidade, abrangendo múltiplas funções positivas.

A utilização deste espaço público faz-se integrada e dependente da malha urbana envolvente a nível físico e funcional; com destaque para a lógica das entradas em relação aos fluxos pedonais da envolvente, garantindo uma continuidade funcional. Este espaço faz parte de um todo de espaço público exterior dinâmico, que caracteriza esta zona da cidade.

O Jardim da Estrela concilia sinergias; a sua centralidade, a localização das suas entradas em relação à rede viária e equipamentos locais, tornam-no um espaço muito acessível e intensamente atravessado. A diversidade de actividades registadas, e a abrangência em termos etários, demonstra que este espaço é muito útil para a população residente, ou trabalhadora, no tecido urbano envolvente.

Observou-se que o Jardim da Estrela faz parte da rotina quotidiana de parte da população residente e/ou trabalhadora da área urbana envolvente. O seu uso faz parte, para grande parte dos utilizadores das actividades necessárias diárias, nomeadamente quando é utilizado como atravessamento, acesso à creche, ou utilizado para passear o cão.

A leitura clara do espaço com a localização dos principais equipamentos na denominada zona central, zona de grande visibilidade e regularmente vigiada, aumenta a percepção de segurança por parte do utilizador. Os percursos amplos, e de curvas pouco fechadas, aliado a árvores de copas altas e a um estrato arbustivo baixo na proximidade dos caminhos, conferem uma sensação de segurança no uso do espaço. A percepção de segurança aliada à utilidade do espaço são factores que proporcionam bem-estar social.

As áreas laterais permitem um usufruto de locais mais recolhidos, com maior privacidade. Destaca-se o miradouro como o local com maior privacidade, mas com uma percepção de segurança baixa.

À noite, devido à quase ausência de iluminação em algumas zonas e a um menor número de utilizadores, a percepção de segurança em todo o espaço é baixa.

As actividades opcionais, ou seja, a fruição do jardim por exemplo para se estar sentado, a ler, passear, brincar e actividades sociais, como conversar e jogar às cartas são caracterizadoras do próprio espaço, fazendo parte da sua identidade. Estas actividades estão dependentes da percepção de conforto, ou seja, bem-estar físico, psicológico e social.

A profusão de locais para sentar e descansar neste jardim é diversificada e cómoda, com situações de sol e de sombra, associadas ao fácil acesso a instalações sanitárias e ao café, são factores que potenciam a percepção de conforto.

A forte presença da vegetação neste espaço, envolvendo o utilizador, é um factor importante respeitante ao bem-estar físico e psicológico dos utilizadores.

A organização espacial deste jardim tem um efeito determinante na forma como os indivíduos utilizam o espaço e, conseqüentemente como os mesmos se comportam quando coexistem.

Por fim é de salientar que a unicidade deste espaço, a sua identidade radicada na sua longa existência e na sua relação com a envolvente é um factor gerador de identidade pessoal e de identidade da comunidade residente ou utilizadora do mesmo.

Pode-se concluir após análise da população utilizadora do jardim que este espaço é usado por todas as classes de grupos etários, de um modo proporcional à população envolvente. Tendo em consideração que o estudo foi feito em dia úteis da semana, e de acordo com a observação e o contexto envolvente, considera-se que os seus utilizadores frequentam o espaço regularmente, no seu dia-a-dia, promovendo situações de interacção entre os utilizadores.

De acordo com a observação comportamental no espaço, dependendo da hora, da actividade e da idade, os utilizadores agrupam-se e interagem.

Regista-se que há vários níveis de interacção entre indivíduos pertencentes a diferentes grupos etários, e que essa interacção é mais intensa quando há afinidades de interesses. Destaca-se a frequente interacção de indivíduos de diferentes classes etárias com crianças e seus acompanhantes e com indivíduos com cães.

Identificam-se alguns agrupamentos relevantes como grupos de homens a jogar às cartas, ou sentados nos bancos. Pequenos grupos de mulheres que aqui se encontram e passeiam e se sentam nos bancos ao longo dos percursos principais.

A localização central do jardim num bairro da cidade com história, memória, confere-lhe um significado especial no contexto da população Lisboaeta.

Este espaço existe na sua relação entre o passado e o presente, ganhando novas relações, novas funções de acordo com o contexto histórico e sócio espacial, acumulando a memória colectiva e individual dos antigos lugares. Vamos procurar o lugar no Jardim dos dias de hoje.

Analisando os resultados obtidos vamos compara-los com as três características comuns que constituem o Lugar antropológico; o ser identitário, relacional e histórico.

O jardim encontra-se integrado num tecido urbano sobretudo residencial, constituindo parte dum espaço público exterior de bairro dinâmico. A proximidade habitacional do Jardim, a sua centralidade em relação aos diferentes equipamentos promove o seu uso frequente.

Pela sua relação com a estrutura urbana, este jardim é muito utilizado como atravessamento por todas as classes etárias. A constatação da coexistência no jardim das diferentes classes etárias consideradas, e do uso do espaço na rotina diária dos seus utilizadores, permite uma grande visibilidade e contacto frequente entre membros da comunidade próxima.

Considera-se que este espaço exterior de proximidade desta zona da cidade, e mais especificamente o Jardim da Estrela, é um lugar Identitário, no sentido que é constitutivo da identidade individual de quem aqui cresce, ou seja, constitui um conjunto espacial e social de possibilidades, prescrições e de interditos que certamente molda a identidade de quem o vive.

Este jardim, embora um espaço público, constitui para parte da população que o frequenta o território secundário, isto é, o espaço próximo a ser partilhado com os outros, mas num sentido restrito.

O Jardim da Estrela é relacional, no sentido que os utilizadores do mesmo têm em comum a partilha da identidade conferida pelo uso e ocupação do espaço comum.

A análise dos modos de uso do jardim (quem, com quem, que actividade, quando e onde) reproduz a expressão de um contexto histórico e cultural, representando a própria identidade do espaço. A população utilizadora frequente deste espaço aquire e vai adquirindo características que fazem parte unicamente desta população, uma consciência de grupo, uma identidade comum.

A estabilidade encontrada neste espaço, desta conjugação de identidade individual e identidade partilhada, confere-lhe a característica de ser histórico.

Perante a questão inicial se o Jardim da Estrela é um Lugar Público, crê-se com base nos resultados deste estudo podermos concluir que sim, ou seja, é um espaço público apropriado por diferentes grupos sociais que aí coexistem. É um espaço de partilha de experiências, entre pessoas de passados distintos, pertencentes a redes sociais diversas.

## 8. CONCLUSÃO

Desde que há cidade, há espaço público, são duas entidades inseparáveis, não fazendo sentido pensar numa sem a outra. Na segunda metade do século XX esta realidade alterou-se, o funcionamento da cidade deixou de estar dependente do espaço público. A sociedade urbana contemporânea reflecte e é reflectida pelas características do território urbano contemporâneo. Fruto da crescente mobilidade, esta passou a produzir e a consumir espaços específicos para cada uma das suas necessidades, consumo, trabalho, residência, educação, cultura, lazer. Parte do denominado espaço público entra nesta lógica de consumo; o grande parque urbano, o grande parque infantil dirigido a um público muito específico.

Neste universo procurou-se compreender a importância da existência de espaços públicos enquanto lugares de pertença, identidade e interacção para diferentes grupos sociais na sociedade e no território urbano contemporâneo. Propôs-se o conceito de Lugar Público, para denominação deste espaço.

O reaprender a olhar e analisar o espaço público no contexto da sociedade urbana actual é fundamental, permitindo um reconhecimento da especificidade e da potencialidade de cada espaço em cada tempo, despertando a capacidade real de intervir através de um olhar crítico, baseado num entendimento da evolução espacial e social da cidade contemporânea.

Os Lugares Públicos reflectem uma estabilidade entre o passado, o presente e o futuro, precisam de tempo para se consolidarem. A sua existência promove e é promovida, pela manutenção de uma vivência cívica diária, radicada na sua utilidade, conveniência, e atractividade.

A falta de conhecimento, por parte dos decisores e dos projectistas, é um dos factores que promove a sua eliminação. Uma intervenção alheia das características do lugar leva frequentemente a uma quebra de comunicação entre comunidade e espaço, resultando num processo de rejeição da mesma. Um espaço no qual os potenciais utilizadores não se identifiquem é um espaço estéril; falta-lhe interactividade e envolvimento com a componente humana, favorecendo a emergência de sentimentos de indiferença e insegurança, promovendo a degradação e o vandalismo.

É de destacar a importância de uma análise global, interdisciplinar de modo a garantir uma capacidade real de detectar as propriedades emergentes de um lugar. Procurou-se com este trabalho, com ao Estudo do jardim da Estrela, contribuir com uma metodologia de análise do espaço público, que permita entender o seu funcionamento, o seu uso e ocupação, a relação dos utilizadores ente si e com o espaço.

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# EQUIDADE SOCIAL NA ACESSIBILIDADE AOS ESPAÇOS ESCOLARES

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## ABSTRACT

The concepts of inclusive education and school consider that all students should have the same rights and the same equality of opportunities, regardless their difficulties and characteristics. An analysis of the social and educational paradigms towards inclusive education shows that the school should adjust its educational practice to ensure the educational success of all students and their autonomy in terms of mobility. In this context it is assumed a great importance of environmental factors in the biological-chemical-social model of disability.

Therefore one must ensure that inclusive schools are architecturally adapted to the diverse needs of students. This accessibility requirement to the built environment is internationally assumed by institutions and communities working towards an inclusive school.

Building inclusive schools and societies requires that the design and rehabilitation of urban and built environment respect the principles of universal design by providing ‘equitable use’, ‘flexible’, ‘intuitive’, ‘perceptible’, ‘low physical effort’, ‘tolerable’, and ‘well-dimensioned’ spaces for diverse users.

The established norms of the Accessibility National Legal System should be implemented in practice, so that the inclusion of these students happens and that their teaching/learning process is achieved. A methodology of analysis and diagnosis of school physical accessibility is developed by building performance parameters, based on the current legislation “Decreto-lei nº 163/2006 de 8 de Agosto”.

The other concern of this paper is to analyse if Portuguese Accessibility Norms consider different users or if they mainly provide the mobility of wheelchair people.

Keywords: Inclusive Education and School, Accessibility for All, Universal Design.

## 1. INTRODUÇÃO

A educação é um dos pilares do desenvolvimento da personalidade humana e contribui para enraizar, desde cedo, o respeito pelos direitos humanos e pela igualdade de oportunidades. É de extrema importância na afirmação individual de cada um e na conquista do direito à cidadania.

Durante muito tempo, a superstição e a insipiência foram fulcrais no isolamento das pessoas com deficiência na sociedade, adiando a sua inclusão e o seu desenvolvimento educativo.

O paradigma de inclusão social dá ênfase aos fatores ambientais, assumindo-se que a deficiência resulta da interação entre pessoas com deficiência e barreiras comportamentais e ambientais que impedem a sua participação plena e eficaz na sociedade de forma igualitária (OMS, 2011). A percepção desta interação, levou à consideração preferencial do conceito de “incapacidade” que engloba os diferentes níveis de limitações funcionais relacionados com a pessoa e o seu meio ambiente. Em consequência, os sistemas urbanos, as edificações e os sistemas de transportes e de comunicações devem adaptar-se às necessidades das pessoas com restrições na participação de forma que estas possam participar na sociedade de uma forma ativa.

Neste âmbito, a edificação de escolas inclusivas vai para além dos processos educativos requerendo-se que detenha bons padrões de acessibilidade física para todos não só no interior dos espaços escolares mas, também, nos espaços urbanos e nos sistemas de transportes que suportam a mobilidade das crianças e jovens com deficiência.

Efetivamente, a construção de escolas e sociedades inclusivas requer que na conceção e reabilitação dos espaços urbanos e edificados, dos sistemas de transporte e de comunicação se atenda aos princípios do Desenho Universal.

O Desenho Universal deve ser atendido em todas as intervenções no meio físico para a criação de comunidades acessíveis a todos, proporcionando, a toda a população, o direito de usufruir e desfrutar do ambiente de uma forma equitativa.

Esta temática surge aliada ao conceito de “equidade social” que está associado a valores de justiça e solidariedade, à igualdade de oportunidades no acesso a bens e serviços, ao acesso e gestão da informação, à participação de diferentes grupos na tomada de decisões, incluindo as pessoas com deficiência, em processos de governança.

Em Portugal somente nas últimas duas décadas, a acessibilidade aos espaços físicos, com vista à eliminação de barreiras urbanísticas e arquitetónicas, foi devidamente legislada. No entanto, muitos dos estabelecimentos de ensino regular ainda não se encontram acessíveis na sua plenitude.

A realidade observada em algumas escolas nacionais, assim como a que nos é apresentada pelos órgãos de comunicação social, permite constatar a existência de problemas de acessibilidade arquitetónica que impossibilitam ou dificultam o acesso do aluno com deficiência aos espaços onde se desenvolvem as aprendizagens curriculares e aos espaços interrelacionais, que contribuem de forma significativa para o desenvolvimento social e emocional de qualquer aluno.

Assim, o principal objetivo do presente estudo é interpretar a legislação atualmente em vigor, o Decreto-lei nº 163/2006 de 8 de agosto, relativamente à acessibilidade física dos edifícios públicos e consequentemente dos edifícios escolares, e desenvolver uma proposta metodológica de análise e diagnóstico da acessibilidade aos edifícios escolares, através da construção de listas de parâmetros de desempenho que avaliem as condições de acessibilidade urbanística e arquitetónica dos espaços.

O objetivo específico é averiguar se estas normas técnicas atendem de uma forma sistemática à diversidade humana ou se dão mais ênfase à acessibilidade das pessoas com deficiência motora.

## 2. EVOLUÇÃO DOS PARADIGMAS SOCIAIS E EDUCATIVOS RUMO A UMA EDUCAÇÃO INCLUSIVA

Cada época histórica é representada por uma cultura flexível e mutável, permitindo gradualmente a construção de novos valores e conceitos (Martins, 2005). As características culturais, económicas e sociais determinam os diferentes juízos postulados relativamente às diferenças individuais (Silva, 2009).

Nas sociedades antigas, a condenação à morte das crianças deficientes era uma prática normal e comum, como refere Correia (2013). No final do século XIX e durante grande parte do século XX, o conceito de “deficiência” era ainda baseado num modelo individualizado e médico, assente na ideia de que os problemas advêm unicamente da deficiência individual e, como tal, a participação da pessoa com deficiência na sociedade dependeria somente do seu esforço de adaptação, o que acontecia somente a uma minoria (Bérnard da Costa *et al.*, 2006).

Começam a surgir no início do século XX, diversas instituições destinadas ao tratamento de pessoas com deficiência, mas a sua intervenção era somente dirigida ao indivíduo, de forma a minimizar o seu sofrimento. Assim, eram desenraizados da família biológica, e institucionalizados muitas vezes para a vida. Estas instituições continuavam, no entanto, a descurar o ensino e a formação individual (Monteiro, 2011) e eram denominadas “Instituições Totais”, formalizando-se assim o primeiro paradigma formal, na relação da sociedade com a deficiência, o Paradigma da Institucionalização (Aranha, 2001).

A Declaração dos Direitos da Criança (1921) e a Declaração dos Direitos do Homem (1948) vieram colocar em evidência que a melhor solução para a prática educativa era a sua normalização, em oposição à sua segregação. Este conceito de “normalização” permitiu o surgimento de um novo paradigma social, o Paradigma de Serviços, baseado no conceito de “integração” e que permitiu o acesso ao sistema de saúde e à educação especial por parte da pessoa com deficiência. Surgiu, assim, o conceito de “Educação Especial”, que considerava que a normalização deveria ser adotada como modalidade de educação, oferecida, preferencialmente, na rede regular, sendo esta visionada como a possibilidade da pessoa com deficiência desenvolver uma vida o mais normal possível (Sousa, 2009). Este princípio da normalização foi fundamental no movimento de desinstitucionalização (Aranha, 2001) e, na segunda metade do século XX, começavam, cada vez mais, a ser questionadas práticas sociais e escolares de segregação, assim como atitudes e comportamentos discriminatórios.

A partir da década de 80 do século XX começa a surgir na sociedade a necessidade de esta se reorganizar, de forma a garantir o acesso a todos e não somente providenciar os serviços e os recursos necessários às pessoas com deficiência, independentemente de as mesmas estarem próximas do nível de “normalidade” pretendido. Este acesso não está somente restrito à educação e saúde, sendo mais globalizante e abrangente. A cidade, enquanto espaço físico de promoção de cidadania, tem que permitir o acesso a todos os espaços: culturais, recreativos, educativos, etc. e providenciar os meios sociais que o possibilitem. Cabe à sociedade garantir o acesso de todos, independentemente do tipo de deficiência e do grau de comprometimento. Surge assim um terceiro e atual paradigma, denominado Paradigma de Suporte (Aranha, 2001).

Segundo este paradigma, os suportes são instrumentos que garantem a acessibilidade da pessoa com deficiência na sociedade e podem ser de diferentes tipos: social, económico, físico e instrumental. Estes têm como função favorecer

o processo de ajuste, que deve ser mútuo, entre a sociedade e a pessoa com deficiência. Esta tem direitos e deveres como os demais cidadãos e, a sociedade deve implementar as acessibilidades necessárias à sua completa cidadania, num processo de inclusão social.

O processo de educação inclusiva está atualmente intimamente relacionado com o paradigma da inclusão social, ou seja, o paradigma de suporte. A nível escolar a criança começa a ser vista como um todo e não apenas pelo seu desempenho escolar. A escola, enquanto entidade, deve desencadear uma transformação de raiz a nível das políticas educativas e do quadro pedagógico, e deve-se adotar o compromisso de educar todas as crianças. As diferenças dos alunos são, segundo um modelo inclusivo, encaradas como mais-valias e desta forma valorizadas (Correia, 1999).

### 3. DESIGN UNIVERSAL

O conceito de “Design Universal” foi apresentado pelo Arquiteto Ron Mace, em 1985 nos Estados Unidos da América (EUA). Traduz “o design de produtos e de meios físicos a utilizar por todas as pessoas, até ao limite máximo possível, sem necessidade de se recorrer a adaptações ou a design especializado” (Center for Universal Design, 1997). A sua implementação visa simplificar a vida a todos, fazendo com que os produtos, as comunicações e o meio edificado sejam mais utilizáveis por um número cada vez maior de pessoas, a um preço baixo e sem custos adicionais. Em consequência, atende às pessoas de todas as idades, estaturas e capacidades, ou seja, todo o cidadão desfruta da sua implementação, toda a sociedade beneficia das soluções físicas encontradas para os edifícios e áreas públicas, nos meios de comunicação ou mesmo, nos produtos como mobiliário urbano, mobília ou utensílios domésticos.

Também na década de oitenta do século XX, o Conselho da Europa cria o Comité para a Reabilitação e Integração das Pessoas com Deficiência que teve por finalidade promover uma política coerente para a inclusão das pessoas com deficiência. Sob a dependência deste, atua um grupo de peritos sobre acessibilidade, formado em 1987, para estudar as maneiras de melhorar a acessibilidade integral do meio edificado.

É neste contexto que surge o “Conceito europeu de acessibilidade” que foi estabelecido em março de 1996 pela Comissão Central de Coordenação para a Promoção da Acessibilidade (Central Coordinating Commission for the Promotion of Accessibility). A acessibilidade é “a característica de um meio físico ou de um objeto que permite a interação de todas as pessoas com esse meio físico ou objeto e a utilização destes de uma forma equilibrada, respeitadora e segura” (Aragall *et al.*, 2003).

Este documento passa a constituir uma referência para a normalização do conceito de “acessibilidade” na Europa, tendo sido destinado aos decisores políticos, legisladores, avaliadores de normas e organizações de consumidores. Nele considera-se que a base fundamental da filosofia europeia para a acessibilidade é o reconhecimento, a aceitação e a promoção - em todos os níveis da sociedade - dos direitos de todos os seres humanos, incluindo as pessoas com limitações de atividade, num contexto assegurado de altos padrões de saúde, de segurança, de conforto e de proteção ambiental. Encara-se a acessibilidade como um atributo essencial no ambiente construído sustentável e defende-se que o conceito europeu de acessibilidade tem como objetivo a provisão de ambientes que deverão ser adequados, seguros e agradáveis de usar por todas as pessoas, incluindo os cidadãos com deficiência, promovendo a igualdade na utilização do meio edificado.

Paralelamente é apresentado um conjunto de princípios do Desenho Universal apresentado pelo Centro para o Desenho Universal da Universidade Estadual da Carolina do Norte (EUA):

1. Uso equitativo: são espaços, objetos e produtos que podem ser utilizados por pessoas com diferentes capacidades, tornando os ambientes iguais para todos. Estabelece ainda que os produtos devem ser úteis e vendáveis a pessoas com diversas capacidades, proporcionando a mesma forma de utilização a todas elas;
2. Uso flexível: deve respeitar uma ampla gama de indivíduos, preferências, habilidades e capacidades individuais, possibilitando que se escolha a forma de utilização mais adequada. Acomoda o acesso e o uso destro ou canhoto. Garante adaptabilidade ao ritmo do indivíduo e facilita a exatidão e a precisão por parte deste;
3. Uso simples e intuitivo: o uso do design deve ser de fácil compreensão, independente da experiência, conhecimento do idioma, nível de formação ou da capacidade de concentração do utilizador;
4. Informação de fácil perceção: estabelece que a comunicação da informação seja eficaz, através de diferentes modos (pictográfico, verbal ou tátil) para que satisfaça todos. Fornece eficazmente ao utilizador a informação necessária, qualquer que sejam as condições ambientais/físicas existentes, ou as capacidades sensoriais do utilizador, ou seja, a informação necessária é transmitida de forma a atender as necessidades do recetor, seja ela uma pessoa estrangeira, com dificuldade de visão ou audição;
5. Tolerância ao erro: este princípio prevê que se minimizem os riscos e reações adversas e possíveis consequências de ações acidentais ou involuntárias;



6. Baixo esforço físico: pode ser utilizado de forma eficaz e confortável com um mínimo de fadiga;
7. Dimensão e espaço para alcance e uso: determina que o tamanho e espaço para aproximação, alcance, manipulação e uso sejam adequados, independente do tamanho do corpo, postura ou mobilidade. Acomoda ainda variações de tamanho da mão ou da sua capacidade de agarrar. (adaptado de Center for Universal Design, 1997).

Estes princípios devem, sistematicamente, ser incorporados na concepção de produtos e de meios físicos, de forma a criar um meio edificado mais justo, em que todos têm o direito de utilizar, de igual modo, qualquer parcela do meio edificado de forma independente e natural. São estes atributos que se pretendem implementar nas escolas inclusivas.

#### **4. REGIME JURÍDICO NACIONAL DA ACESSIBILIDADE**

A nível nacional, desde a década de 80 do século XX, foi sendo publicada legislação, normas e diretrizes, tendo por alvo a acessibilidade dos edifícios relativamente às pessoas com deficiência.

Na sequência do contexto internacional e nacional surgiu o Decreto-lei nº 123/97 de 22 de maio, que tornava obrigatória a adoção de normas técnicas básicas de eliminação de barreiras arquitetónicas e urbanísticas, em edifícios públicos, equipamentos coletivos e via pública, para melhoria da acessibilidade das pessoas com mobilidade condicionada, até ao ano de 2014. Este decreto já contemplava a necessidade de intervenção a nível das instalações escolares, no capítulo IV - Áreas de intervenção específica, seção 3, no entanto os efeitos práticos deste decreto apenas se fizeram sentir nos projetos das novas construções, apresentando, no entanto, falta de fiscalização para que as alterações necessárias fossem realizadas. Não existindo um planeamento coerente, nem quantificação das metas a cumprir, o decreto não foi posto plenamente em prática.

A 8 de agosto de 2006, é aprovado o Decreto-lei nº163/2006, que revoga o Decreto-lei nº 123/97 de 22 de maio e que define os princípios de acessibilidade em espaços construídos e aprova o regime de acessibilidade, não somente dos edifícios e estabelecimentos que recebem público e via pública, mas também de edifícios habitacionais. Está dividido em duas partes: os artigos e as normas técnicas a aplicar para a melhoria de acessibilidade das pessoas com mobilidade condicionada. Relata as normas técnicas destinadas a cada seção do edifício ou a sua envolvente. Acrescenta ao anterior algumas inovações, nomeadamente a especificação de soluções técnicas e a melhoria dos mecanismos fiscalizadores, dotando-os de maior capacidade sancionatória, em prol de garantir os direitos sociais das pessoas com deficiência. Este aumento sancionatório aparece como forma de impedir a realização de construção de edifícios ou urbanizações que não cumpram os requisitos de acessibilidade estabelecidos no atual Decreto-lei. Este decreto, à semelhança do anterior, faz referência aos edifícios escolares, englobando-os na seção 5.5, do capítulo 3, em Edifícios e instalações escolares e de formação. Nesta seção é analisada a acessibilidade das pessoas com deficiência a nível motor, ao definir a largura mínima dos corredores e o acesso alternativo às escadas, aos diferentes pisos.

#### **5. CARACTERÍSTICAS URBANÍSTICAS E ARQUITETÓNICAS DA ACESSIBILIDADE**

##### **5.1. Percurso acessível**

Para que qualquer sistema de ensino se torne acessível e inclusivo, é necessário cumprir o recomendado no Decreto-lei nº 163/2006 de 8 de agosto, que revoga o anterior Decreto-lei nº 123/97 de 22 de maio. Tal pode requerer mudanças nos espaços físicos e, para a sua implementação, todos os agentes educativos devem estar envolvidos, assim como a comunidade a nível local, regional e nacional.

O presente capítulo apresenta as normas técnicas de acessibilidades definidas no atual diploma, que entrou em vigor em 9 de fevereiro de 2007.

Estas normas apresentam como pressuposto o conceito de “percurso acessível” que considera uma largura e uma altura livre de obstáculos nos espaços de circulação.

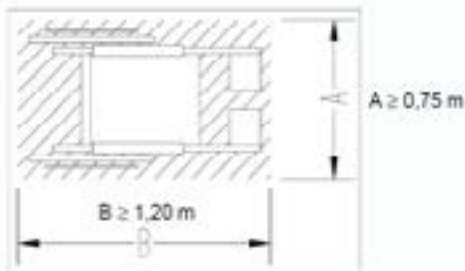
Uma zona livre é um percurso acessível pedonal, em todo o seu desenvolvimento, constituída por um canal de circulação contínuo e desimpedido de obstruções (mobiliário urbano, árvores, bocas de incêndio, placas de sinalização, caixas de eletricidade, papeleiras, entre outros), com uma largura não inferior a 1,2 m medida ao nível do pavimento (DL 163/06, Cap. 4, ponto 4.1 a 4.4).

Para acesso a diferentes equipamentos, no interior dos edifícios, a zona livre deve apresentar uma largura de pelo menos 0,75 m e 1,20 m de comprimento (figura 1), com um dos lados totalmente desobstruído, que permita a aproximação a objetos colocados frontalmente, entre as alturas de 0,4 m e 1,2 m, ou lateralmente entre as alturas de 0,30 m e 1,40 m (figura 2).

Se nos percursos pedonais forem necessárias mudanças de direção de uma pessoa em cadeira de rodas, as zonas

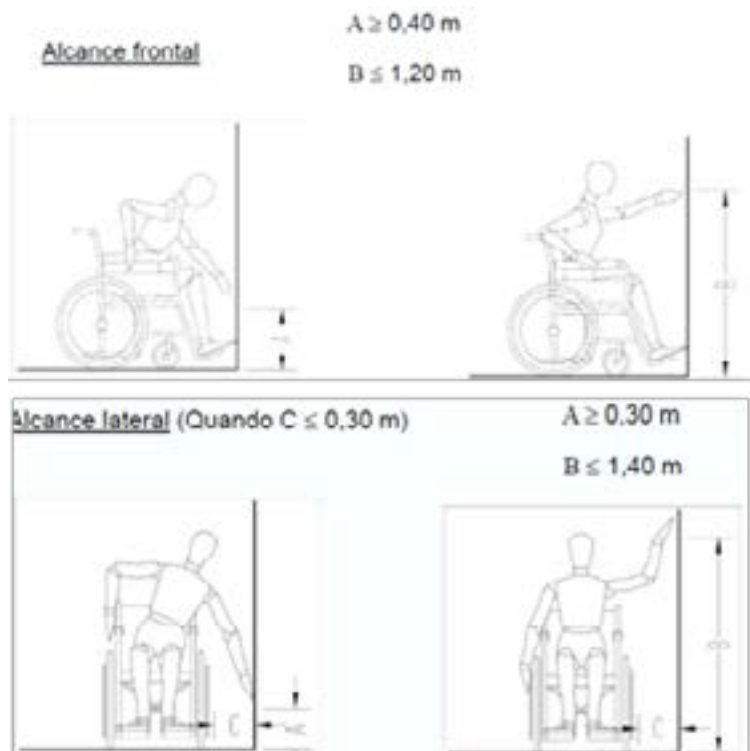
de manobra devem permitir uma rotação da cadeira de rodas a 90°, 180° e 360° (figura 3) e uma mudança de direção de 90° e 180° (figura 4).

**Figura 1 - Dimensões da zona livre no interior dos edifícios**



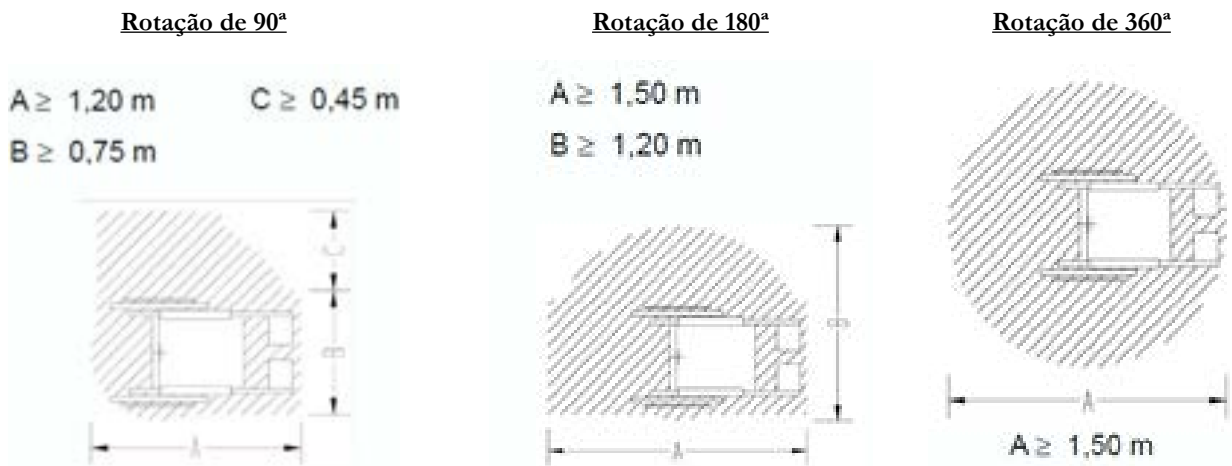
Fonte: Teles *et al.* (2007, 196)

**Figura 2 - Aproximação frontal e lateral a objetos na zona livre**



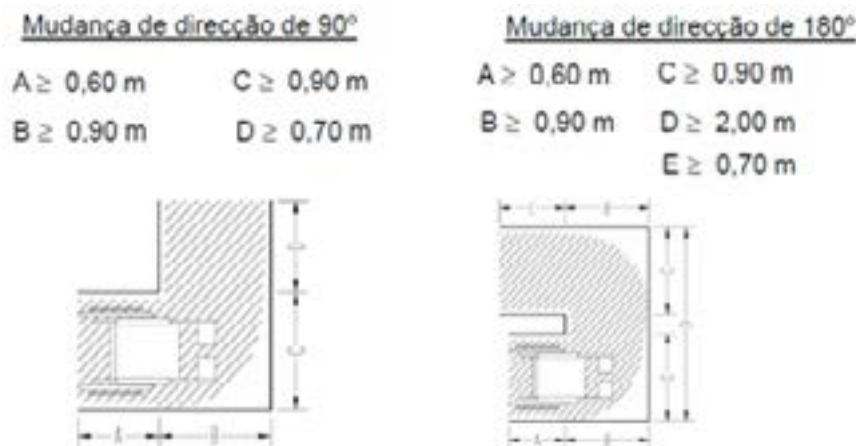
Fonte: Teles *et al.* (2007, 169)

**Figura 3 - Dimensões das zonas de manobra para uma rotação da cadeira de rodas a 90°, 180° e 360°**



Fonte: Teles *et al.* (2007, 172)

Figura 4 - Dimensões das zonas de manobra para uma mudança de direcção de 90° e 180°



Fonte: Teles *et al.* (2007, 173)

A altura livre de obstruções (árvores, placas de sinalização, difusores sonoros, toldos, etc), em toda a largura dos percursos deve ser superior a 2 m nos espaços encerrados e 2,4 m nos espaços não encerrados (DL 163/06, Cap. 4, ponto 4.5).

A partir deste regime Jurídico Nacional de Acessibilidade apresenta-se seguidamente um conjunto de características necessárias para promover a acessibilidade para todos na via pública, em estabelecimentos e edifícios em geral e em edifícios e em instalações escolares e de formação.

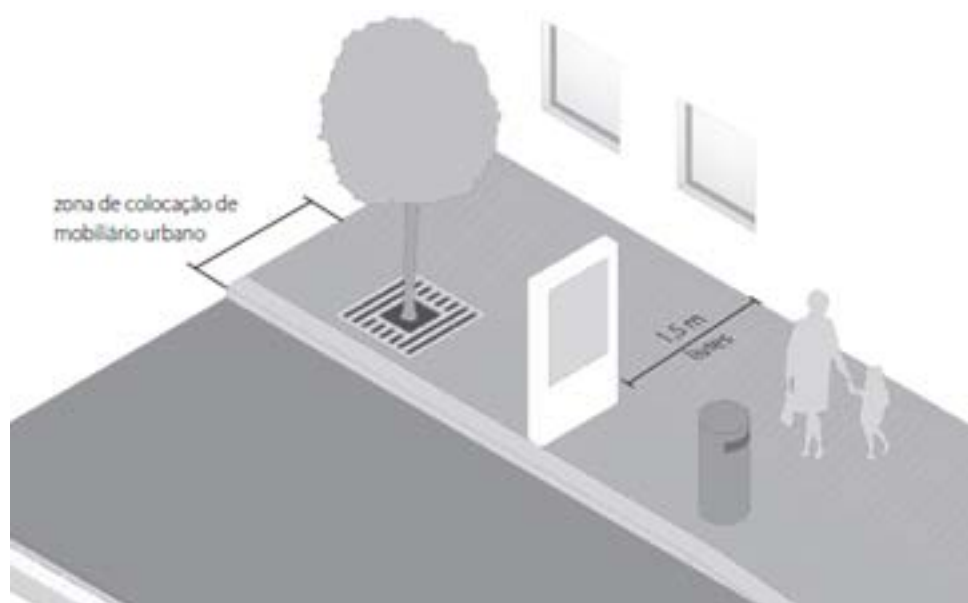
## 5.2. Acessibilidade na via pública

Os passeios adjacentes a vias principais e vias distribuidoras devem ter uma largura livre superior a 1,5 m (DL 163/06, Cap. 1, ponto 1.2). O mobiliário urbano e os restantes elementos devem ser colocados numa “faixa de infraestruturas” libertando-se a restante área do passeio de obstáculos (figura 5).

Nas passagens de peões de superfície, o pavimento do passeio deve ser rampeado com uma inclinação não superior a 8%, na direcção da passagem de peões e não superior a 10%, na direcção do lancil do passeio, quando este tiver uma orientação diversa da passagem de peões (DL 163/06, Cap. 1, ponto 1.6).

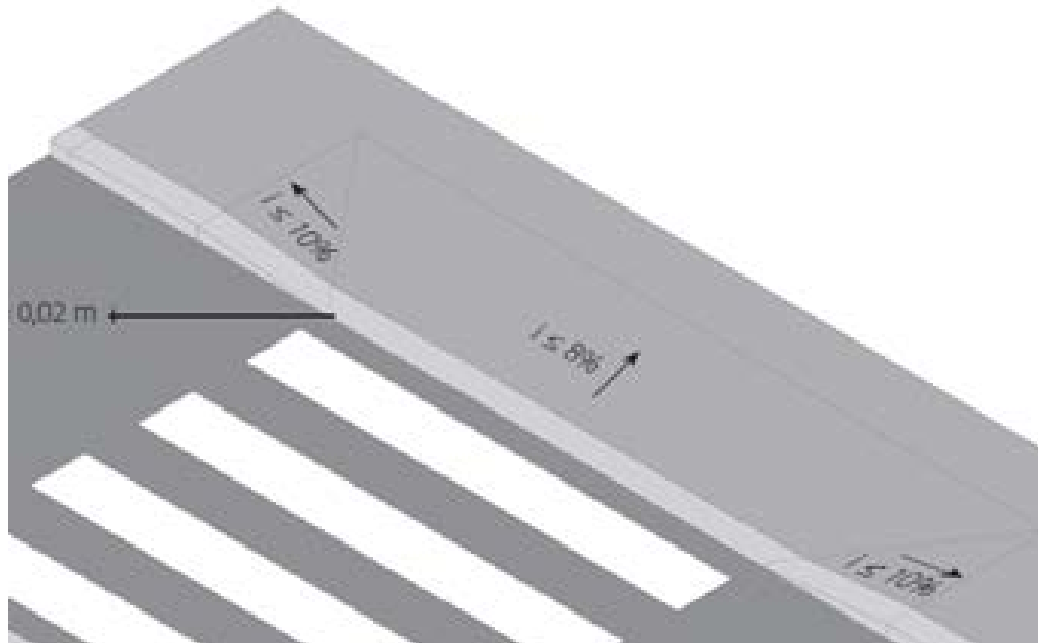
Em toda a largura da passagem de peões, o lancil deve apresentar uma altura não superior a 0,02 m (figura 6).

Figura 5 - Percurso pedonal acessível



Fonte: Teles *et al.* (2007, 74)

**Figura 6 - Passagem de peões acessível**



Fonte: Teles *et al.* (2007, 83)

No caso de existirem dispositivos semafóricos nas passagens de peões, o dispositivo de acionamento manual, deve estar localizado a uma altura do piso compreendida entre 0,8 m e 1,2 m e o sinal verde de travessia, deve estar aberto o tempo suficiente para uma velocidade do peão de 0,4 m/s, em toda a largura da via.

Se houver separadores centrais, a zona de interceção das passagens de peões deve ter uma dimensão não inferior a 1,2 m, em toda a sua largura e uma inclinação do piso e dos seus revestimentos não superior a 2 %, medidas na direção de atravessamento de peões.

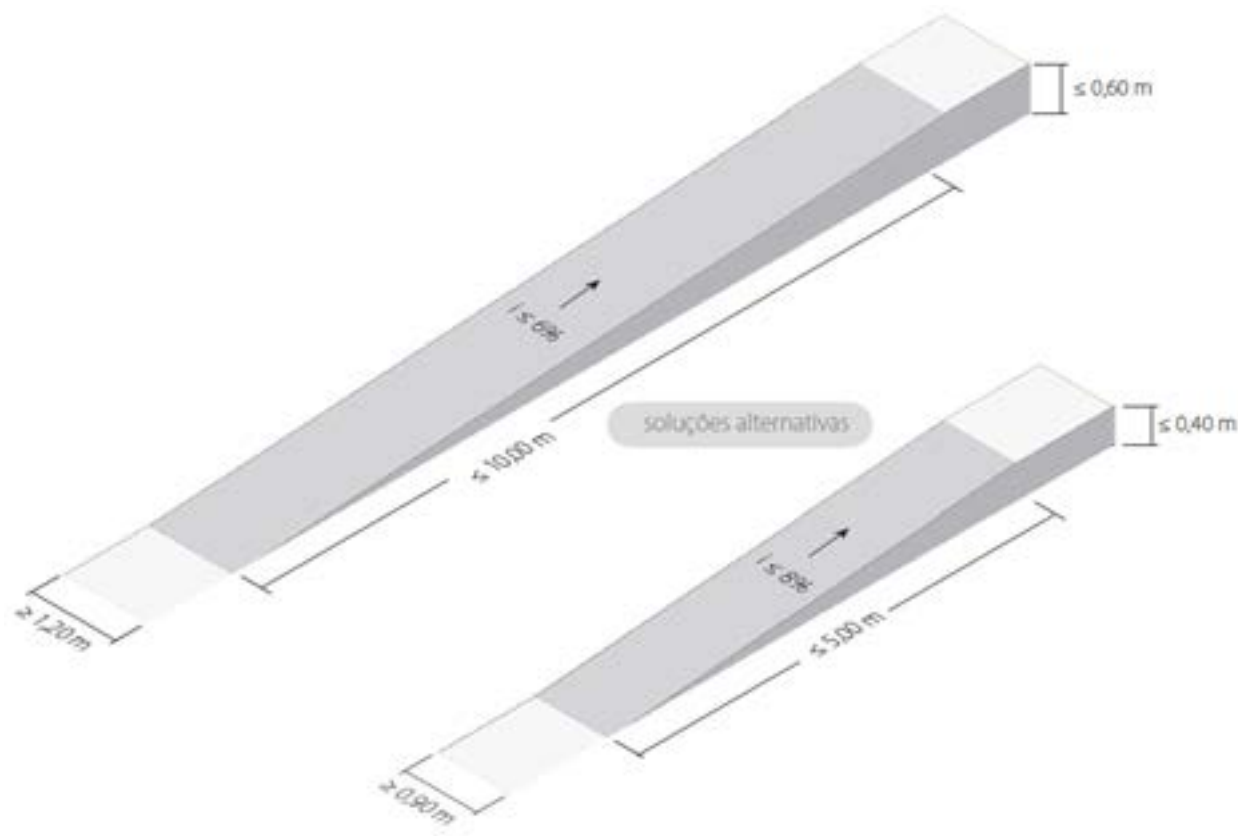
Em caso de haver obras de construção, reconstrução ou alteração, os limites das passagens de peões devem ser assinalados no piso por alteração da textura ou pintura, com cor contrastante e devem ter o início e o fim assinalados no piso dos passeios, por sinalização tátil.

As rampas localizadas em espaços públicos e as que se destinam a dar acesso aos edifícios, devem apresentar a menor inclinação possível:

- Rampas em locais que não apresentem limitações de espaço: devem apresentar inclinação não superior a 6%, cuja projeção horizontal assume o valor máximo de 10 m, caso o desnível a vencer não seja superior a 0,6 m. Quando o desnível a vencer é inferior (ou igual) a 0,4 m, a rampa poderá apresentar, no máximo, uma inclinação de 8% e ter uma projeção horizontal até 5 metros, inclusive (DL 163/06, Cap. 2, ponto 2.5) (figura 7).

- Rampas em locais que apresentem limitações de espaço, onde se enquadram os edifícios sujeitos a obras de alteração: nestes casos as rampas poderão apresentar inclinações superiores às anteriormente indicadas desde que o desnível a vencer não seja superior a 0,2 m associado a uma projeção horizontal não superior a 2 m, ou o desnível a vencer não seja superior a 0,1 m associado a uma projeção horizontal até 0,83 m. Nestas condições, a inclinação longitudinal da rampa poderá atingir os 10 % e 12 %, respetivamente.

Figura 7 - Rampa com desnível inferior a 0,6 m e 0,4 m respetivamente



Fonte: Teles *et al.* (2007, 103)

As rampas, de um modo geral, devem possuir uma largura mínima não superior a 1,2 m, podendo atingir o valor mínimo de 0,9 m quando existem 2 rampas para o mesmo percurso ou caso a projeção horizontal não seja superior a 5 m.

Sempre que sejam necessárias mudanças de direção, com um ângulo igual ou inferior a 90°, ou que estejam previstas projeções horizontais superiores às regulamentares, devem ser adotados patamares horizontais ao longo das rampas, que servem de zona de descanso, os quais devem ter uma largura não inferior à da rampa e ter um comprimento superior a 1,5 m.

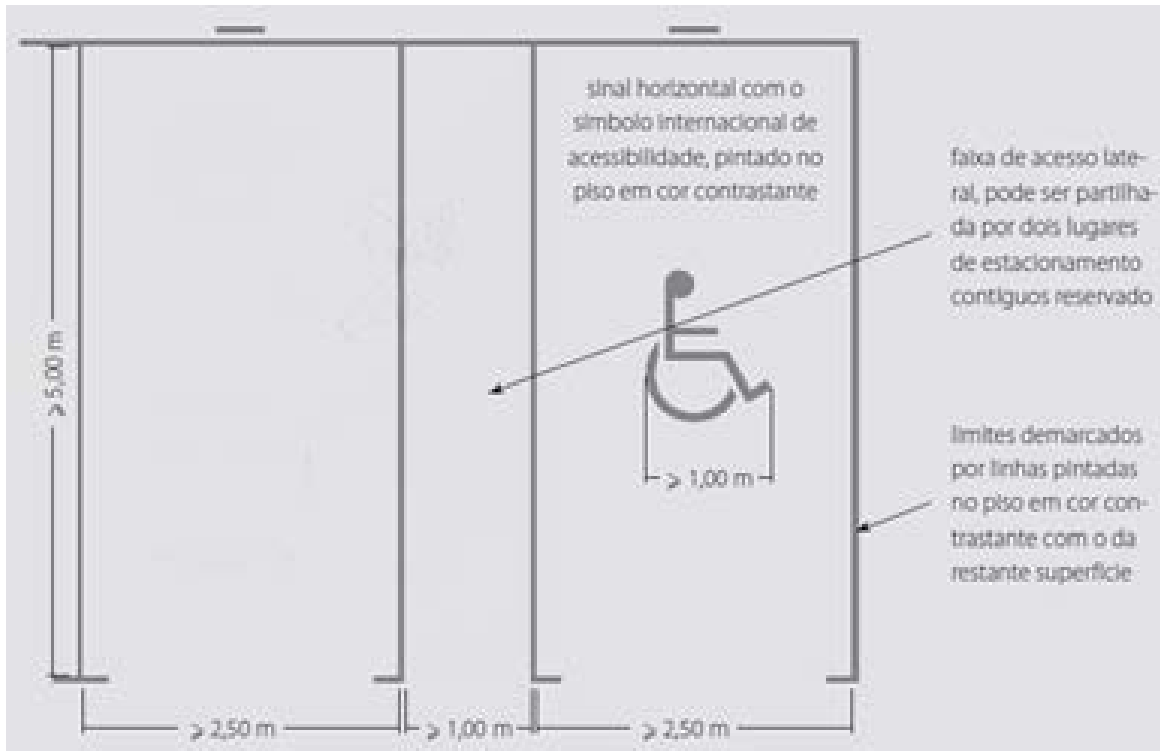
As rampas devem ainda ser dotadas de corrimão de ambos os lados, os quais devem ser paralelos ao piso da rampa e contínuos ao longo de toda a extensão da mesma, devendo ainda, ser prolongados por 0,3 m na base e topo da rampa. A exceção à regra, neste caso, consiste nas rampas que se destinem a vencer desníveis máximos de 0,2 m ou entre 0,2 m e 0,4 m e inclinação máxima de 6%, as quais podem apresentar corrimão em apenas um dos lados. Por outro lado, se a rampa apresentar uma largura superior a 3 m poderá ser dotada de apenas um corrimão duplo central (em substituição dos laterais) e, no caso de a largura ser superior a 6 metros, deverá apresentar corrimão duplo central associado a corrimão simples de ambos os lados.

Se existirem rampas em curva, a inclinação não deve ser superior a 8% e o raio de curvatura, medido no perímetro interno da rampa, deve ser superior a 3 m.

No que respeita os espaços para estacionamento de viaturas, os lugares de estacionamento devem ter uma largura útil superior a 2,5 m, possuírem uma faixa de acesso lateral com uma largura útil superior a 1 m e ter um comprimento útil superior a 5 m (DL 163/06, Cap. 2, ponto 2.8) (figura 8).

Devem estar localizados ao longo do percurso acessível mais curto até à entrada/saída do edifício e ter os seus limites demarcados por linhas pintadas no piso, em cor contrastante com a restante superfície. Devem ainda ser reservados por um sinal horizontal com o símbolo internacional de acessibilidade, pintado no piso em cor contrastante com a da restante superfície e por um sinal vertical, visível mesmo quando o veículo se encontra estacionado.

**Figura 8 - Características dos lugares de estacionamento acessíveis**



Fonte: Teles *et al.* (2007, 121)

### 5.3 Estabelecimentos e edifícios em geral

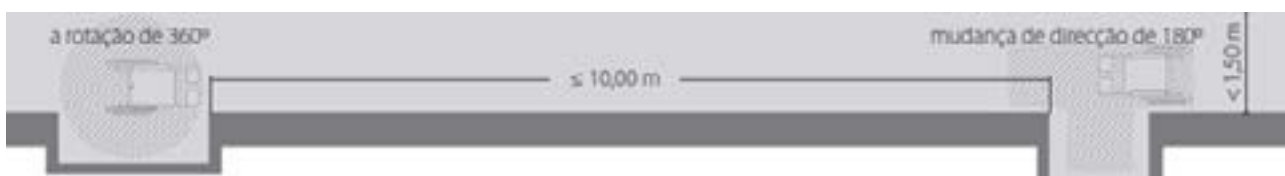
Nos átrios interiores e do lado exterior das portas de acesso aos estabelecimentos e edifícios, deve ser possível inscrever uma zona de manobra, para uma rotação da cadeira de rodas de 360° (DL 163/06, Cap. 2, ponto 2.2).

As portas de entrada/saída devem apresentar uma largura útil superior a 0,87 m. Se for de batente ou pivotante considerar a porta na posição aberta a 90°.

Os patamares, galerias e corredores devem ter uma largura igual ou superior a 1,2 m, podendo no entanto existir troços com uma largura não inferior a 0,9 m, se o seu comprimento for inferior a 1,5 m e não derem acesso a portas laterais (DL, 163/06, Cap. 2, ponto 2.3).

No entanto, se a largura for inferior a 1,5 m, devem ser localizadas zonas de manobra que permitam uma rotação de 360° ou mudança de direção de 180° em T, de modo a não existirem troços com extensão superior a 10 m (figura 9).

**Figura 9 - Zonas de manobra em patamares, galerias e corredores com largura inferior a 1,5 m**

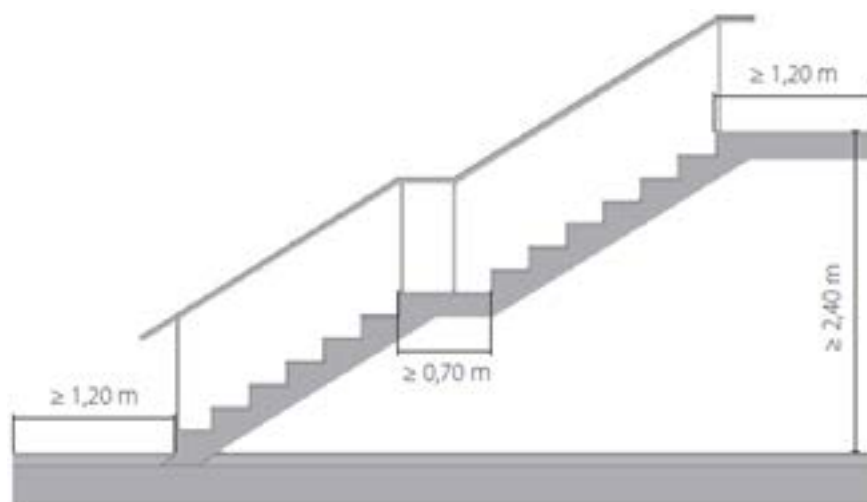


Fonte: Teles *et al.* (2007, 96)

Se existirem corrimãos, estes devem estar instalados a uma altura do piso de 0,9 m.

As escadas devem possuir patamares superiores e inferiores com uma profundidade, no sentido do movimento, não inferior a 1,2 m e a largura dos lanços, patins (permite a divisão das escada em lanços) e patamares, não deve ser inferior a 1,2 m (DL 163/06, Cap. 2, ponto 2.4) (figura 10). Se os desníveis a vencer, medidos na vertical entre o pavimento imediatamente anterior ao primeiro degrau e o cobertor (piso ou base) do degrau superior, forem superiores a 2,4 m, os patins intermédios devem possuir uma profundidade, no sentido do movimento, não inferior a 0,7 m.

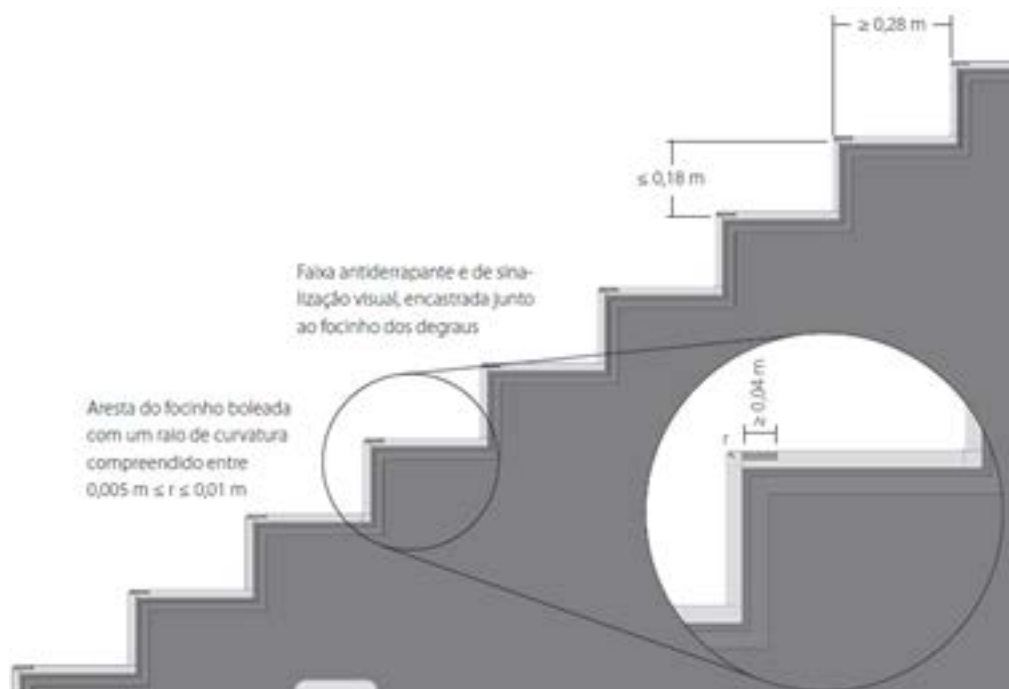
Figura 10 - Escadas acessíveis



Fonte: Teles *et al.* (2007, 97)

Os degraus devem ser constantes ao longo do lanço e devem ter uma profundidade não inferior a 0,28 m e uma altura (espelho) não superior a 0,18 m. A aresta do focincho deve ser boleada (bordo do degrau, quando saliente) deve possuir um raio de curvatura entre 0,005 m e 0,01 m e junto do focincho dos degraus, devem existir faixas antiderrapantes e de sinalização visual, com uma largura não inferior a 0,04 m e não devem possuir elementos salientes, arestas vivas ou extremidades projetadas perigosas (figura 11).

Figura 11 - Características dos degraus de escadas acessíveis



Fonte: Teles *et al.* (2007, 98)

As escadas com desníveis superiores a 0,4 m, devem possuir corrimãos de ambos os lados, os quais devem ter uma altura compreendida entre 0,85 m e 0,9 m, medida verticalmente entre o focincho dos degraus e o bordo superior do elemento preênsil. Os corrimãos devem ser contínuos ao longo de toda a escada e no topo da mesma, devem prolongar-se no mínimo, 0,3 m para além do último degrau.

Se o edifício ou estabelecimento possuir mais do que um piso, deve apresentar, pelo menos um ascensor, para uma melhor mobilidade aos pisos superiores (DL 163/06, Cap. 2, ponto 2.6).

O patamar diante da porta do ascensor deve ter dimensões que permitam inscrever uma zona de manobra, para rotação de cadeira de rodas de 360°, livre de degraus e outros obstáculos e deve possuir uma inclinação não superior

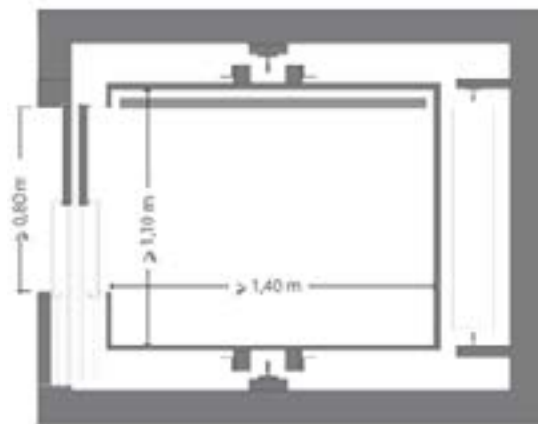
a 2%, em qualquer direção.

As cabinas dos ascensores devem ter dimensões interiores de 1,1 m de largura por 1,4 m de profundidade (figura 12). Devem ter precisão de paragem, ao nível do piso dos patamares, inferior a 0,02 m, com um espaço entre o piso das cabinas e o patamar, inferior a 0,035 m. Devem ter pelo menos uma barra de apoio, colocada numa parede livre do interior da cabina situada a uma altura compreendida entre 0,875 m e 0,925 m e a uma distância da parede da cabina, compreendida entre 0,035 m e 0,05 m.

As portas devem ter um movimento automático e correr horizontalmente (no caso de ascensores novos). Devem possuir uma largura não inferior a 0,8 m e uma cortina de luz *standart*, que permita a imobilização das portas e o andamento da cabina.

Os dispositivos de comando devem estar identificados por sinais visuais e devem possuir um botão de alarme e outro de paragem de emergência, instalados a uma altura compreendida entre 0,9 m e 1,2 m nos patamares e 9,0 m e 1,3 m no interior das cabinas.

**Figura 12 - Dimensões de ascensores acessíveis**

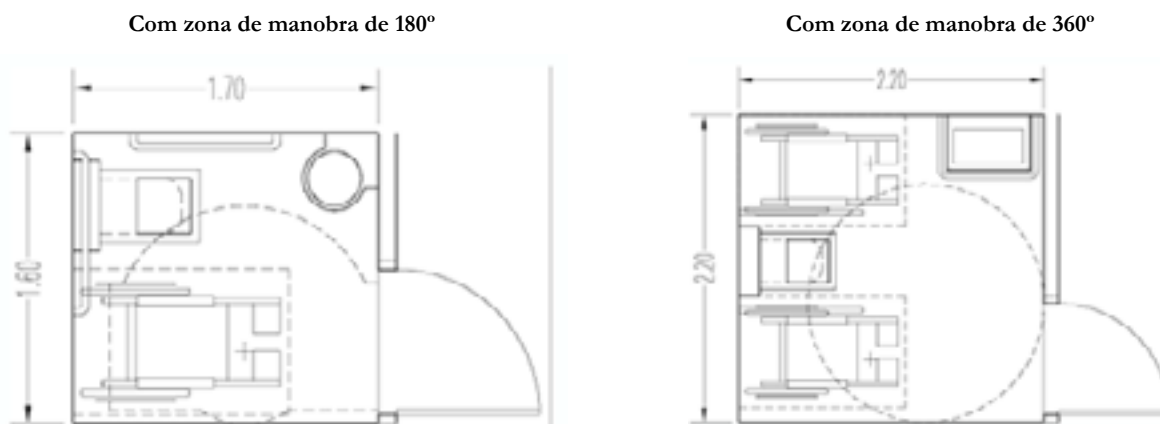


Fonte: Teles *et al.* (2007, 113)

Nos edifícios, devem existir acessos e acessibilidade para utilização de pelo menos um equipamento de instalações sanitárias de utilização geral, para cada sexo e deve estar integrado ou próximo das restantes instalações sanitárias (DL 163/06, Cap. 2, ponto 2.9).

As instalações sanitárias devem ter como espaço interior, dimensões superiores a 1,60 m de largura por 1,70 m de comprimento, com possibilidade de inscrever uma zona de manobra para rotação da cadeira de rodas a 180°, no espaço que permanece livre após a instalação dos aparelhos sanitários (figura 13). É também recomendável a instalação de um lavatório acessível que não interfira com a área de transferência para a sanita. Quando nas instalações sanitárias for previsível o uso frequente de pessoas com mobilidade condicionada, estas devem ter dimensões não inferiores a 2,2 m de largura por 2,2 m de comprimento, com possibilidade de inscrever uma zona de manobra para rotação da cadeira de rodas a 360°, no espaço que permanece livre após a instalação dos aparelhos sanitários.

**Figura 13 - Dimensões da instalação sanitária acessível**



Fonte: Teles *et al.* (2007, 125 e 126)



As instalações sanitárias devem ter uma sanita acessível, de altura do piso ao bordo superior do assento de 0,45 m, admitindo-se uma tolerância de  $\pm 0,01$  m, com barras de apoio a 0,80 m do piso e estas devem ser adjacentes à zona livre e rebatíveis na vertical.

As banheiras que se encontram em instalações sanitárias específicas para pessoas com mobilidade condicionada, devem ser acessíveis e devem apresentar uma zona livre, localizada ao lado da base da banheira, com um recuo de 0,3 m, relativamente ao assento, de modo a permitir a transferência de uma pessoa de cadeira de rodas. O assento por sua vez, deve ser instalado no interior da banheira, com uma dimensão não inferior a 0,4 m, devendo ser móvel e, quando estiver em uso, deve ser fixado seguramente de modo a não deslizar. Deve ainda apresentar uma superfície impermeável e antiderrapante. A altura do piso ao bordo superior da banheira deve ser de 0,45 m, admitindo-se uma tolerância de  $\pm 0,01$  m, e junto à banheira devem existir barras de apoio.

As bases de duche acessíveis devem permitir a entrada para o seu interior, da pessoa com cadeira de rodas. Nestas condições devem ter dimensões entre 0,80 m de largura e 1,50 m de comprimento. A inclinação do piso da base de duche deve ser na direção do ponto de escoamento e não deve ser superior a 2%. O ressalto entre a base e o piso adjacente não deve ser superior a 0,02 m. As barras de apoio devem estar à altura do piso de 0,85 m a 0,95 m.

Se as bases de duche acessíveis não permitirem a entrada de uma pessoa em cadeira de rodas ao seu interior, deve existir uma zona livre localizada ao lado, que permita a transferência para um assento no seu interior, assento esse de largura não inferior a 0,80 m. Estas bases devem ter dimensões entre 0,80 m e 1,10 m e devem possuir barras de apoio a uma altura do piso compreendida entre 0,70 m a 0,75 m.

O assento da base de duche deve possuir uma profundidade não inferior a 0,4 m e um comprimento superior a 0,7 m. Deve possuir os cantos arredondados e ser rebatível e a superfície deve ser impermeável e antiderrapante.

Os urinóis das instalações sanitárias acessíveis devem estar assentes no piso ou então fixos na parede, e apresentar uma altura compreendida entre 0,6 m e 0,65 m. Devem possuir barras verticais de apoio a uma altura de 0,75 m e com um comprimento de 0,7 m e apresentar um afastamento do eixo do urinol de 0,3 m. Deve ainda existir uma zona de aproximação frontal ao urinol.

O lavatório deve ter uma largura não inferior a 0,70 m, uma altura não inferior a 0,65 m e uma profundidade a partir do bordo frontal não inferior a 0,50 m. Deve estar numa zona livre entre 0,75 m e 1,20 m e colocado à altura de 0,80 m. Sob o lavatório não devem existir elementos ou superfícies cortantes ou abrasivas.

Os espelhos, colocados sobre os lavatórios acessíveis, devem estar colocados com a base inferior da superfície refletora, a uma altura do piso não superior a 0,9 m, se forem fixos na posição vertical. Se tiverem inclinação regulável, devem estar colocados com a base inferior da superfície refletora a uma altura do piso não superior a 1,1 m.

O equipamento de alarmes das instalações sanitárias acessíveis deve estar ligado ao sistema de alarme para o exterior, disparar um alerta luminoso ou sonoro e os seus terminais devem estar indicados para utilização com luz e auto iluminados para serem vistos no escuro. Estes terminais podem ser botões de carregar, botões de puxar ou cabos de puxar e devem estar colocados a uma altura do piso, compreendida entre 0,4 m e 0,6 m.

Os controlos da torneira, escoamento e válvulas de descarga da sanita e os acessórios (suporte de toalhas, saboneteira e suporte de papel higiénico) devem permitir a aproximação frontal ou lateral, operados com uma mão fechada, oferecer resistência mínima e não requerer preensão firme. As torneiras devem ser do tipo monocomando e acionadas por alavanca e o controlo do escoamento do tipo alavanca.

A porta de acesso deve ser de correr ou de batente, neste caso abrindo para fora.

Os pisos existentes nos edifícios e os seus revestimentos devem possuir uma superfície estável, durável, firme e contínua, sem juntas de profundidade superior a 0,005 m. Devem ter superfícies com cores, nem demasiado claras nem demasiado escuras e com acabamento não polido, sem grelhas, buracos ou frestas, com diâmetro superior a 0,02 m (DL 163/06, Cap. 4, ponto 4.7).

Se forem revestidos a tapetes, alcatifas ou passadeiras, estes devem ser fixos, de espessura não superior a 0,015 m e desnível para o piso adjacente não superior a 0,005 m.

Os pisos não encerados ou onde exista água (ex: instalações sanitárias, cozinhas, etc.) devem garantir uma boa aderência, ter boa qualidade de drenagem superficial e secagem, e ter uma inclinação compreendida entre 0,5 % e 2 %, no sentido de escoamento das águas.

Nos edifícios, as portas devem tentar deter um conjunto de características (DL 163/06, Cap. 4, ponto 4.9 e 4.10). Os vãos das portas interiores devem possuir uma largura útil não inferior a 0,77 m, medida entre a face da folha da porta quando aberta e o batente do lado oposto, se for de batente ou pivotante é considerada a porta aberta a 90° e uma altura não inferior a 2 m.

Em portas com duas folhas, operadas independentemente, pelo menos uma delas deve satisfazer as características referidas anteriormente.

Se nas portas existirem ressaltos de piso, calhas elevadas, batentes ou soleiras, estes devem ter uma altura do piso adjacente inferior a 0,02 m.

Os puxadores, fechaduras, trincos ou outros dispositivos devem oferecer resistência mínima e uma forma fácil de

agarrar com a mão que não requeiram preensão firme ou rodar o pulso. Devem ser colocados a uma altura do piso entre 0,80 m e 1,10 m e distantes do bordo exterior da porta 0,05 m.

Nas portas de batente deve existir uma barra horizontal fixa, a uma altura do piso compreendida entre 0,80 m e 1,10 m com uma extensão não inferior a 0,25 m.

Nas portas de correr o sistema de operação é exposto e utilizável de ambos os lados mesmo totalmente abertas.

Em portas ou paredes envidraçadas para se tornarem visíveis são colocadas marcas de segurança, à altura do piso, entre 1,20 m e 1,50 m.

As portas de movimento automático têm de permitir o controlo da velocidade de fecho, programado para permanecerem totalmente abertas até à zona de passagem e estar totalmente desimpedidas e adaptadas com corrimãos de proteção.

Os corrimãos e barras de apoio (DL 163/06, Cap. 4, ponto 4.11) devem possuir um diâmetro ou largura das superfícies de preensão compreendido entre 0,035 m e 0,05 m, não possuindo superfícies abrasivas, extremidades perigosas ou arestas vivas que dificultem o deslizamento da mão. O espaço entre o elemento e qualquer superfície adjacente, não deve ser inferior a 0,035 m. Em planos recuados da face das paredes, a profundidade não deve ser superior a 0,08 m e o espaço livre, acima do topo superior do corrimão, inferior a 0,30 m.

Os comandos e controlos (ex.: botões, teclas e outros elementos similares) devem ter dimensões não inferiores a 0,02 m e devem ser colocados em “zonas livres” a uma altura que permita alcance frontal ou lateral, com uma forma fácil de agarrar com uma mão e que não requeira preensão firme ou rodar o pulso (DL 163/06, Cap. 4, ponto 4.12).

Os botões da campainha, comutadores da luz e os botões de sistema de comando dos ascensores, devem estar sinalizados com dispositivos luminosos de presença e possuir identificação tátil em Braille ou alto-relevo e não depender do uso de chave ou cartão.

Deve existir sinalização e orientação que identifique e direcione as pessoas para entradas/saídas acessíveis, percursos acessíveis, lugares de estacionamento reservados para pessoas com mobilidade condicionada e instalações sanitárias acessíveis (DL, 163/06, Cap. 4, ponto 4.14).

O símbolo internacional de acessibilidade consiste numa figura estilizada de uma pessoa em cadeira de rodas.

A sinalização, de forma a assegurar a legibilidade, deve estar localizada de modo a ser facilmente vista, lida e entendida, por uma pessoa a pé. Deve ter uma superfície antirreflexo, possuir caracteres e símbolos com cores que contrastem com o fundo e proporcionem o adequado entendimento da mensagem.

#### **5.4. Edifícios e instalações escolares e de formação**

Nos edifícios e instalações destinadas à formação ou ao ambiente escolar, as passagens exteriores entre os edifícios devem ser cobertas e apresentarem uma largura mínima de 1,8 m, igual à exigida nos corredores interiores (DL 163/06, Cap. 3, ponto 3.5).

Se os edifícios apresentarem mais do que um piso, devem existir acessos alternativos às escadas, por ascensores e/ou rampas.

### **6. PROPOSTA METODOLÓGICA DE ANÁLISE E DIAGNÓSTICO DA ACESSIBILIDADE ESCOLAR**

Neste capítulo pretende-se apresentar uma metodologia de análise e diagnóstico da acessibilidade física escolar. A aplicação desta metodologia permite averiguar e avaliar os constrangimentos e as barreiras que os alunos com deficiência se deparam quando se deslocam para os edifícios escolares e no seu interior. Permite, ainda, sugerir algumas soluções e melhorias que possam ser passíveis de realizar, com o intuito de reabilitar e possibilitar a sua funcionalidade.

Para o efeito foram elaboradas listas de verificação de um conjunto de parâmetros, referentes aos espaços físicos interiores, bem como a toda a envolvente exterior. Os parâmetros foram selecionados com base nas recomendações técnicas legislativas, ou seja, as normas do Decreto-lei nº 163/2006 de 8 de agosto, descritas no capítulo anterior e considerando as sugestões do Guia de Acessibilidade e Mobilidade para Todos (Teles *et al.*, 2007). As listas correspondem a tabelas de análise técnica, que permitem avaliar a conformidade dos espaços através de parâmetros a serem observados, sendo classificados com as opções “Conforme”, “Não conforme” e “Não aplicável” (NA) (para exemplificar apresentam-se as tabelas 1 a 4). Com estas tabelas pretende-se que os problemas sejam facilmente diagnosticados e identificar quais as áreas em que, a ser possível, se possa intervir. Nestas tabelas assume-se a designação e a numeração dos parâmetros constantes na legislação referida.

As demais tabelas desenvolvidas, alusivas à análise da acessibilidade de edifícios para instalações sanitárias, dos recintos e instalações desportivas, edifícios e instalações escolares de formação e dos percursos, portas, barras de apoio, comandos e sinalização encontram-se em Pinto (2015).

## 7. A NECESSIDADE DE REVISÃO DAS NORMAS TÉCNICAS DA ACESSIBILIDADE

O Decreto-Lei 163/2006 faz alusão às pessoas com necessidades especiais, ou seja, pessoas que se confrontam com barreiras ambientais, impeditivas de uma participação cívica ativa, resultantes de fatores permanentes ou temporários, de deficiências de ordem intelectual, emocional, sensorial, física ou comunicacional. Dá ênfase ao conceito de “pessoas com mobilidade condicionada” especificando que correspondem às pessoas em cadeiras de rodas, pessoas incapazes de andar ou que não conseguem percorrer grandes distâncias, pessoas com dificuldades sensoriais (tais como as pessoas cegas ou surdas), e aquelas que se apresentam transitoriamente condicionadas, como as grávidas, as crianças e os idosos.

A análise substantiva dos parâmetros de conformidade construídos a partir das normas técnicas para melhoria da acessibilidade das pessoas com mobilidade condicionada, desenvolvidos no capítulo anterior, permite-nos concluir que a maioria das soluções listadas servem para atender à especificidade das pessoas com deficiência motora, sendo, no geral, úteis para as demais tipologias de deficiência, seguindo os objetivos do Design Universal.

As especificidades das pessoas cegas e amblíopes são discretamente atendidas. A necessidade de pavimentos táteis só é considerada no caso de serem realizadas obras de construção, reconstrução ou alteração de passagens de peões que devem ter o início e o fim assinalados no piso dos passeios por sinalização tátil. No entanto, em toda a norma, na alusão a elementos arquitetónicos e urbanísticos e à legibilidade do espaço dá-se ênfase à utilização de material de revestimento de textura diferente e cor contrastante com o restante piso, o que é somente favorável para as pessoas de baixa visão. Também se faz alusão às pessoas com deficiência visual, nas passagens de peões de superfície com semaforização, em que os semáforos devem ser equipados com mecanismos complementares que emitam um sinal sonoro quando o sinal estiver verde para os peões.

Os telefones de uso público e os equipamentos de auto-atendimento devem ter teclas identificadas com referência tátil (exemplos: em alto-relevo ou braille). Também os botões de campainha, os comutadores de luz e os botões do sistema de comando dos ascensores e plataformas elevatórias devem possuir identificação tátil.

As especificidades das pessoas surdas somente são atendidas no equipamento de alarme das instalações sanitárias acessíveis que deve disparar um alerta luminoso e sonoro.

Em face do exposto, torna-se necessário proceder à revisão do Decreto-Lei 163/2006 para atender às especificidades de cada tipologia de deficiência.

**Tabela 1 - Lista de parâmetros de análise da acessibilidade da via pública para passeios, passagens de peões e estacionamentos**

Norma Dec.-lei nº 163/2006	Parâmetros	Valores Recomendados	Conforme Não Conforme Não Aplicável	Obs.
<b>Capítulo 1 – Via pública</b>				
1.2. Passeios e caminhos de peões	Largura dos passeios adjacentes a vias principais e distribuidoras (1.2.1.)	≥ 1,5 m		
	Largura dos pequenos acessos pedonais com comprimento ≤ 7 m (1.2.2.)	≥ 9 m		
1.6. Passagem de peões de superfície	Altura do lancil em toda a largura das passagens de peões (1.6.1.)	≤ 0,02 m		
	Pavimento do passeio na zona adjacente à passagem de peões deve ser rampeado (1.6.2.): <ul style="list-style-type: none"> <li>• Inclinação na direção da travessia peões</li> <li>• Inclinação na direção do lancil do passeio ou caminho de peões</li> </ul>	≤ 8 % ≤ 10 %		
	Zona de interseção das travessias de peões com os separadores centrais (1.6.3.): <ul style="list-style-type: none"> <li>• Largura do separador</li> <li>• Inclinação do separador</li> </ul>	≥ 1,2 m ≤ 2 %		
	Piso com textura ou cor contrastante	Sim / Não		
2.8. Espaços para estacionamento de viaturas	Número de lugares reservados em estacionamento com lotação ≤ 10 lugares (2.8.1.1.)	1		
	Número de lugares reservados em estacionamento com lotação entre 11 a 25 lugares (2.8.1.2.)	2		
	Número de lugares reservados em estacionamento com lotação entre 26 a 100 lugares (2.8.1.3.)	3		
	Número de lugares reservados em estacionamento com lotação entre 101 a 500 lugares (2.8.1.4.)	4		
	Número de lugares reservados em estacionamento com lotação > 500 lugares (2.8.1.5.)	1 por 100 lugares		
	Largura útil (2.8.2.1.)	≥ 2,5 m		
	Largura da faixa de acesso lateral (2.8.2.2.)	≥ 1 m		
	Comprimento útil (2.8.2.3.)	≥ 5 m		
	Localizados ao longo do percurso acessível mais curto (2.8.2.4.)	Sim / Não		
	A existir mais do que um local de estacionamento, estes devem encontrar-se dispersos e perto dos locais de entrada/saída (2.8.2.5.)	Sim / Não		
	Limites demarcados por linhas pintadas no piso com cor contrastante (2.8.2.6.)	Sim / Não		
	Símbolo internacional de acessibilidade pintado no piso na horizontal (2.8.2.7.)	Sim / Não		
	Símbolo internacional de acessibilidade em sinal vertical (2.8.2.7.)	Sim / Não		

Fonte: elaboração própria a partir do DL 163/2006

Tabela 2 - Lista de parâmetros de análise da acessibilidade de edifícios para átrios, corredores e escadas

Norma Dec.-lei nº 163/2006	Parâmetros	Valores Recomendados	Conforme Não Conforme Não Aplicável	Obs.
<b>Capítulo 2 – Edifícios e estabelecimentos em geral</b>				
<b>2.2. Átrios</b>	<b>Zona de manobra</b> de uma cadeira de rodas, do lado exterior das portas de acesso aos edifícios (d – diâmetro) (2.2.1.)	d ≥ 1,5 m Rotação de 360°		
	<b>Zona de manobra</b> de uma cadeira de rodas, nos átrios interiores (2.2.2.)	d ≥ 1,5 m Rotação 360°		
	<b>Largura da porta</b> de entrada/saída dos edifícios (2.2.3.)	≥ 0,87 m		
<b>2.3. Patamares, galerias, corredores</b>	<b>Largura dos patamares, galerias e corredores</b> (2.3.1.)	≥ 1,2 m		
	<b>Largura de troços</b> de patamares, galerias, corredores <b>com comprimento ≤ a 1,5m</b> , sem acesso a portas laterais ou espaços acessíveis (2.3.2.)	≥ 0,9 m		
	<b>Zona de manobra</b> se a largura dos patamares, galerias, corredores for inferior a 1,5m (2.3.3.)	d ≥ 1,5 m Rotação 360°		
	<b>Altura dos corrimãos</b> nos patamares, galerias, corredores (2.3.4.)	0,9 m		
<b>2.4. Escadas</b>	<b>Largura dos lanços, patins e patamares das escadas</b> (2.4.1)	≥ 1,2 m		
	<b>Profundidade dos patamares superiores e inferiores das escadas:</b> no sentido do movimento (2.4.2.1.)	≥ 1,2 m		
	<b>Profundidade</b> dos patins intermédios (2.4.2.2.)	≥ 0,7 m		
	<b>Profundidade</b> dos degraus (2.4.3.1.)	≥ 0,28 m		
	<b>Altura</b> dos degraus (2.4.3.2.)	≤ 0,18 m		
	<b>Raio de curvatura (Rc)</b> da aresta do focinho boleada dos degraus (2.4.3.4.)	0,005 m ≤ Rc ≤ 0,01 m		
	<b>Largura das faixas antiderrapantes</b> e de sinalização visual (2.4.3.5.)	≥ 0,04 m		
	<b>Degraus sem elementos salientes nos planos de concordância entre a profundidade e altura</b> (2.4.6.)	Sim / Não		
	<b>Elementos das escadas sem arestas vivas ou extremidades projetadas perigosas</b> (2.4.7.)	Sim / Não		
	<b>Escadas com desníveis superiores a 0,4 m</b> devem possuir corrimãos de ambos os lados (2.4.8.)	Sim / Não		
	<b>Altura dos corrimãos (h)</b> (2.4.9.1)	0,8 m ≤ h ≤ 0,9 m		
	<b>Prolongamento dos corrimãos no topo da escada</b> para além do último degrau (2.4.9.2)	≤ 0,3 m		
	<b>Corrimões</b> contínuos ao longo dos lanços da escada (2.4.9.4)	Sim / Não		
	<b>Degraus isolados e escadas</b> constituídas por menos de três degraus (2.4.10.)	Sim / Não		
<b>Degraus isolados e escadas</b> devem de estar assinalados com revestimento de textura diferente e cor contrastante (2.4.10.)	Sim / Não			
<b>Escadas complementares</b> acompanhadas de rampas, ascensores ou plataformas elevatórias (2.4.11.)	Sim / Não			

Fonte: elaboração própria a partir do DL 163/2006

**Tabela 3 - Lista de parâmetros de análise da acessibilidade de edifícios para rampas**

Norma Dec.-lei nº 163/2006	Parâmetros	Valores Recomendados	Conforme Não Conforme Não Aplicável	Obs.
<b>Capítulo 2 – Edifícios e estabelecimentos em geral</b>				
<b>2.5. Rampas</b>	<b>Inclinação</b> <ul style="list-style-type: none"> <li>• Para vencer desnível &lt; 0,6 m e ter projeção horizontal &lt; 10 m (2.5.1.1.)</li> <li>• Para vencer desnível &lt; 0,4 m e ter projeção horizontal &lt; 5 m (2.5.1.2.)</li> </ul>	$\leq 6 \%$ $\leq 8 \%$		
	<b>Inclinação de rampas em reabilitação de edifícios (2.5.2.):</b> <ul style="list-style-type: none"> <li>• Para vencer desnível &lt; 0,2 m e ter projeção horizontal &lt; 2 m</li> <li>• Para vencer desnível &lt; 0,1 m e ter projeção horizontal &lt; 0,83 m</li> </ul>	$\leq 10 \%$ $\leq 12 \%$		
	<b>Raio (R)</b> das rampas em curva (medido no perímetro interno da rampa) (2.5.3.)	$R \geq 3 \text{ m}$		
	<b>Inclinação das rampas em curva (2.5.3.)</b>	$\leq 8 \%$		
	<b>Largura (2.5.4.)</b> (exceção: para rampas com projeção horizontal $\leq 5 \text{ m}$ , largura $\geq 0,9 \text{ m}$ ; existência de 2 rampas para o mesmo percurso, largura: $\geq 0,9 \text{ m}$ )	$\geq 1,2 \text{ m}$		
	<b>Plataformas horizontais de descanso</b> nos locais em que existe mudança de direção com um ângulo $\leq 90^\circ$ : Largura (L) (2.5.5.) Comprimento (C) (2.5.6.)	$L \geq \text{à da rampa}$ $C \geq 1,5 \text{ m}$		
	<b>Corrimões de ambos os lados.</b> <u>Exceção:</u> ter só um se vencerem um desnível $\leq 0,2 \text{ m}$ ou se vencerem um desnível entre $0,2 \text{ m}$ e $0,4 \text{ m}$ , com inclinação $\leq 6 \%$ (2.5.7.)	Sim / Não		
	<b>Corrimões contínuos</b> ao longo dos lanços e patamares de descanso; paralelos ao piso da rampa (2.5.8.)	Sim / Não		
	Prolongamento do corrimão na base e no topo (2.5.8.)	$\geq 0,3 \text{ m}$		
	<b>Altura (h) do corrimão</b> em rampas com uma inclinação $\leq 6\%$ (2.5.9.)	$0,85 \text{ m} \leq h \leq 0,95 \text{ m}$		
	<b>Altura (h) do corrimão duplo</b> em rampas com inclinação $\geq 6\%$ (2.5.9.)	$0,7 \text{ m} \leq h \leq 0,75 \text{ m}$ $0,9 \text{ m} \leq h \leq 0,95 \text{ m}$		
	<b>Revestimento do piso:</b> no seu início e fim deve ter faixas com textura diferente e cor contrastante (2.5.10)	Sim / Não		

Fonte: elaboração própria a partir do DL 163/2006

Tabela 4 - Lista de parâmetros de análise da acessibilidade de edifícios para ascensores e plataformas elevatórias

Norma Dec.-lei nº 163/2006	Parâmetros	Valores Recomendados	Conforme Não Conforme Não Aplicável	Obs.
<b>Capítulo 2 – Edifícios e estabelecimentos em geral</b>				
<b>2.6. Ascensores</b>	<b>Zona de manobra</b> dos patamares diante das portas dos ascensores (2.6.1.1.)	Rotação 360°		
	<b>Inclinação dos</b> patamares diante das portas dos ascensores (2.6.1.2.)	≤ 2%		
	<b>Patamares diante das portas dos ascensores desobstruídos</b> de degraus ou outros obstáculos (2.6.1.3.)	Sim / Não		
	<b>Largura</b> da cabina (2.6.2.1.)	≥ 1,10 m		
	<b>Profundidade</b> da cabina (2.6.2.1.)	≥ 1,40 m		
	<b>Desnível</b> para garantir precisão de paragem (2.6.2.2.)	≤ 0,02 m		
	<b>Distância</b> entre os patamares e o piso (2.6.2.3.)	< 0,035 m		
	<b>Altura</b> da barra de apoio no interior (2.6.2.4.)	0,875 m < h > 0,925 m		
	<b>Portas de correr horizontal e movimento automático</b> (em ascensores novos) (2.6.4.1.)	Sim / Não		
	<b>Largura útil</b> da porta (2.6.4.2.)	≥ 0,8 m		
	<b>Cortina de luz standart</b> (feixe plano), imobilizadora das portas e do andamento (2.6.4.3.)	Sim / Não		
	<b>Altura dos dispositivos de comando</b> localizados nos patamares (2.6.5.1.)	0,9 m ≤ h ≤ 1,2 m		
	<b>Altura dos dispositivos de comando</b> localizados no interior (2.6.5.1.)	0,9 m ≤ h ≤ 1,3 m		
	<b>Comando com sinais visuais</b> que indiquem o seu registo (2.6.5.2.)	Sim / Não		
<b>Botão de alarme e de paragem</b> de emergência no interior (2.6.5.3.)	Sim / Não			
<b>2.7. Plataformas elevatórias</b>	<b>Dimensão</b> das plataformas elevatórias (2.7.1.)	≥ 0,75 m por 1 m		
	<b>Desnível (d)</b> para garantir <b>precisão de paragem</b> (2.7.2.)	≤ 0,02 m		
	<b>Zonas de entrada/saída livres de obstáculos</b> (2.7.3.)	Profundidade ≥ 1,2 m Largura ≥ plataforma		
	<b>Portas ou barras de proteção</b> para um desnível entre a plataforma e o piso > 0,75 m (2.7.4.)	Sim / Não		
	<b>Altura (h) dos anteparos</b> (exceção para o lado que permite o acesso) (2.7.5.)	≥ 0,1 m		
	<b>Controlo visível</b> e autonomamente funcional (2.7.6)	Sim / Não		

Fonte: elaboração própria a partir do DL 163/2006

## 8. CONSIDERAÇÕES FINAIS

A Declaração de Salamanca aponta para a escola regular, como sendo o meio mais eficaz de “combater as atitudes discriminatórias, criando comunidades abertas e solidárias, construindo uma sociedade inclusiva e atingindo a educação para todos” (UNESCO, 1994, p. ix).

O princípio orientador desta Declaração é o de que as escolas devem receber todas as crianças, independentemente das suas condições físicas, sensoriais, mentais, linguísticas, emocionais, sociais, etc.

A escola, enquanto instituição pública, deve conceber o seu espaço escolar como espaço de práticas educativas e sociais, tendo em consideração a heterogeneidade e as necessidades dos seus alunos e agentes educativos.

Ao analisar-se a evolução dos paradigmas sociais e educativos rumo a uma educação inclusiva, percebe-se que a partir da década de 80 do século XX, a participação da pessoa com deficiência na sociedade, começa a ser encarada num contexto de inclusão social, cabendo à sociedade garantir o acesso de todos, independentemente do tipo de deficiência e do grau de comprometimento. Neste conceito de “inclusão social” integra-se o contexto educativo, e a escola começa a entender a criança como um todo e não apenas pelo seu desempenho escolar. As crianças começam a ser educadas num ambiente inclusivo em que todas as diferenças são valorizadas e o seu percurso educativo orientado para proporcionar-lhes o desempenho ativo na sociedade, que se assume igualitária de direitos.

Em Portugal, estas mudanças sociais tiveram algumas repercussões a nível educativo e, acompanhando as mudanças internacionais, Portugal tentou responder a estas evoluções publicando alguma legislação de suporte, da qual se destaca o Decreto-lei nº 3/2008 de 7 de janeiro. Este decreto define os apoios especializados a desenvolver no processo educativo dos alunos com necessidades educativas especiais atende ao paradigma inclusivo, permitindo a mobilização de serviços especializados para promover o potencial biopsicossocial destes alunos.

Atualmente a legislação em vigor relativa à acessibilidade em espaços construídos é o Decreto-Lei nº163/2006 de 8 de agosto, que revoga o Decreto-lei nº 123/97 de 22 de maio. Este decreto define as normas técnicas da acessibilidade e aprova o seu regime, não somente dos edifícios e estabelecimentos que recebem público e via pública, mas também de edifícios habitacionais.

Foi desenvolvida uma metodologia de análise e diagnóstico das barreiras urbanísticas e arquitetónicas existentes nos espaços escolares através da listagem de parâmetros técnicos desta legislação.

Concluiu-se que esta legislação dá mais ênfase às necessidades das pessoas com deficiência motora, requerendo-se que na próxima revisão se considere com maior destaque as especificidades das pessoas com deficiência visual, auditiva e outras, ou seja, a diversidade humana

Também o próximo desafio em termos de acessibilidade escolar constitui a efetivação das considerações de acessibilidade atendendo à heterogeneidade individual, para que a autonomia seja alcançada. Se um aluno sentir confiança ao movimentar-se no seu ambiente escolar, percebe que não necessita da ajuda de terceiros, sejam eles colegas, funcionários ou mesmo os encarregados de educação, o que permitirá elevar a sua responsabilidade e consequentemente suplantará todos os desafios que possam surgir. Quanto mais independente, mais autodeterminado o aluno se sente e mais preparado se encontra para enfrentar a vida futura em sociedade. A autodeterminação é um dos princípios fundamentais dos direitos humanos e abrange dois outros conceitos muito importantes, a “autorresponsabilidade” e o “livre arbítrio”. Sem autonomia, dificilmente um aluno alcança a autodeterminação, o que condicionará a sua participação como membro ativo dotado de direitos e deveres, na sociedade.

A escola tem que ser o reflexo da vida em sociedade. O grande ganho para todos é viver a experiência da diferença. Se as crianças e jovens não passam por esta experiência, dificilmente saberão vencer os preconceitos futuros.

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## ATLAS ALMIRANTE REIS: PRIMEIRAS NOTAS

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### ABSTRACT

As cidades são espaços por excelência de transformação e de inovação social e espacial. Nas últimas décadas, em resultado da existência de dinâmicas sociais e económicas endógenas e exógenas, a cidade de Lisboa apresenta alterações importantes na sua organização, nomeadamente ao nível da relação entre população, comércio, habitação e serviços.

Neste contexto, o projeto de investigação Atlas da Almirante Reis estuda os processos de transformação naquela que é uma das avenidas mais extensas de Lisboa, onde se pode observar, numa estrutura urbana linear, a ocupação da cidade no último século, em termos arquitetónicos, históricos e socioeconómicos.

Com base em pesquisa histórica e geográfica e em levantamentos de terreno, propõe-se apresentar os primeiros resultados deste projeto, contribuindo para a caracterização da recente dinâmica espacial de Lisboa, nomeadamente no que diz respeito às alterações na estrutura demográfica e económica e à sua relação com as transformações na arquitetura da cidade.

Keywords: Cidade, Análise Espacial, SIG - Sistemas de Informação Geográfica, Lisboa.

### 1. INTRODUÇÃO

A Avenida Almirante Reis, juntamente com a Rua da Palma, constitui uma das mais extensas avenidas de Lisboa, com aproximadamente 2800m. Este importante eixo atravessa três freguesias – Areiro, Arroios e Santa Maria Maior (Figura 1) -, e conheceu diferentes denominações - Avenida dos Anjos (ainda em fase de projeto), Avenida Dona Amélia (1903/1910) e Avenida Almirante Reis (a partir de 1910). As designações acompanharam o crescimento da avenida, que se iniciou no fim do século XIX pelo prolongamento, ao longo do vale, da Rua da Palma, junto ao Martim Moniz, até à Estrada da Circunvalação, e mais tarde para a zona envolvente do Areiro (Mangorrinha, 2009/10).

À semelhança da Avenida da Liberdade, a Rua da Palma e a Avenida Almirante Reis também corresponde a uma linha de água que vai desaguar na Baixa. No século XVIII a Rua Direita dos Anjos e a Estrada de Arroios, faziam a ligação do campo à cidade. Por elas, entravam diariamente os saloios que vinham abastecer o mercado. A Rua da Palma surge no final do século XVIII, com o objectivo de regularizar o trânsito da Rua dos Anjos até ao Desterro. Este eixo sempre teve um papel preponderante no acesso ao centro da cidade. Desde 1877 que, primeiro através da Comissão do Plano Geral de Melhoramentos da Capital, e, posteriormente, pela Repartição Técnica da Câmara Municipal de Lisboa, chefiada pelo engenheiro Pièrre Joseph Pézerat, se pretendia o alargamento da Rua Nova da Palma a par do alargamento da Estrada de Sacavém (futura Av. Almirante Reis) (Silva, 1989 e 1994). Mais tarde em 1877 a mesma Repartição Técnica, já então chefiada pelo engenheiro Ressano Garcia apresenta um projecto para esse efeito, tendo as obras início só em 1892.

Trata-se de uma via com características singulares, uma vez que, numa única linha de expansão, são observáveis as várias épocas de crescimento urbano da capital. Estamos na presença da cidade popular, que se inicia numa das zonas menos nobres da cidade, recentemente reabilitada – eixo Mouraria/Intendente (Menezes, 2004 e 2013) – que se aproxima progressivamente da cidade burguesa, construída na segunda metade do século XX (França, 1997; Silva, 1994) – Alameda e Areeiro.

Em termos da geografia urbana de Lisboa, atravessa tangencialmente vários espaços considerados bairros (Gato, 2013), sem se vincular a nenhum em particular, nem perder a sua unidade – embora com segmentos diferenciados, em termos sociais e urbanísticos.

Uma das principais artérias de ligação entre a cidade da segunda metade do século XX e a Baixa de Lisboa, a Avenida Almirante Reis tem um forte peso na história da habitação da cidade, tendo ganho, nas últimas três décadas, uma dimensão multicultural crescente, quer através dos seus habitantes, quer da diversificação do comércio, uma actividade de grande relevo na referida artéria. A permanente dinâmica de mudança, sobretudo ao nível do comércio e serviços, visível ao longo de todo o século XX, intensificou-se na última década, sendo visíveis sinais de reabilitação mas também de degradação e desqualificação. É também um eixo com boas acessibilidades em termos de transportes coletivos, nomeadamente por possuir seis estações de metropolitano.

**Figura 1. Localização da Avenida Almirante Reis no concelho de Lisboa**



Pela sua singularidade, mas também pela sua importância na história e vivência da cidade, e pela capacidade de integração da mudança, a Avenida Almirante Reis constitui um caso interessante de estudo. Esta comunicação apresenta os resultados preliminares do projeto Atlas da Almirante Reis, neste momento em curso. O projeto tem como objetivo analisar e diagnosticar o espaço, a população residente e a oferta comercial e de serviços e conhecer os agentes locais capazes de promover a mudança, com vista à promoção de uma leitura e interpretação da cidade que incorpore visões e práticas conducentes à consolidação urbana e à resolução de conflitos territoriais. Terá como produto final a construção do Atlas da Avenida, com base em informação recolhida diretamente e em informação estatística georreferenciada, investigação teórica e exercícios de investigação aplicada. Esta iniciativa pretende envolver-se diretamente com várias ações a decorrer no terreno, à escala local. É um projeto realizado em parceria pelo CEAAT/UAL – Centro de Estudos de Arquitetura da Universidade Autónoma de Lisboa e o CICS.Nova – Centro Interdisciplinar de Ciências Sociais, FCSH-UNL.

## 2. LEVANTAMENTO URBANÍSTICO E FUNCIONAL

Neste texto, serão apresentados e explorados, alguns dados resultantes da primeira fase do trabalho, constituída por um levantamento e preenchimento de ficha georreferenciada de inventário de todos os edifícios do eixo Rua da Palma / Avenida Almirante Reis, de forma a apresentar uma caracterização da situação atual e a poder aperfeiçoar as questões de investigação de partida. O inventário foi realizado de outubro a dezembro de 2015, por dois inquiridores.

A fase de recolha de informação incluiu ida ao local, e posterior visionamento no Google Street View para eliminar eventuais dúvidas. De modo a facilitar esta fase, selecionou-se a ferramenta *open source* KoBotoolbox (<http://www.kobotoolbox.org/>) que permite construir formulários e recolher dados utilizando o browser ou a *app* disponível para telemóvel ou *tablet*. A informação recolhida fica deste modo disponível em formato digital, evitando o moroso processo tradicional de recolha manual e posterior carregamento da base de dados.

A base de dados recolhida para cada edifício foi posteriormente codificada em Sistemas de Informação Geográfica (SIG) para permitir a sua análise espacial. Nesta fase obtém-se um mapa digital georreferenciado onde a geometria dos edifícios está associada à informação recolhida. A codificação em SIG torna assim possível analisar a componente espacial, i.e., visualizar padrões geográficos, aferir relações de proximidade, ou analisar a concentração ou dispersão das variáveis no território.

A presente comunicação centra-se na análise morfológica do edificado, bem como do seu uso comercial, incluindo as suas dimensões espaciais.

Para a análise morfológica, os elementos levantados incluíram: 1) número de pisos acima e abaixo da cota soleira; 2) número de frações residenciais e não-residenciais; 3) época de construção; 4) cor e material de revestimento da fachada; 5) estado de conservação.

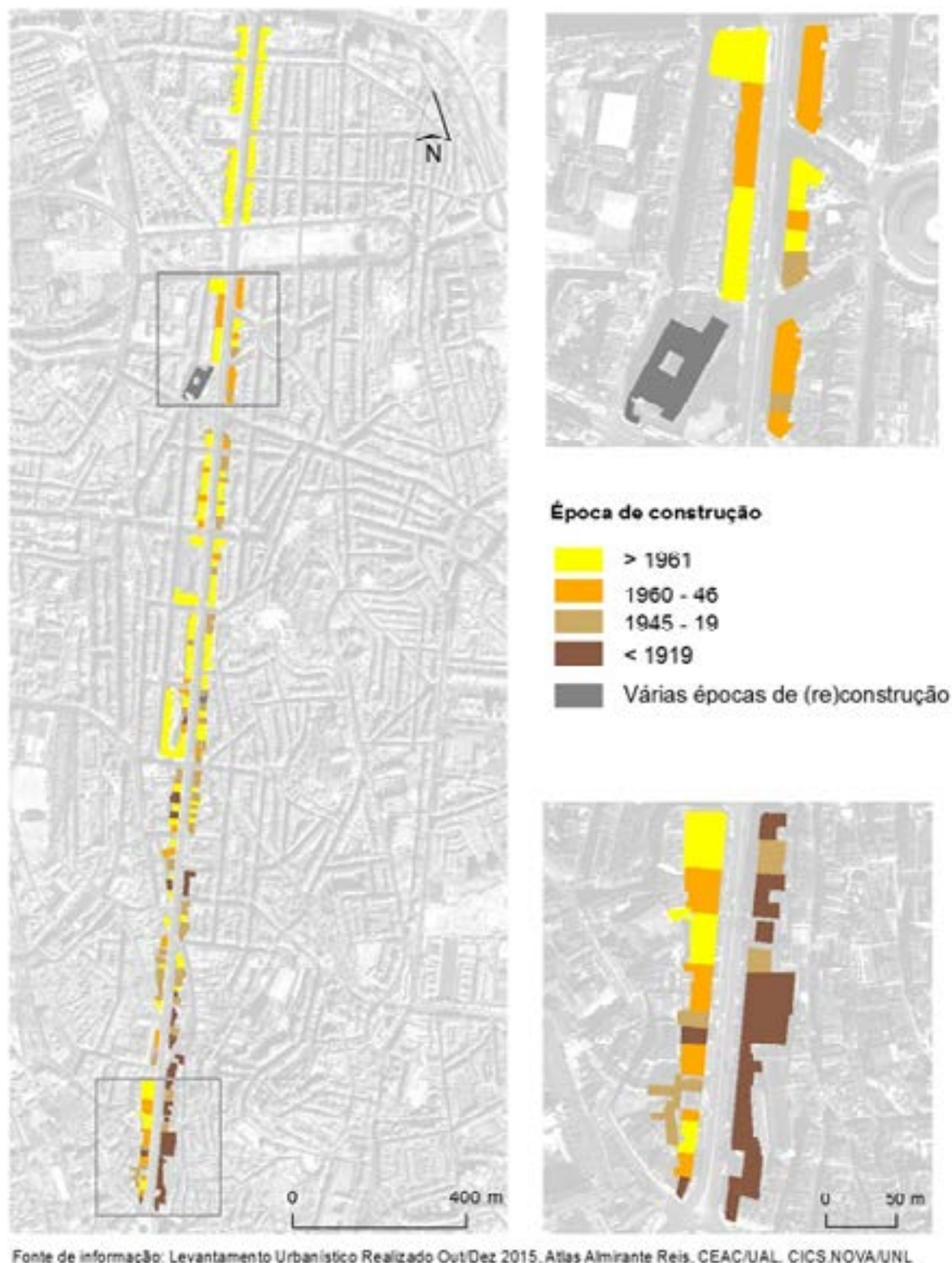
O uso comercial foi recolhido ao nível do piso térreo, e incluiu: 1) número de estabelecimentos comerciais no piso térreo; 2) atividade desenvolvida; 3) estado de conservação do estabelecimento; 4) se está em galeria.

## 3. ANÁLISE EXPLORATÓRIA

A base de dados incluiu informação recolhida para 255 edifícios, localizados na Rua da Palma e Avenida Almirante Reis. Pela observação da figura 2 nota-se que a Rua da Palma (segmento sul da área de estudo) concentra os edifícios mais antigos, com épocas de construção anteriores a 1919. Inversamente, no extremo oposto concentram-se os edifícios mais recentes, todos posteriores a 1960. Os edifícios construídos após 1960 representam 46% do edificado levantado, enquanto os edifícios mais antigos são apenas 11% dos 255 edifícios presentes. A construção entre 1919-1945 está presente em 22%, e entre 1946-1960 em 15% dos edifícios. Apesar de ser visível a relação entre a construção da avenida e a época de construção dos edifícios, verifica-se uma relativa heterogeneidade nos vários quarteirões, resultante de a construção ter sido realizada sobretudo através da iniciativa privada, ao longo de várias décadas (condicionada pelas pré-existências), mas também da demolição de prédios e reconstrução no respetivo lote.

No que diz respeito à função, os edifícios são maioritariamente residenciais (90%), com uma média de oito frações residenciais e três frações não residenciais por edifício. O número de pisos acima da cota de soleira varia entre um e treze, centrando-se a moda nos seis pisos por edifício.

Figura 2. Edifícios classificados de acordo com a época de construção



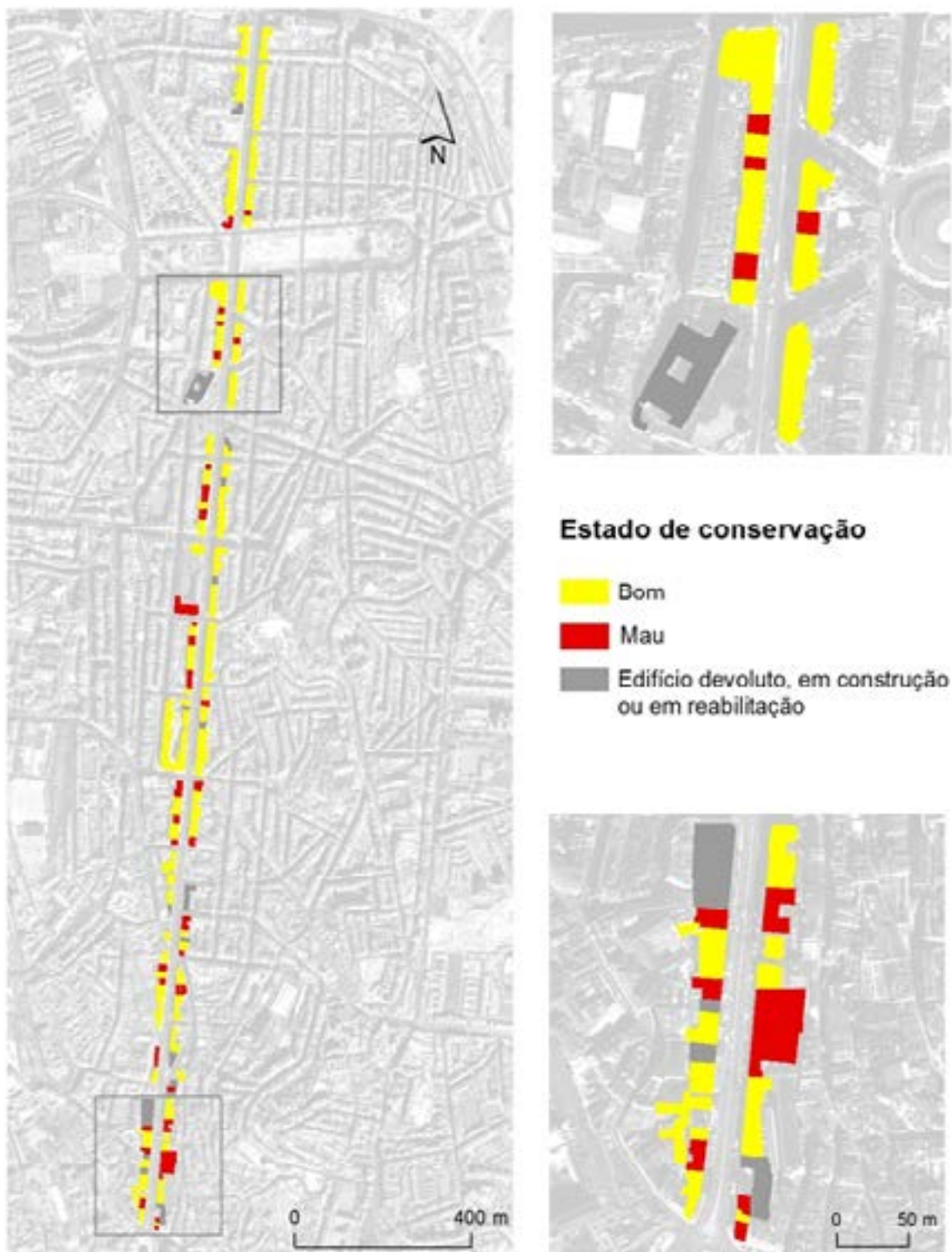
Para a variável estado de conservação, já não é tão notável o padrão espacial verificado na época de construção. De facto, embora alguns edifícios em mau estado sejam anteriores a 1919, o mesmo não se verifica noutros mais recentes, igualmente em mau estado de conservação. Este fenómeno verifica-se na Rua da Palma, como se pode ver na figura 3. No total, 75% dos edifícios encontra-se em estado de conservação entre o bom e o razoável.

Deste levantamento, constata-se que a grande maioria dos edifícios na Rua da Palma e Avenida Almirante Reis – 78% – têm pelo menos uma atividade comercial no piso térreo, registando-se o número máximo de sete estabelecimentos comerciais num mesmo edifício. Para cada edifício foram levantadas as atividades económicas existentes ao nível do piso térreo, de acordo com a Classificação Portuguesa de Atividades Económicas (CAE-Ver.3), disponibilizada

pelo Instituto Nacional de Estatística (INE). Quanto ao tipo de atividade comercial, o mais representativo – 172 estabelecimentos – é o **Comércio a Retalho** (CAE G47), seguindo-se a **Restauração e Similares** (CAE I56), com 68 estabelecimentos. No 1º caso, que corresponde a mais de metade dos estabelecimentos existentes, estão incluídas lojas de roupa ou produtos alimentares, e no 2º incluem-se cafés, pastelarias ou restaurantes. Com menos representatividade, encontram-se **Outras Atividades de Serviços Pessoais** (CAE S96), onde sobressaem os cabeleireiros, e **Atividades de serviços Financeiros** (CAE K64), que incluem a banca (Figura 4).

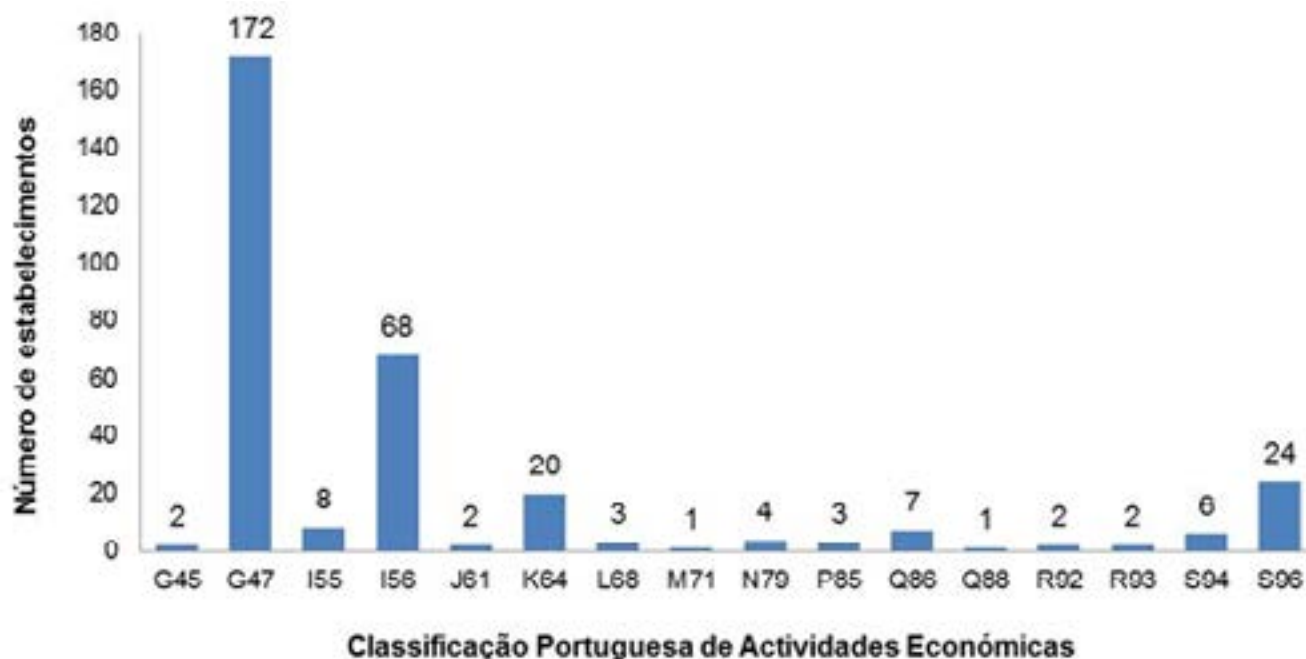
Embora se trate de uma área com grande atividade comercial, a maioria dos estabelecimentos apresenta um mau estado de conservação, muitos deles revelando sinais de reconversão recente, sem a realização de obras de adaptação ou melhoramento.

**Figura 3. Edifícios classificados de acordo com o estado de conservação**



Fonte de informação: Levantamento Urbanístico Realizado Out/Dez 2015, Atlas Almirante Reis, CEAC/UAL, CICS.NOVA/UNL

Figura 4. Estabelecimentos no piso térreo de acordo com a Classificação Portuguesa de Atividades Económicas (CAE-Ver.3)



G45	Comércio, manutenção e reparação, de veículos automóveis e motociclos	N79	Agências de viagem, operadores turísticos, outros serviços de reservas e actividades relacionadas
G47	Comércio a retalho, excepto de veículos automóveis e motociclos	P85	Educação
I55	Alojamento	Q86	Actividades de saúde humana
I56	Restauração e similares	Q88	Actividades de apoio social com alojamento
J61	Telecomunicações	R92	Lotarias e outros jogos de aposta
K64	Actividades de serviços financeiros, excepto seguros e fundos de pensões	R93	Actividades desportivas, de diversão e recreativas
L68	Actividades imobiliárias	S94	Actividades das organizações associativas
M71	Actividades de arquitectura, de engenharia e técnicas afins; actividades de ensaios e de análises técnicas	S96	Outras actividades de serviços pessoais

#### 4. CONCLUSÕES E NOVAS QUESTÕES

Este primeiro diagnóstico urbano permite-nos sistematizar algumas conclusões, face aos dados recolhidos no trabalho de campo. Numa primeira análise denota-se a importância da componente residencial no contexto da avenida. Simultaneamente assiste-se à consolidação e aumento da importância dos estabelecimentos hoteleiros e similares (observado no trabalho de campo que há muitos com obras recentes). Porém, e apesar da grande dinâmica de reestruturação comercial, regista-se uma fraca qualidade do comércio presente, uma diminuição da especialização existente anteriormente (mobiliário), que posicionava este eixo no comércio da cidade como um espaço de especialização com alguma qualidade; no entanto, há algum reforço do comércio de proximidade e alguma segmentação, ligada a novos mercados urbanos, o que pode ter algum impacto na lógica comercial da cidade. Pode-se daqui concluir que há grande potencial de reabilitação comercial dos edifícios existentes.

Do ponto de vista espacial, existem dois grandes espaços vazios na avenida (fábrica da cervejaria Portugal e Hospital de Arroios). Regista-se ainda uma grande diversidade arquitetónica, com a existência de edifícios morfológica e tipologicamente diferenciados.

Os dados analisados permitem colocar novas questões de investigação, que serão abordadas no desenvolvimento do projeto:

- Conhecer a população residente e a sua dinâmica sociodemográfica e espacial no contexto da avenida;
- Compreender a relação entre a avenida e a sua envolvente, em termos urbanísticos e sociais, nomeadamente no que diz respeito à área de influência do comércio e serviços;
- Caracterizar e compreender a perda de importância comercial e o impacto das novas tendências comerciais instaladas, no contexto da cidade;
- Caracterizar e compreender o papel dos estabelecimentos hoteleiros e similares na dinâmica urbana local;
- Conhecer e analisar a crescente multiculturalidade da população residente;
- Avaliar o potencial dos espaços da antiga fábrica da cervejaria Portugália e do antigo Hospital de Arroios;
- Aprofundar o conhecimento sobre a expansão urbana da avenida, nomeadamente através da análise tipológica de edifícios representativos dos vários períodos de expansão;
- Avaliar o impacto do projeto de reutilização do edifício do antigo Hospital do Desterro.

Tal como referido, o projeto de investigação Atlas da Almirante Reis debruça-se sobre os processos de transformação do eixo Rua da Palma / Avenida Almirante Reis. Os primeiros resultados deste projeto, que contribui para a caracterização da recente dinâmica espacial de Lisboa, revelaram-se encorajadores, na medida em que confirmam observações empíricas e levantam novas questões, para desenvolvimento futuro.

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## PARALLEL SESSION IV

# CULTURAL CITIZENSHIP, EDUCATION AND MEDIA LITERACY ON THE IMAGINED EUROPEAN NORTH-SOUTH AXIS: FINLAND AND PORTUGAL IN CONTEXT

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“Let us be good neighbours, but, please, do not try to explain us.”

Gayatri Spivak in Gulbenkian Foundation, Lisbon, June 2010

“The person who finds his homeland sweet is still a tender beginner; he to whom every soil is as his native one is already strong.”

Edward Said, *Culture and Imperialism*, p.407

## ABSTRACT

Finland and Portugal are both peripheral European countries, at the fringes of the European Union. This paper sets out to discuss and compare some of the ways Portuguese and Finnish citizens are construed through present-day media literacy, be these distinctions historical and geographical, cultural, technological, educational or even ethical by character.

The idea of education (“Bildung”) as a stronghold of civilization used to lean on the concept of a nation-state that is constituted by the citizens of this nation-state. But nowadays citizens are being overruled by the technological changes and contemporary university students, then, may be seen as representing a positive paradigm shift from citizens of a specific nation-state to cosmopolites of a global civilization. The processes of construing and producing knowledge have been radically transformed by the information technologies: the open access approach makes it possible to shift the traditional classroom learning almost entirely to on line work. “In five years, the best lectures will be found on the internet free of charge, lectures that are better than in any universities”, predicted Bill Gates some time ago in Technomy Conference. Future citizens need to solve complex, ill-defined problems and learning becomes increasingly a combination of face-to-face instruction with computer-mediated learning environments.

But when some of the traditional values and practices of pursuing knowledge are nowadays rapidly being discarded, they are often being replaced by market-state doctrines of education and of humanity, thus producing identities of entrepreneurship, often unwilling to participate in enhancing general social welfare.

Keywords: Cultural Citizenship and Identity Construction, Cultural Geography of the European Fringes, Cyborg Identity, Hybridity.

Finland and Portugal are both peripheral European countries, at the fringes of the European Union, but, at large, represent rather different positions inside the European Community at the moment. This paper sets out to discuss some aspects of the roles of these two republics and the ways Portuguese and Finnish citizens are construed and imagine themselves in the European space, be these distinctions historical and geographical, cultural, technological, educational or even ethical by character.

*Citizenship*, like any other layer of *identity* is construed through difference. For the purposes of this paper, *citizenship* is seen to be constructed through a transdisciplinary approach – i.e., culture, society and language; this means the *theme of citizenship* is examined by combining several disciplinary orientations and establishing relationships between them. Benedict Anderson in his book *Imagined Communities* (1983) has written about the importance of printed texts in the formation of identity at a national level. According to him, communities are to be distinguished not by their falsity or genuineness, but by the style in which they are imagined (1983:15). It is these *styles*, which Anderson mentions but,

it appears, never studies in his otherwise extremely inspiring work, that will be examined in this analysis. Or more precisely, it is the effect of the language of the *imagined styles of citizenship* that is the object of study. Moreover, *places* – not locations – and *people* are intimately linked. That is, place is not the same as location. The difference is that places have meanings for us and thus cannot be equated with their mere geographical location<sup>34</sup>.

The basic theoretical argument underpinning the concept of *citizenship*, like any other layer of *identity construction*, is that, first of all, it is always a culturally relational concept and it is built upon the notion of *difference*<sup>35</sup>. Difference is actually central for the existence of all meanings. Binary oppositions are no doubt over-simplified because there is always one who dominates; the dimension of power – and the continuous negotiation of it – is omnipresent in all cultural activities. In fact, we only construct meanings (remember Voloshinov's notions of dialogism and heteroglossia) and ourselves (psychoanalytic stance, for instance) through a dialogue with the other.

In the past, the cultural and political meanings of a *citizenship* as the unique, material proof of a national unity in the process of construing a modern 19th century nation–state apparatus have been widely explored. Max Weber (2004) argues that the state as a superior entity, as the protagonist of history is a myth. It is an imagined community (Anderson, 1984) that enjoys strong, uncritical credence in some people. At the core of the institutional identity of the state lies organized violence. Furthermore, the state monopolizes the means to the domination of people over other people, and, unlike other forms of political domination, all this is achieved by legal-rational legitimacy.

The notion of organized violence is at the core of experiencing the citizenship and it is closely tied to the complex notion of legitimacy (Weber, 2004). In short, legitimacy is about the underlying motivations of a person who receives a command to obey. The subject might obey because he has always done so and has never even thought about doing otherwise. In a second case, the subject is compelled, more or less self-consciously, to deliberate on how to react to the command, and on this basis decides to obey or not to obey. These two modalities of response to command – one totally based on a routine and unreflected, and the other highly reflexive – lead to the third one. Here, obedience, if it takes place, is on the basis of moral obligation, a kind of *ought-fulness* of obedience. It is to this third modality that the notion of legitimacy applies.

The most common form of legitimacy is traditional legitimacy, in which command is legitimate when it appears as the reaffirmation today of obligations and duties that already existed in the past. Typically, whoever commands presents himself as the current representative of a long sequence of forebears who, each in his own time, had exercised command over the descents of those who are to obey today.

Charismatic legitimacy, on the other hand, is sustained by the politician's extraordinary forces, with 'a gift of grace'. Such a gift manifests itself in unprecedented material or spiritual achievements; the proclamation of new, inspiring truths, and of new paths to moral justification and salvation. The obedience of the common people constitutes the homage of believers in the forces that the leader embodies, and which through him assert their superiority over all that is routine or traditional.<sup>36</sup> – Both Finnish and Portuguese citizens are guided by traditional legitimacy, but in Portugal charismatic legitimacy plays a greater role; aspiring politicians need to use their mediated market value in order to reach power, and rational arguments are sometimes overruled by the rhetoric skills of a politician. In Finnish society, probably due to a higher degree of literacy<sup>37</sup>, ordinary citizens are less likely to be taken over by discursive manipulation or emotional appeal<sup>38</sup>.

Given the continuous, ground-breaking technological changes, the bio political forces of a state apparatus tend to claim the sole legitimate ownership of its citizens and ultimately, even the core existence of each of its sovereign individuals. Consequently, the "sans papiers", that is, the illegal immigrants or refugees are pushed to the fringes of the state, to the mercy of the executive sphere of the state institution – the police – and denied free crossing of national borders, and are in all likelihood condemned to live underground instead. This administrative colonization, to use Pierre Piazza's (2004:17) term, plays an important role both in the making of national unity and personal identities as members of a specific nation. A citizenship represents symbolic violence exercised by a state. However, through a process of associating a bureaucratic act with a personal – even an affective – dimension, a citizenship simultaneously conflates the concepts of identity and identification and is always cultural by nature.

In short, a synthesis of the contemporary decentring of essentialist citizenships or identities and a commitment

<sup>34</sup> Places are people. A place usually becomes meaningful because of the people one sees and does things with there. Even when alone somewhere it is the absence of people in those surroundings that makes the place meaningful.

<sup>35</sup> Remember the classic metaphor of the game of chess, explored – although diversely – both by Ferdinand de Saussure (1916) and Ludwig Wittgenstein (1953). Just as the pieces of a chess game only gain their meaning in the game due to their value in relation to each other, all cultural practices are ultimately about attributing values to our surrounding life-world.

<sup>36</sup> There is a third kind of legitimacy, a legal-rational legitimacy that Weber considers extremely rare and a peculiarity of the modern politics. Here, obedience is expected as a dutiful observance of a whole system of norms. North Korea or Isis may be considered examples.

<sup>37</sup> Finland achieved full literacy in the beginning of the 20th Century, whereas Portugal is still struggling with the matter.

<sup>38</sup> Portugal's newly elected president Marcelo Rebelo Sousa is a well-known television personality to all Portuguese voters.

to politics, as for instance Homi Bhabha has argued<sup>39</sup>, may provide the basis for a social theory which overcomes the limitations of the two, giving way to political co-operation and to working and negotiating across cultural differences<sup>40</sup>.

*Citizenship* belongs to the same semantic field as the concepts of *civil society* and *civilization*. Historically, and also due to geographical factors, Finland and Portugal have very diverse hegemonic civilizational peaks. Given its ubiquitous landscape of the sea and arid climatic agricultural conditions<sup>41</sup>, Portugal became a maritime world power in the 15th century in order to realise the Christian mission of crusades, and has thus been experiencing an enduring economic and socio-cultural decline since the religious persecution of the Inquisition, which was promoted by the Jesuits<sup>42</sup>. The culturally Catholic Portuguese try to survive their financial and ethical (i.e., corruption and injustice in civil society and state apparatus) crises by overcoming their troubled colonialist and fascist past through poetic dreams of the overpowering, constant presence of the Atlantic Ocean, a presence that imbues both cultural and economic facets and future potentials. Fransisco José Viegas, Portuguese author and the former Secretary of Cultural Affairs, describes the devastating situation in the following words:

I believe that our relationship with Europe is not a happy one because an essential part of our origins remains still in Africa and in Brazil. Due to the financial crisis, many people have returned there. In the past ten years we have put into practice all the changes required by Europe (abortion, homosexual marriage). It has been undoubtedly fast, but at the same time our economy has been unable to create solid foundations. [...] The only thing we have left is our culture and the ocean as a touristic attraction. [...] We are living in a society that has lost its dreams. Portuguese fear the future, they are afraid of speaking aloud. And all this takes place three hundred years after the Inquisition and after fifty years of Salazar's fascism. Today, because of the crisis, the silence continues. It is dreadful.<sup>43</sup>

Finland, on the contrary, is living its high financial, technological and educational moment right now. Stereotypically, the culturally Protestant Finnish citizens of an economically stable<sup>44</sup> and functional welfare state are considered as innovative and industrious labourers who create world famous *brands* in technology, education<sup>45</sup>, digital arts and design. It is taken for granted that

Finland and other Nordic countries have probably the highest standard of living of all the ordinary citizens in the world, when the overall standard of living is measured with material possessions, such as access to digital technologies, cars, refrigerators, microwave ovens, mobile phones or gross domestic product *per capita*. Also immaterial indicators rate us right to the top. The possibilities to participate in cultural activities are more equally shared in Finland than in many other countries. Political and religious freedom are taken for granted and are commonplaces of everyday life.<sup>46</sup>

In short, in Finland ordinary citizens have daily open access to and co-habit with the high level technology. In Portugal it tends to be a privilege of the few<sup>47</sup>.

<sup>39</sup> "The language of critique is effective not because it keeps forever separate the terms of the master and the slave, [...] but to the extent to which it overcomes the given grounds of opposition and opens up a space of translation: a place of hybridity [...] where the construction of a political object that is new, *neither the one nor the other*, properly alienates our political expectations and changes, as it must, the very forms of our recognition of the moment of politics." (Bhabha 1994:25)

<sup>40</sup> The major *theoretical* contribution of feminism is, in my view, the insistence on the validity of personal experience and the breaking down of the traditional distinction between objective and subjective. This is captured in the clause "personal is political". Or, in Homi Bhabha's words: "[...] feminism specifies the patriarchal, gendered nature of civil society and disturbs the symmetry of private and public which is now shadowed, or uncannily doubled, by the difference of genders which does not neatly map on to the private and the public, but becomes disturbingly supplementary to them. This results in redrawing the domestic space as the space of the normalizing, pastoralising, and individuating techniques of modern power and police: the personal-*is*-the political; the world-*in*-the home." (Bhabha, 1994: 11)

<sup>41</sup> Even nowadays, Portugal is totally at the mercy of the water politics imposed by the Spanish governmental authorities because all the Portuguese rivers originate from the Spanish territory.

<sup>42</sup> The Netherlands profited greatly from the expulsion of the Portuguese Jews; in addition to gains in philosophy (Spinoza), the Netherlands became a late world maritime power partly due to the scientific maritime knowledge of the Portuguese Jews.

<sup>43</sup> "Acredito que a nossa relação com a Europa não é feliz porque uma parte essencial das nossas raízes continua em África e no Brasil. Com a crise, muitos regressaram para lá. Em dez anos, fizemos todas as reformas pedidas pela Europa (o aborto, o casamento homossexual). Foi sem dúvida rápido, mas ao mesmo tempo a nossa economia não conseguiu criar bases sólidas. [...] Só nos resta a nossa cultura e o mar como oferta turística. [...] Vivemos numa sociedade que perdeu os seus sonhos. Os portugueses têm medo do futuro, de falar. E isto acontece depois da Inquisição, que foi há 300 anos, e de 50 anos de regime fascista de Salazar. Hoje, com a crise, continua. É terrível." (*Público*, 18/08/2012)

<sup>44</sup> Until very recently Finland was the only country in the Euro zone to retain its AAA rating; March 2016 it dropped to AA+, mainly due to sanctions in trade with Russia imposed by EU. Portugal, among some other Southern European countries, is considered *junk*, coined by Moody and Fitch, among other evaluating entities.

<sup>45</sup> According to the Pisa evaluation, the Finnish educational system is one of the best in the whole world.

<sup>46</sup> "Suomessa ja muissa Pohjoismaissa on ehkä maailman korkein koko kansan elintaso, kun elintasoa mitataan aineellisilla mittareilla kuten tietokoneyhteyksinä, autoina, jääkaappeina, mikroaaltouuneina, kännyköinä tai bruttokansantuotteena. Myös ei-aineellisilla mittareilla sijoitumme kärkeen. Kultuuriharrastukset ja osallistumismahdollisuudet jakautuvat tasaisemmin kuin monessa muussa maassa. Poliittiset ja uskonnolliset vapaudet ovat arkipäiväisiä itsestänselvyyksiä." Liisa Jaakonsaari in *Uusi Suomi*, 04/09/2012.

<sup>47</sup> Finnish access to high technologies is, unlike in Portugal, underpinned by efficient learning strategies of the global English in the secondary education in the Finnish school system. The number of years English is studied is equivalent in Portugal, Finland and Spain, but the learning outcomes are entirely different.

It seems appropriate, then to apply Dana Haraway's theoretical framework to Finnish cultural citizenship, as it is closely tied to the excellent level of *know-how* in information technologies. Dana Haraway's *cyborg*, a half-human, half-machine invention, embodies and materialises the breaking of traditional distinctions between human and machine, physical and non-physical. It is a metaphor for the social as a process of limiting the frontiers, constructing identities out of available material-semiotic resources, including fundamental biological categories, such as the body and gender, which were once considered the basis for essentialist definitions of identities. Haraway's *cyborg* is a central part of the contemporary post-industrial information society – an ideological apparatus that sees the concept of body simultaneously as a natural and a technological device<sup>48</sup>. In fact, we are once again in the presence of the all-encompassing power, which for Foucault (1977) is the foundation of all discourses, of all disciplinary technologies<sup>49</sup>. The role of the concepts of *civilization* and *ethics* in the process of constructing critical citizens through present-day media technology in education is founded on this intimate “cyborg” relationship.

The ideological foundations of the transcultural institution of *education* lie upon ideals of human intellectual and moral progress, be they scientific or aesthetic in character. That is, the idea of modern education as a stronghold of *civilization* originally leaned on the concept of a 19th century *nation-state* that is constituted by the citizens of this nation-state<sup>50</sup>. But nowadays citizens are being overruled by the process of *globalization*. Consequently, citizens as the inhabitants of a specific country are becoming cosmopolites, the inhabitants of the whole world. These contemporary students (Ronald Barnett, 2011: *passim*) may be seen as simultaneously representing a positive paradigm shift from citizens of a specific nation-state to the citizens of the world, cosmopolites of the global civilization, and, to something different.

Moreover, the processes of construing and producing knowledge have been radically transformed by the information technologies: the *open access* approach makes it possible to shift the traditional classroom learning almost entirely to *on line* work. “In five years, the best lectures will be found on the internet free of charge, lectures that are better than in any universities”, predicted Bill Gates two years ago in Techonomy Conference in California. His prophecy seems to have become true. Almost everything we may learn can be learned *on line*; besides having the lectures of the world's highest ranking universities on the net, you also find the best speakers' lectures on academic subjects. An example of this is the website TED.com. There you can find 20-minute videos on a wide range of issues such as whether God exists or how research on cancer should be developed. The most frequently visited video is school critic Ken Robinson's lecture on how the present school system kills creativity. According to Robinson, in teaching it is equally important to provide good bibliography and to ensure that the teaching process is creative. The Internet has already proven to us that with the net teaching can be creative. This leads more people to question whether the more advanced stages of education could be completely moved to the virtual reality. Both the Internet and research in science are based on openness and sharing. The difference is that the members of a scientific community tend to share their own thoughts mainly among themselves, which may seem strange to a student who has grown up using Wikipedia.

Indeed, our society has profoundly changed in this aspect. Today our common, basic assumption is that all knowledge is available for everyone. To the young generation this is as obvious as taking a bus. Yes, the academic knowledge is indeed accessible to anyone, but the academic institutional researchers are not able to talk about it in ordinary language.

Education should target the active construction of knowledge. Traditional teaching methods focussed on the teacher may not be the best way to achieving this aim. The student has become the agent of his learning process and the teacher's role is to support him in this process. But unfortunately, especially in mass education, practices and conventions in education are still very much based on the idea that the task of the teacher is to transmit knowledge. Ideas of learning and epistemological beliefs are very slow to change, and teachers often have very conventional ideas of learning. Both intellectual and ethical challenges in education, thus, are crucial issues at the moment.

Future citizens need to be able to tackle increasingly complex problems. We need to constantly reconsider and reconceptualise our educational practices. Learning environments and learning tools, the nature of knowledge, and the goals of education are changing all the time. Technological tools, in particular, develop fast with new learning practices. Learning becomes increasingly intertwined with technologies, which means that face-to-face instruction is often combined with computer-mediated learning environments. It may no longer be useful to talk about “learning environments” or “technological tools”, but rather about new contexts of construing knowledge that enhance collaborative efforts to create and improve ideas.

There is, however, a darker side to all this incredible freedom of access to information. The negative outcomes of these educational changes should not be forgotten or ignored. As the traditional values of pursuing knowledge

<sup>48</sup> Haraway's position at this point is comparable with Fredric Jameson's (1984, *passim*) view, according to which postmodernism is the cultural facet of a new or purer stage of capitalism rather than its overcoming – and that the primacy of information over production (the post-industrial stage) was predictable in Marxism.

<sup>49</sup> Haraway's most basic claim is that cyborg politics is ultimately a politics of language. And her politics of language stands for the struggle against the notion of “perfect communication”, against the one perfect meaning, the so-called universalistic viewpoint which denies difference.

<sup>50</sup> In the German language, for instance, the notions of *civilization* and *education* are overlapping concepts; the term *Bildung* stands for and includes both of them.

and moral progress that used to be practised in the educational institutions of a civil society are nowadays being rapidly discarded, they are simultaneously often being replaced by neo liberal doctrines of education and of mankind, thus producing *identities of entrepreneurship*, i.e., competitive, unsolidarian individualistic players in the game of market exchange, often unwilling to participate in enhancing general social welfare. That is, the American style high competitiveness in Finland is replacing the previously solid sphere of civil welfare state. To illustrate: The World Economic Forum based in Switzerland in its recent survey on world economic competitiveness ranked Finland in the third position, just behind Switzerland and Singapore.

Consequently, media, and *culture industry* as a whole (Adorno and Horkheimer, 1944) aim to construe primarily consumer identities, passive couch potatoes, or vessels in order to pour alienation into us, that is the *homo ludens* observers in the society of spectacle (Debord, 1967). All this take place at the cost of losing the previously productive *homo faber* identity, to use Max Weber's (1905) well-known term.

Of course all cultural representations are already mediations themselves. But it is, nevertheless, my thesis that despite our contemporary society of spectacle (Debord, 1967), a spectacle in which *global media culture* has permeated all aspects of our daily practices, it is still possible to point out differences in Finnish and Portuguese life-world that construct specific cultural geographies of *Europe*.

In his book *Media and Control*, in the chapter entitled *Bystanders' Democracy*, Noam Chomsky (1991:20) argues that in the so-called democratic countries, the powerful ones – i.e., politicians and their financial promoters and institutionally influential intellectuals – share the view that “we should not believe in the common sense democratic dogma that people know best their own interests.” The powerful ones are more qualified to decide what is best for the people, he ironizes, and “propaganda, that is, media control is to democracy what the bludgeon is to a totalitarian state. All this action is wise and morally justifiable because a confused herd or a pack does not understand its own good – and is incapable of figuring it out.” – Obviously Noam Chomsky, the *enfant terrible* of the American cultural landscape, can, without any real consequences, afford to display these anarchist, almost fanatic opinions from his ivory tower of the prestigious American academic establishment of MIT. Nevertheless, he is somehow on the right track about the overall role of media in our contemporary society of spectacle – to use Guy Debord's term<sup>51</sup> – about the role of media as a “moulder of people's minds”, as Matthew Arnold wrote in an educational context in the 19th Century. Indeed, the commodification process operating through the various media technologies transforms us easily into couch potatoes, that is, we are no longer active, participating and communicating members of a society but rather mere passive observers of a flow of media images transmitted to us by the dominant power groups of “faceless masters” (Fredric Jameson, 1984)<sup>52</sup>. This is a thesis several cultural industry critics have proved us since Émile Horkheimer's and Theodor Adorno's inaugurating work called *The Dialectic of Enlightenment* in 1944. The culture industry for these authors “no longer even needs directly to pursue everywhere the profit interests from which it originated. These interests have become objectified in its ideology and have even made themselves independent of the compulsion to sell the cultural commodities that must be swallowed anyway. The culture industry turns into public relations [...] each object of the culture industry becomes its own advertisement.” (Adorno, 1991:86) That is, different forms of domination – dominations of individual, of work, and of nature – are forms of control through commodities that define our life styles. We are constructed as consumers of, and, just to mention those relevant for the present discussion, consumers of various institutional processes, such as political elections, and consumers of brands, such as celebrities as human brands.

In Portugal, some of the most popular television series are about the power of the Catholic institution, produced by Germans, Americans and Italians, some of them with the Vatican monetary aid<sup>53</sup>. The Catholic Mass is broadcasted on state-owned television channels every Sunday, too. In Finland, as in all Nordic countries, crime stories are the privileged series, even in the field of literature. Why? Because many Portuguese still feel that there is no functional civil society in Portugal; for some Portuguese, fatalistically, “God will make up his mind”. In Finland, such as in other Nordic countries – Sweden, Norway, Denmark and Iceland – narratives about a civil individual's struggle against the wrong-doings of the state apparatus are appreciated, hence the genre of detective stories being so strong<sup>54</sup>.

The historical process of the Reformation may provide an explanation to this north-south cultural difference. Martin Luther's main claim against Catholicism was that the Catholic institution denies a straightforward individual, personal and intimate relationship between Man and God, so that God necessarily has to be mediated by the overwhelming,

<sup>51</sup> “The commodity form reaches its absolute fulfillment in the spectacle, where the tangible world is replaced by a selection of images which exist above it, and which simultaneously impose themselves as tangible par excellence.” Debord, 1977:35

<sup>52</sup> One could argue that this view has been superseded by the Internet. Now anyone can post their views of the world to a global audience. This includes the ability to participate in the what was once the preserve of the media, e.g., mobile phone transmissions to the web of real-time images of demonstrations or the typical fodder of the television news such as we have seen with the terrorist attacks around the world. Some news stations also now provide time slots for viewers to show their images of events.

<sup>53</sup> *Lasko*, *The Borgias* and *The Pillars of the Earth* are good examples of these Catholic flavoured television series on Portuguese television.

<sup>54</sup> Mankell, Nesbø, Läckberg, Holt, Remes, Persson, Höeg, Nesser, just to mention a few Nordic authors of crime stories.

gregarious institution of Catholic Church<sup>55</sup>. Luther's first measure in order to transform this relationship was to make the Bible accessible to all people and thus to promote literacy and vernacular languages<sup>56</sup>. Consequently, since Man is in direct contact with God, he simultaneously becomes actively and thoroughly responsible and even guilty for all his actions<sup>57</sup>.

According to Max Weber (1905, 1992), the development of Capitalism was closely linked to inner-worldly Puritan asceticism and self-denial, most clearly represented by Calvinism, Pietism, Methodism and Baptism. In his seminal work *The Protestant Ethic and the Spirit of Capitalism*, Weber argued that the ascetic Protestantism played a central role in the development of an ethic that led to more production and accumulation as a duty towards God. "The Puritan wanted to work in a calling" (1992: 181), because "this worldly Protestant asceticism [...] acted powerfully against the spontaneous enjoyment of possessions; it restricted consumption, especially of luxuries. On the other hand, it had the psychological effect of freeing the acquisition of goods from the traditionalistic ethics. It broke the bonds of the impulse of acquisition in that it not only legalised it, but (in the sense discussed) looked upon it as directly willed by God." (Weber 1992:170-171) But, as the cultural studies theorists have shown us, both production and consumption are only two of the five moments of one single cultural circuit<sup>58</sup>, and one does not exist without the other, they work hand in hand. Without consumption, there would be no production. Therefore, to the productive self-denying activity we may add the consuming self-gratificatory action. Thus, once again cultural ambivalence is at stake here; leaning on the concept of *homo faber*, the Puritan ethic simultaneously paved the way for the pleasure-seeking activities of consumption, the *homo ludens*.

In Thorstein Veblen's classic *Theory of the leisure class* (1992, original 1899), the leisure class avoids anything to do with productive labour, and time is occupied with activities like studying dead languages, for example. The important issue is to make a clear distinction between a "well-educated" and a "well-trained" person, between an individual who *thinks* and one who *does*<sup>59</sup>. The pecuniary canons of taste, according to this author, stand for the pecuniary power that the leisure class exercises in relation to the working and producing social groups.

In our contemporary societies, almost everybody must work for a living, and a leisure class in Veblen's sense has become apparently non-existent<sup>60</sup>. Consumption as a manifestation of one's monetary power has come to replace the previously honourable leisure. This shift of emphasis from leisure to consumption, Veblen explains, stems from the underlying societal changes; there is a change from smaller societies of non-strangers to larger communities of strangers, from upper class feudalism to middle- and lower-class (economic) capitalism, and from unproductive consumption of time to unproductive consumption of goods. In other words, the cosy and friendly *Gemeinschaft* has been taken over by the impersonal and often alienating *Gesellschaft*.

Moreover, one should know *how* to consume in a proper manner; the longer one has been attending educational institutions, the greater is one's *cultural capital*, in Bourdieu's terminology. Therefore, wealth and time are part of cultural capital, too. Taste classifies the classifier<sup>61</sup>. The most appealing aspect in Bourdieu's theory is the explicit connection between the concepts of *habitus* and *taste* – when taste, *aesthetikon*, is taken in the classic Greco-Roman perspective of the five senses. To Bourdieu "taste, the propensity and capacity to appropriate (materially or symbolically) a given class of classified, classifying objects or practices, is the generative formula of life-style, a unitary set of distinctive preferences which express the same expressive intention in the specific logic of each of the symbolic sub-spaces, furniture, clothing, language or body hexis." (Bourdieu, 1977: 173) The concept of *taste* enables Bourdieu to avoid traps and discussion on the distinctive value between the manifestations of high and mass culture<sup>62</sup>. Bourdieu's cultural sociology tries to answer questions about who produces, what and why – issues normally considered to be outside the sphere of the social functions of culture. He argues that "taste classifies, and it classifies the classifier. Social subjects, classified by their classifications, distinguish themselves by the distinctions they make, between the beautiful and ugly, the distinguished and the vulgar, in which their position in the objective classification is expressed or betrayed." (Bourdieu, 1984: 6)

<sup>55</sup> Therefore the Pope's supremacy and the ecclesiastical hierarchy acting through the rite of confession and the cult of saints and Virgin Mary were to be abolished.

<sup>56</sup> Naturally Gutenberg's invention of print also played a crucial role in the uniquely efficient Protestant massification of literacy.

<sup>57</sup> Protestant cultures are commonly designated as guilt cultures, while Catholic cultures are often called shame cultures.

<sup>58</sup> In the Birmingham School theory of cultural articulation, a cultural circuit consists of the moments of representation, regulation, identification, production and consumption.

<sup>59</sup> This distinction is of course entirely against Ludwig Wittgenstein's pragmatic philosophy. There is no thinking without doing according to him, and utterly, "thinking as a bodily function" (i.e., doing philosophy) may help us find better methods (i.e., improved therapies) to deal with common issues of everyday life.

<sup>60</sup> This may be a temporary phenomenon because the gulf between the super-rich and the extremely poor is widening all the time. In Portugal, the financial differences among different social groups are the greatest in the whole European Union; the minimum wage is 530 euros and, at the same time, there are some five Portuguese families in the Forbes list among the 100 richest in the world.

<sup>61</sup> "Consumption is the articulation of a sense of identity. Our identity is made up by our consumption of goods – and their consumption and display constitutes our expression of taste. So display – to ourselves and to others – is largely for symbolic significance, indicating our membership of a particular culture." Mackay 1997: 4

<sup>62</sup> Terry Eagleton (2000:115) asks the following question: "Culture is *habitus*, in Pierre Bourdieu's term, but it is also, contradictorily, the most finely self-reflective existence of which we are capable. [...] the very word includes both organic growth and the active tending of it. [...] How can culture be at once what we don't need to think about, and the finest fruits of our consciousness?" The notion of *taste (aesthetikon)* articulates the solution and answers Eagleton's rhetorical question.

The human species, in the long run, however, does not yield to a mere *homo economicus*, whose sole and most important leisure activity is to consume. It is impossible to rip out people's will for social voluntary action. There is abundant evidence of this, such as urban agriculture, protection of urban woods, or urban art as a whole. Nonetheless some consuming citizens are devoured by mediated events and enjoy a taste of voyeurism, such as the school killings in Finland or the Breivik massacre in culturally Lutheran Norway. These horrible incidents are the most striking evidence of this twofold impact of the shaking frontiers of personal and public. The ethics stemming from the early years of personal life in the incidents mentioned above may have become meaningless, devoid of significance, and have been taken over by the overwhelming sphere of virtual existence. The inconvenient truth is that "Finland is the world's leader in many "evil matters", such as domestic violence, child abuse and the abandonment of the elderly. The regrettably frequent cases of child abuse in many extremely poor developing countries are completely unheard of. What is wrong with us? The answer is: indifference, coldness, hardness and the strong decline in gregarious values. – Money does not solve things, only love does."<sup>63</sup>

High suicide rates are another "evil matter" in the Finnish society, especially among the youth. Why? One possible explanation is the fact that the social transformation from an agrarian peasant society to a contemporary urban culture has been extremely fast; it took place in the late fifties and early sixties, so most of the young generation are grandchildren of first generation city people and often unable to relate to their parents' experience, let alone to their grandparents'. This reinforces the generational gaps in the Finnish society because young people hold loose or no ties to their family ancestors and an increasing number of the young population is receiving invalidity pensions for mental health issues, even as early as in their twenties. By contrast, in Portugal families take care of their own kind. Issues of civic behaviour may not be on their first plane, but individual tragedies of social isolation mentioned above are far less frequent in Portugal than in Finland.

There is a common denominator of these two geographical and cultural extremes, the apparently suffering southern Portuguese and the apparently successful Finland in the north at the top of the occupation scale. Both of these societies are positioned on the fringes, in the margins of the main-stream centre. What is salient at the present moment is that the important social and cultural changes we are witnessing are caused by the reversibility of the margins and the centre. Simply, margins – or difference – more than ever before are the chief promoters of fundamental cultural changes. In his essay "The local and the global", Stuart Hall says that "it would be an extremely odd and peculiar history of this part of the twentieth century if we were not to say that the most profound cultural revolution has come about as a consequence of the margins coming into representation – in art, in painting, in film, in music, in literature, in the modern arts everywhere, in politics, and in social life generally. Our lives have been transformed by the struggle of the margins to come into representation. Not just to be placed by the regime of some other, or imperialising eye but to reclaim some form of representation for themselves." (Hall, 1991: 34)

This is also the view shared by Lilie Chouliaraki and Norman Fairclough in *Discourse in late modernity* (1999), when stating that hybridity does not stand in opposition to 'pure' discursive practices: "hybridity as such is inherent in all social uses of language. But particular social circumstances create particular degrees of stability and durability for particular articulations, and particular potentials for articulating practices together in new ways." (Chouliaraki, Fairclough, 1999: 13) All discursive practices are actually hybrid; the example they offer is the mixture of academic and everyday language in political discourse. The central issue here is the act of rearticulation that takes us to an articulatory change. Living on the borderlines, in and between cultures, causes *hybridisation*, a process in which two (or more) cultures retain their distinct characteristics and simultaneously *build something new*. The margins displace the centre, and the ones positioned in the periphery re-write history. Furthermore, cultural totalisation becomes impossible, as Bakhtin has argued<sup>64</sup>.

Julia Kristeva in *Étrangers à nous-même* (1988, *passim*) has shown us that we are actually *all* in the process of becoming foreigners in a universe that is growing more and more heterogeneous underneath its apparent scientific and media-centred unity. In conclusion, to become a foreigner is not necessarily about physically moving from one place to another. It may be a refusal to become fully part of the surrounding environment but rather to build an autonomous relationship towards place as such, a position time and again favoured by artists or intellectuals<sup>65</sup>.

<sup>63</sup> "Suomi on maailman kärkimaita monessa "pahassa" kuten perheväkivallassa ja lasten pahoinpitelyssä sekä vanhusten heitteillejätössä. Suomessa valitettavan yleiset lasten pahoinpitelyt ovat useissa rutiköyhissä kehitysmaissa tuiki tuntemattomia. Mikä meitä oikein riivaa? Vastaus on : välinpitämättämyys, kylmyys ja kovuus sekä yhteisöllisyyden rankka rapautuminen. – Raha ei ratkaise, mutta rakkaus ratkaisee." Liisa Jaakonsaari in *Uusi Suomi*, 04/09/2012

<sup>64</sup> "The hybrid is not only double-voiced and double-accented [...] but is also double-linguaged; for in it there are not only (and not even so much) two individual consciousnesses, two epochs [...] that come together and consciously fight it out on the territory of the utterance [...] It is the collision between differing points of view on the world that are embedded in these forms [...] such unconscious hybrids have been at the same time profoundly productive historically: they are pregnant with potential for new world views, with new 'internal forms' for perceiving the world in words." Bakhtin, 1981: 360

<sup>65</sup> In *Liquid Modernity* we can read: "The distinguishing mark of all exile [...] is the determination to stand out from the physical space, to conjure up a place of one's own, different from the place in which those around are settled, a place unlike the places left behind and unlike the place of arrival." Bauman, 2000: 208



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<http://teamtreehouse.com/>

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## DISCOURSE STRUCTURE AND CONTENT ANALYSIS: A COMPUTATIONAL LINGUISTICS' APPROACH

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### ABSTRACT

Content analysis is a relevant tool for many human and social sciences, such as Psychology and Sociology, among others. The detection of the structure of the texts is a relevant step in determining how the major content elements are organized. Besides text segmentation into paragraphs, sentences, and clauses, the use of discourse connectors is a fundamental element for the structuring of a text. These connectors include conjunctions and conjunctive adverbs, and they make explicit the meaning relations between sentences forming a text. In this paper, we illustrate a method for capturing the major components of texts and their explicit organization. For evaluation, the method is applied to discourse parsing but it could also be applied to many tasks of content analysis. This interdisciplinary method bridges topics from linguistics and computational linguistics, with possible uses in several areas of social sciences, where content analysis and discourse structure may be relevant.

Keywords: Content Analysis, Text/Discourse Parsing, Discourse Connectors, Portuguese.

JEL Classification: Z00.

### 1. INTRODUCTION

In Linguistics, Discourse Analysis deals with the higher levels of language encoding, namely with the way texts are structured to adequately perform their communicative goals. One can trace back the modern studies in the field to the seminal work of Zellig S. Harris (1952), in a structuralist perspective, and subsequent theoretical developments, such as Grice's Maxims (Grice, 1975) or the Systemic-Functional Theory (Halliday and Hasan, 1976), some of them more or less influenced by the Philosophy of Language of Wittgenstein (1955).

Content analysis (CA) is an 'umbrella term' that can be described as a set of research procedures and methods, with varying degrees of formalisation, that can be applied to texts in a well-defined and reproducible way and transform them in such a way as to enable the retrieval of meaningful information and produce trustworthy inferences (Tipaldo, 2014). It is "a research technique for the objective, systematic and quantitative description of the manifest content of communication" (Berelson, 1952). Developed since the 1950s, any CA methods must assure the repeatability of the procedures, as scientific re-elaboration of texts, and, in the words of one of the founders of CA, aim at answering the questions "Who says what, to whom, why, to what extent and with what effect?" (Lasswell, 1948).

The focus of CA can either be the manifest content of the forms of communication, that is, the very texts in their material and objective form; or the latent meaning, deductively deriving the intentions of the authors of the texts. The former is essentially a quantitative approach that relies mostly in the so-called dictionary-based methods, using statistical analysis to model the distribution of linguistic expressions and arrive at interpretative-prone categories; while approaches to the latent meaning perform qualitative analysis in order to elicit the intentions behind texts and their implications.

Irrespective of the approach adopted, Weber (1990:12) alerts that "To make valid inferences from the text, it is

important that the classification procedure be reliable in the sense of being consistent: Different people should code the same text in the same way". Over the years, much effort has been put into research for operative definitions of inter and intracoder reliability (Krippendorff, 2004, p. 413).

Since the advent of computers and the dissemination of texts through the web, CA has been at the centre of many research domains and it is still today an active field of research in the Social and Computer Science Domains and in the Humanities, in general. Any text or corpus of text can be the target of CA procedures: from medical records, to press, from customer reviews to tweets and posts in media networks.

Mass media and communication studies from the late years of the 20<sup>th</sup> century, which have always had an important role in the assessment of public relations programs and public profile, have now turned to Social media analysis and the impact of new mobile devices in communication processes, in areas that are now known as opinion mining and sentiment analysis (Pan and Lee, 2008; Liu, 2012), and that have a strong economic, social and political impact, influencing stakeholders and deciders alike. Information retrieval and text mining techniques now have limitless access to big data, providing insight on how society interacts and reacts to events and policies, with significant societal impact.

The availability of massive quantities of textual contents in machinereadable form, even those contents are in a non structured form as language, requires the application of natural language processing (NLP) tools to retrieve that information from texts and use it in a wide range of applications (Clark *et al.*, 2010). Several applications are automatic summarization and indexation, topic detection and tracking, among others.

In this sense, the use of NLP techniques can aim at discovering the patterns underlying discourse structure and further process textual content beyond simple wordincontext approach. This is the field of Discourse Parsing.

Discourse parsing is the basis of several methods of automatic content analysis (Neuendorf, 2002). On the subject of discourse parsing, several works in the area of computational linguistics have been developed. Nowadays, most projects on *corpus* annotation of discourse relations are based on the Rhetorical Structure Theory framework (Mann and Thompson, 1988), such as RST Discourse Treebank (Marcu, 2000), which consisted on the annotation of around 30 discourse relations over the Wall Street Journal *corpus*. Other projects, like the Penn Discourse TreeBank (Webber and Joshi, 1998), a version of the Penn TreeBank project (Marcus *et al.*, 1993), use lexical information, having been produced with annotations about discourse connectors, namely conjunctions and conjunctive adverbs. These projects have been created for studies on the English language. Discourse parsers have been developed for several languages, including Brazilian Portuguese (Pardo, 2004; Pardo and Nunes, 2008; Maziero *et al.*, 2015). The later is one of the first attempts at a supervised machinelearning classifier for the identification of relations between text units.

In order to build an automatic discourse parsing system, the first task in hand is to build a discourse segmentation tool, irrespective of the set of discourse relations and the theory of discourse that will then be used. Most of these segmentation tools adopt a rulebased approach (Tofiloski *et al.*, 2009) and it hinges on a comprehensive knowledge about the lexical items connecting discourse units (clauses, sentences, paragraphs), that is, the connective words (and multiword expressions) of the language. This approach leads to higher precision when compared to statistical segmenters. The same approach has also been used for Brazilian Portuguese discourse parser DiZer (Pardo, 2004; Pardo and Nunes, 2008).

In this paper we highlight some of the issues raised in the construction of a discourse segmentation tool for European Portuguese. We present a method and perform a preliminary evaluation over a corpus of scientific texts (abstracts) with strong textual cohesiveness and coherence. This is the first step towards the integration of this prototype into a fullyfledged, rulebased and statistical NLP system for Portuguese.

This paper is structured as follows: First, in §2, we present the main linguistic processes and lexical devices involved in the structuring of discourse by way of the so-called connectors. Then, in §3, we present available linguistic resources and tools for natural language processing of Portuguese texts, in order to present a strategy for capturing the discursive structure of a text. In the next Section, we present the methods, including the *corpus* used on the preliminary experiments. A detailed analysis of several issues found at this initial stage are then presented and discussed in order to build a roadmap towards an efficient and comprehensive discourse parser of Portuguese.

## 2. LINGUISTIC DEVICES AND PROCESSES IN DISCURSIVE STRUCTURING OF TEXTS

A *text* is a successful piece of communication when it presents internal *coherence* and *cohesion* (Halliday and Hasan, 1976; on Portuguese, see Mendes, 2013). Texts, particularly written texts, are complex linguistic objects, presenting an internal structure, which must be approached in a manner somewhat different from the analysis of simple, isolated, sentences and clauses. Any utterance has structure, but sequences of sentences resource to certain linguistic devices and processes that are not available for simpler sentences. Furthermore, in a written text, formal (editing) devices such as paragraphs, sections, chapters, etc. help produce structure and organize content. We do not consider these types of devices here, though.

In this paper, we are interested in investigating general lexically based linguistic devices and processes, operating in written texts, and yielding discursive structure. These are sometimes referred to in the literature as *transition words* (Writing Center, 2014)<sup>66</sup>. We will use a *corpus* of scientific abstracts, the TCC *corpus* (Pardo & Nunes, 2008), consisting in relatively short texts, often with an argumentative structure and other specific rhetorical devices. Our aim, at this time, is mostly to identify the linguistic regularities and the issues that can be raised in the development of a rule-based discourse parser. Our final goal is to develop such parser and to integrate it at a later stage in the STRING natural language processing chain (Mamede *et al.*, 2012). In a way, this is our first step in moving from the already developed Portuguese grammar for the XIP (AitMokhtar *et al.*, 2002), the parsing module of STRING, which aims at intraclausal syntactic-semantic dependency extraction, and advance towards a trans-sentential, discourse parsing.

In this paper, we focus on the use of two major types of connective devices: conjunctions (§2.1) and conjunctive adverbs (§2.2). Their function in discourse can be seen as a kind of “glue”, linking together clauses and sentences of a text, rendering it cohesive and coherent. These are, by no means, the sole type of cohesion devices a cogent discourse is made of. Other processes, such as the relative order of the elements in a clause or the sentences’ sequence, the coreference relation between separate, even distant, elements of a text (Mitkov, 2002; Marques, 2014), etc., they all contribute in a very relevant way to the cohesiveness and coherence of a text. Nevertheless, and for the strict purpose of this paper, we will ignore them here.

## 2.1. Sentences and (sub)clauses

From an information-theoretical viewpoint (Harris, 1991), *clause* and *sentence boundaries* are the point in the linguistic stream presenting the least constraints on word sequences. Though this is a comprehensive linguistic notion, practical issues are raised when mechanically parsing sentences in texts, namely in natural language processing of written texts.

Formally, sentence boundaries within texts are relatively easy to determine, being signalled by the use of initial uppercase and specific separators (stop <.>, semicolon <.>, colon <:>, question/exclamation mark <?!>). This depends on the language: some languages do not have such (ortho)graphic devices (Thai), while others have special characters to signal the onset and the end of a sentence (e.g. Spanish ¿? and ¡!). For all practical purposes, we ignore all these sentencesplitting issues in this paper and deem all sentences and paragraphs to be correctly segmented.

Once sentences have been identified as text units, the underlying subunits require a more sophisticated approach. This involves the concept of *clause*, a subsentential unit of sentences, and the correlated concept of *conjunction*. A conjunction is a major part of speech that can be defined as a category of words joining clauses together within a sentence. *Clauses* can thus be defined as the expression of (at least) one semantic predicate with at least one explicit verb, while *sentences* are sequences of clauses (eventually, only one), related by connective devices, mainly conjunctions. Therefore, sentences formed with a single clause are *simple* sentences, while sentences with two or more clauses are *complex* sentences. Clauses can have different status within sentences: (i) a *main* clause (with a finite tensed form) can be coordinated with another main clause, both having similar or equal status within the sentence (*parataxis*); or (ii) a main clause can have one or more *subordinate* clauses (*hypotaxis*); both processes can be combined in the same sentence, and form complex syntactical structures. Furthermore, there are several types of subordination processes, yielding different types of subclauses (the main types being nominal, adjectival, adverbial, and appositive/parenthetical).

The delimitation of the boundaries of subclauses within sentences and the capture of the semantic relations between them is not a trivial task. In this paper, we adopt an extremely simplified approach: any string introduced by a conjunction (or a conjunctive adverb, see below) is a clause, irrespective of the possibility of having only one or several subclauses (not clearly delimited) within it; any beginning or end of sentence is a clause boundary, as well.

## 2.2. Conjunctions

Conjunctions convey meaning, and even if a comprehensive and universal semantic classification has not yet been achieved, major types involve the concepts of <cause>, <consequence>, <time sequence>, <finality/purpose>, <comparison>, etc. For the practical purposes of this paper, we consider that the main traditional semantic categories organizing the set of known conjunctions are sufficient, with some minor adjustments to cover most of the semantic values conjunctions may feature. In fact, even these categories are sometimes difficult to reproduce. Since, in the Harrisian framework, natural language has no external metalanguage (Harris, 1991), the use of the very conjunction may be more informative than any ‘artificial’ semantic tag, even if this can help to organize semantically similar phenomena.

Conjunctions can be *coordinative* (*mas* ‘but’) or *subordinative* (*porque* ‘because’). In this paper, we lightly address coordination, but we focus rather on subordinative conjunctions introducing (adverbial) subclauses, ignoring other subordination types.

Another important aspect is that conjunctions, both simple and compound (*i.e.* multiword) constitute a finite

<sup>66</sup> <http://www.webcitation.org/6FVZvFUW3> (last access: 31/3/2016; all other URLs were checked on this date).

set, which can be described extensively. However, to the best of our knowledge, no comprehensive, and universally accepted list of conjunctions is available for Portuguese, especially because of the issues in defining multiword units, as well as the subtle distinction between conjunction and prepositions introducing infinitive clauses. To this paper, we used the (quite extensive) data from STRING system (Mamede *et al.*, 2012), containing about 104 items, along their semantic features. Hence, for example, in the artificial example (1):

- (1) *O Pedro fez isso enquanto a Ana lia o jornal mas não conseguiu terminar antes dela porque ela é muito rápida.*  
 (Pedro did that **while** Ana read the newspaper **but** [he] did not manage to finish before her **because** she is very fast.)

we find a single sentence with several clauses, connected by conjunctions. These clauses can be (manually) delimited (bracketing) and numbered (1 to 4), as shown in (2):

- (2)  $[[[O\ Pedro\ fez\ isso]_1\ \mathbf{enquanto}\ [a\ Ana\ lia\ o\ jornal]_2]_A\ \mathbf{mas}\ [[n\tilde{a}o\ conseguiu\ terminar\ antes\ dela]_3\ \mathbf{porque}\ [ela\ \acute{e}\ muito\ r\acute{a}pida]_4}]_B$

and the structure between them formalized as in (S), where the specific content of sentences is represented by  $S_i$ , as follows:

$$[S_1\ \mathbf{enquanto}\ S_2]_{\mathbf{mas}} [S_3\ \mathbf{porque}\ S_4] \quad (S)$$

$$\mathbf{mas}\ \{[enquanto\ (S_1, S_2)]_A, [porque\ (S_3, S_4)]_B\} \quad (P)$$

or, alternatively, by the treelike structure (T)<sup>67</sup> shown in Figure 1:

Figure 1: A treelike discourse structure (T) of a sentence with clauses linked by conjunctions



Any of these textual modifications, from the initial discourse (1) to its representations in (2), (S), (P) or (T) is a specific type of *content analysis*, in the sense of Tiplado (2013:18):

“Despite the wide variety of options, generally speaking every “content analysis” method implies «a series of transformation procedures, equipped with a different degree of formalization depending on the type of technique used, but which share the scientific reelaboration of the object examined. This means, in short, guaranteeing the repeatability of the method, i.e.: that preset itinerary which, following preestablished procedures (techniques), has led to those results. This path changes consistently depending on the direction imprinted by the interpretative key of the researcher who, at the end of the day, is responsible for the operational decisions made»”.

Our aim is to be able to reproduce such analysis mechanically, by way of natural language processing techniques. This could then be used to many languagerelated applications, as in summarization, rhetoric analysis, etc.

In this paper, we adopt the formalism illustrated in (P), as in a secondorder predicate logic. The specifics on the implementation of this formalism are spellout below, in Section §2.3.

### 2.3. Conjunctive adverbs

Conjunctive adverbs are a hybrid category, halfway between conjunction and adverb. Like other sententialmodifying adverbs, they operate on a sentence. However, their function is to relate that sentence with a previous one. Because

<sup>67</sup> This tree structure was drawn using <http://ironcreek.net/phpsyntaxtree/>

of this, they are often confused with conjunctions in many grammars. For example, in the following sentence, *porém* (however) is a conjunctive adverb:

*O Pedro fez isto. A Ana, porém, fez aquilo*  
(Pedro did this. Ana, however, did that)

A set of formal properties distinguishes conjunctive adverbs from other types of adverbs (Molinier and Levrier, 2000). Like other sentencemodifying (as against verbmodifying) adverbs, they have mobility in the sentence and can be fronted to its beginning; they are also outside the scope of the negation of that sentence's main verb:

*O Pedro fez isto. Porém, a Ana (não) fez aquilo*  
(Pedro did this. However, Ana did (not\_do) that)

Besides that, sentencemodifying adverbs can not be extracted by clefting,

*A Ana fez aquilo, porém* (Ana did that, however)  
\**Foi porém que a Ana fez aquilo* (It was however that Ana did that)

an operation that can only be used to front sentenceinternal constituents:

*A Ana fez aquilo hoje* (Ana did that today)  
*Foi hoje que a Ana fez aquilo* (It was today that Ana did that)

Most important, since conjunctive adverbs link the sentence where they occur to the previous sentence, they can not appear in the absolute start of a discourse/utterance, as they require a previous content in order to be accepted and understood.

Exactly like conjunctions, conjunctive adverbs also convey meaning, and the semantic classes they can form are partially the same found for conjunctions proper (<cause>, <consequence>, etc.) with some further, adverbspecific classes (<exemplifyer>, <enumeration>, etc.).

Because of their particular function, it is not rare to find some of this adverbs used inside a sentence, as if they were conjunctions, complicating issues and giving rise to much ambiguous classifications in traditional grammars:

*O Pedro fez isto, porém a Ana fez aquilo*  
(Pedro did this, however, Ana did that)

Conversely, otherwise certain clearcut coordinative conjunctions like *mas* 'but' may be used adverbially:

*O Pedro fez isto mas a Ana fez aquilo, = O Pedro fez isto. Mas a Ana fez aquilo.*  
(Pedro did this but Ana did that)

To the best of our knowledge, besides some partial lists in Costa (2008) and several compound adverbs provided by dictionaries and grammars under the tag of adverbial locutions, the most extensive lists of conjunctive adverbs for Portuguese have been collected and classified by Palma (2009), later revised by Fernandes (2011) in view of disambiguation, and then integrated in the STRING (Mamede *et al.*, 2012) Portuguese grammar and lexicon. This list has undergone constant updating. The current list used for this paper consists of 107 conjunctive adverbs. Most of them were already semantically classified.

Both conjunctions and conjunctive adverbs can be combined in sequences of sentences to produce discourse structure. As mentioned above, these are not the only process language resources to produce cohesion and coherence of discourse, but we define this grammatically shallow devices as the focus of this paper, since they can more easily spotted on the text 'surface'.

## 2.4. Sentence sequences and the '&' connector

Once all connectors have been parsed and the sentence structure they yield represented in some way, a large number of apparently unrelated sentences remain in most texts. However, if the sequence of sentences is in fact a cohesive and coherent text, they must all be linked by a default connector.

For this situation, Harris (1991) proposes the additive conjunction *and*: on one hand, this is the least constraint

conjunction in any language, whose function is just to put two sentences together with minimal contribution to meaning. Because of the linear sequence in which sentences are ordered in relation to each other in discourse, a temporal (1) and sometimes even causal (2) nexus is often assumed:

- (1) *O Pedro leu o jornal, viu um pouco de televisão e telefonou ao filho.*  
(Pedro read the newspaper, watched tv for a while and phoned his son)
- (2) *O Pedro foi logo comprar um jornal. Há três dias que não sabia nada de Portugal.*  
(Pedro went to buy a newspaper right away. It had been three days since he had got any news from Portugal)

However, several complex factors may vary the semantic relation between consecutive, but otherwise unrelated sentences, foremost the predicates involved in each sentencepair, thus this reconstitution is highly dependent on one's world knowledge.

In this paper, we also assume that any sequence of two sentences (or paragraphs), otherwise unrelated, are nevertheless connected by a dummy coordinative conjunction '&' (= 'and'), but we will abstain from further defining the semantic nexus between those sentences. In the same way, the default connection between paragraphs will be '&&'. Some authors consider this relation a type of ELABORATION (Pardo *et al.*, 2004).

### 3. LINGUISTIC RESOURCES AND NLP TOOLS FOR PORTUGUESE

In this Section we present the main linguistic resources and natural language processing tools used for the construction of a discourse parser for Portuguese.

#### 3.1. Linguistic resources

The lexicons of conjunctions and conjunctive adverbs of the STRING NLP chain (Mamede *et al.*, 2012) were adapted to the Dela formalism, in order to use them with the Unitex platform (Paumier, 2003, 2016).

In STRING, most of these lexical items are first identified (tokenized and POSTagged) in LexMan module (Vicente, 2013) and then syntactically and semantically classified in the XIP parser (AitMokhtar *et al.*, 2002) lexicons. In some cases, the correct tokenization and identification of the POS requires context, so that these tasks are carried out by an intermediate module, RuDriCo (Diniz, 2010; Diniz *et al.*, 2011).

From the initial list, certain entries, particularly prone to parsing errors due to their ambiguity were removed. This is the case of certain simpleword conjunctions (*ao, caso, de, para, por, sem*) that are ambiguous with prepositions, and whose identification requires a more sophisticated parsing tool than Unitex. The same was also done with coordination conjunctions (*e, mas, nem, ou*), since the delimitation of the phrases' and sentences' boundaries connected by coordination is not a trivial task. We also discarded a set of phrases involving pronominal, that is, anaphoric, elements (*além disso, por esta razão, visto isto*). Not only can these expressions be analysed linguistically, as its correct parsing involves anaphora resolution, which is out of the scope of this paper.

Hence, a final list of 211 entries, 104 conjunctions and 107 conjunctive adverbs, was produced. This small lexicon has been adapted to the Dela format (Courtois, 1990), to be used with the Unitex linguistic development platform. Examples of these conjunctions' lexical entries are shown below:

```
a fim de,.CONJ+subordinate+final
antes que,.CONJ+subordinate+temporal+anterior
depois de,.CONJ+subordinate+temporal+posterior
enquanto,.CONJ+subordinate+temporal+simultaneous
para que,.CONJ+subordinate+final
porque,.CONJ+subordinate+causal
por causa de,.CONJ+subordinate+causal
```

As for conjunctions, a list of conjunctive adverbs was also adapted to be used with the Unitex platform. Here are

some entries of that list:

a saber,.ADV+Advconj+appositive  
 afnal de contas,.ADV+Advconj+consecutive  
 ainda assim,.ADV+Advconj+concessive  
 ainda por cima,.ADV+Advconj+additive  
 antes de mais,.ADV+Advconj+temporal  
 assim\,,.ADV+Advconj+causal  
 caso contrário,.ADV+Advconj+conditional  
 de resto,.ADV+Advconj+concessive  
 em o entanto,.ADV+Advconj+adversative  
 isto é,.ADV+Advconj+appositive  
 ou seja,.ADV+Advconj+appositive  
 por conseguinte,.ADV+Advconj+consecutive  
 por enquanto,.ADV+Advconj+temporal  
 por os vistos,.ADV+Advconj+causal  
 portanto,.ADV+Advconj+causal  
 quer dizer,.ADV+Advconj+appositive

Using one of the Unitex features, priority was given to these dictionaries, so that these words, when found in a text, are only given the information encoded in our lexicons, while any other information from the system's dictionaries is ignored. This allows us to narrow down the focus of the parser, while accessing the remainder of the information encoded in the system's lexicons. For this paper, since the *corpus* was derived from the Brazilian Portuguese, we also used the lexical resources developed for that variety (Vale and Baptista, 2015 and references therein) and distributed with the Unitex system<sup>68</sup>.

### 3.2. Corpus

For the development of the parser, we used the TCC *corpus*<sup>69</sup> (Pardo and Nunes, 2008). This *corpus* consists of 100 documents with varying length (the shortest with 63 words and the longest with 1,825), 732 paragraphs (average of 7.3 per document), 1,490 sentences (average of 2 per paragraph and 14.9 per document) and 52,644 words (average 71.9 per paragraph, 35.3 words per sentence)<sup>70</sup>.

The *corpus* was preprocessed and the texts were splitted with indications of beginning and end of *sentence* (=s= and =cs=, respectively), beginning and end of *paragraph* (=p= and =cp=), and beginning and end of *document* (=doc= and =cdoc=), keeping one document per line (each document is separated by a newline character). Sentence boundaries were defined basically by a full stop followed by uppercase initial<sup>71</sup>. The contractions (*no=em+o* 'in\_the') were also resolved. A manual revision was carried out to ensure correct sentencesplitting and contractionresolving. These transformations on the *corpus* were performed in order to obtain the best possible sentence splitting, while maintaining the possibility of performing a transsentential analysis when processing it with Unitex, otherwise, due to the features of the system, the FST approach would only work within sentence boundaries.

<sup>68</sup> This has been proved to have a significant impact on the number of outofvocabulary (OOV) tokens: Using the European Portuguese resources (Eleutério *et al.* 1995, Ranchhod *et al.* 1999), the number of unknown words was 1,021; while the Brazilian lexicon (Vale and Baptista 2015) only left 635 words without any POS tag.

<sup>69</sup> <http://www.icmc.usp.br/pessoas/taspardo/CorpusTCC.zip> [20160330]

<sup>70</sup> These countings were made prior to any transformation to the *corpus* and before the 10 sentences randomly selected for the evaluation were removed from the *corpus*. The counts of words (approx. 53,000) and sentences (1,350) presented by Pardo and Nunes (2008) is slightly different, probably due to different tokenization and sentence segmentation criteria.

<sup>71</sup> Colon <:> and semicolon <:> were not treated as sentence boundaries.



The full *corpus*, composed of 100 documents, was divided into two:

- 10% of the documents were randomly removed for evaluation, and;
- the remaining 90 documents were used for the development of the parser.

All calculations mentioned below refer to the development *corpus*. After lexical analysis of the development *corpus* with Unitex, the distribution of the conjunctions and conjunctive adverbs in the *corpus* was obtained. The 10 most frequently occurring items in each class are shown in Table 1.

**Table 1: Distribution of most frequently occurring conjunctive adverbs (*AdvConj*) and conjunctions (*Conj*) in the *corpus***

AdvConj	Count	Conj	Count
<i>por exemplo</i>	28	<i>devido a</i>	22
<i>ou seja</i>	10	<i>para que</i>	21
<i>em_o entanto</i>	9	<i>além de</i>	19
<i>por outro lado</i>	8	<i>quanto</i>	17
<i>assim,</i>	7	<i>bem como</i>	7
<i>portanto</i>	6	<i>uma vez que</i>	5
<i>em seguida</i>	3	<i>nem</i>	4
<i>isto é</i>	3	<i>e/ou</i>	5
<i>por sua vez</i>	2	<i>apesar de</i>	5
<i>por um lado</i>	2	<i>embora</i>	4

In total, 51 different connectors are used in only 90 texts of the TCC *corpus*, showing the diversity of their use in text. Conjunctions are used the most in these texts (120 instances), though the conjunctive adverbs are very frequent (78 found instances). It is this diversity and density, the different combination of them in the same sentence and the different possible positions of the adverbial connectors in the sentence that make their parsing so difficult.

However, the most difficult aspect when identifying connectors is their ambiguity, especially in a tool such as Unitex, with little or no morphosyntactic disambiguation. An example of incorrect POS tagging, resulting from ambiguity, is the output of the following sentence:

*Segundo Pressman, quanto mais tarde um erro for encontrado em\_o processo de desenvolvimento de software, maior é o custo para correção de esse erro.*

**[quanto, C0Conjsubordcomparative (Segundo Pressman, # mais tarde um erro for encontrado em o processo de desenvolvimento de software, maior é o custo para correção de esse erro.)]**

In this sentence, *quanto* is part of the proportional (discontinuous) conjunction *quanto mais X, mais Y*. Because the program failed to identify this conjunction correctly, our parser incorrectly classified *quanto* as a comparative conjunction.

Another aspect of ambiguity is the fact that the current resources of Unitex do not produce a POSdisambiguated text, so that when trying to capture clauses, which may be defined as having at least a verb form. Since the text has not been POStagged and disambiguated, one cannot, at this stage, rely on such POS constraint to adequately delimit clauses, as many words are ambiguous between verbs and other POS. Therefore, in this paper, we adopted a very simplistic approach, as far as clause segmentation is concerned, and just considered sentence boundaries, ignoring, for the most part, the sentenceinternal POS tags. This problem will not occur within the STRING fullyfledged NLP system, which is able to produce a fully disambiguated text.

In the next Section, the development of the prototype of the rulebased discourse parser will be explored.

#### 4. A RULEBASED DISCOURSE PARSER PROTOTYPE

The lexicon of conjunctions and conjunctive adverbs of STRING, adapted to the Dela formalism and given a higher priority than the standard Brazilian Portuguese lexicon distributed with the Unitex system, was used to POS tag

the development corpus. Then, a simple grammar, consisting of several finitestate transducers (*graphs*) was built. The grammar is divided into four main graphs:

- The first type represents sentences with 2 clauses: a main clause (F<sub>1</sub>) and a subordinate clause (F<sub>2</sub>), linked by a connector (C): F<sub>1</sub> C F<sub>2</sub>;
- The second one represents two sentences, linked by a connector, having a sentence boundary (#) between them: F<sub>1</sub> # C F<sub>2</sub>.
- The third type represents the case when the subordinate clause and the connector is fronted to the beginning of the main clause, and usually this signalled by the use of a comma, separating them; C F<sub>2</sub>, F<sub>1</sub>.
- The fourth and last type of construction aims at capturing the recursive nature of coordination and subordination, combining the previous structures after a first parse has been produced.

The graph below exemplifies the FST grammar for the identification of the first type: two clauses connected by a conjunction, within the same sentence.

Figure 2: Excerpt of an FST grammar to identify and classify Conj in sentences with the format:

**=s= F1 Connector F2 =cs=**



The graph above recognizes a main clause (beginning by =s=), connected to another clause and within the same sentence (ended by =cs=), the two being linked by a causal subordinate conjunction (e.g. *devido a* ‘due to’). In the graphs, the grey nodes F1 and F2 are subgraphs that represent clauses, the main and the subordinate clause, respectively. These are associated to output variables \$F1\$ and \$F2\$, respectively. The conjunction is also associated to an output variable \$Conj\$. A similar graph was built for each type of conjunction. Another set of graphs was also produced for the conjunctive adverbs and, for each type of structure, the complete graph brings them all together. These transducers are applied to the text in *replace* mode. In the output (indicated below the nodes’ path), opening/closing delimiters (square brackets: [ and ]) are inserted, the connector is moved to the front, leaving the symbol ‘#’ in its place, and the clauses are then presented inside brackets in their basic order, that is, first the main and then the subordinate clause. The structure type is indicated in the output by a prefix with the form C (for conjunctions) or S (for adverbs), and the indexes 0 to 3 (one for each type of construction presented above. When the sequence described by the graph is recognized in the text, the following output is produced:

*É também difícil saber qual de os sistemas prontos seria a melhor base para o novo sistema, devido a\_a falta de rigor em a documentação.*

**[devido a, C0Conjsubordcausal (é também difícil saber qual de os sistemas prontos seria a melhor base para o novo sistema, # a falta de rigor em a documentação.)]**

The next graph recognizes type #2: a sentence (preceded by =s=), a sentence boundary (=cs= =s=) and another sentence that begins with a comparative conjunctive adverb. It represents a main clause (F1) subordinating F2, by the use of a comparative conjunctive adverb. The complete graph contains all the other types of conjunctive adverbs. Another graph containing all the types of conjunctions, maintaining the same structure, was produced, with no intention to capture any connector, but in order to ensure none occurred in that position.

Figure 3: Excerpt of an FST grammar to identify and classify AdvConj in sentences with the format:

**=s= F1 =cs= =s= Connector F2 =cs=**



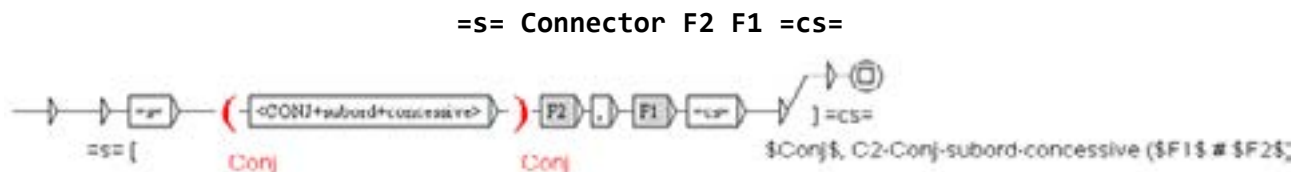
When this sequence is recognized in the corpus, it is given the tag *S1Advconjcomparative*, in the following format:

*Muitos de\_esses sistemas foram feitos baseados em outros sistemas anteriormente por mim desenvolvidos. Por exemplo com base em\_um sistema para Controle de Estoque e Emissão de Notas Fiscais de Produtos Agrotóxicos, foi feito um sistema para uma Revendedora de Motocicletas e Peças.*

**[Por exemplo, S1Advconjcomparative (Muitos de\_esses sistemas foram feitos baseados em outros sistemas anteriormente por mim desenvolvidos. # com base em\_um sistema para Controle de Estoque e Emissão de Notas Fiscais de Produtos Agrotóxicos, foi feito um sistema para uma Revendedora de Motocicletas e Peças.)]**

The clauses of the type #2 are identified and classified by the graph below:

Figure 4: Excerpt of an FST grammar to identify and classify *Conj* in sentences with the format:



It recognizes the case where the subordinate clause is preceded by a conjunction, in this case a concessive, and put before the main clause.

The complete graph contains all the other types of conjunctions. Another graph containing all the types of conjunctive adverbs, maintaining the same structure, was produced, with no intention to capture any connector, but in order to ensure none occurred in that position. When this sequence is recognized in the corpus, it is given the tag *C2Conjsubordconcessive*, in the following format:

*Apesar de ser uma técnica conhecida há algum tempo, os cenários têm ganhado em\_os últimos anos grande destaque entre os principais autores em\_a área de desenvolvimento de sistemas.*

**[Apesar de, C2Conjsubordconcessive (os cenários têm ganhado em\_os últimos anos grande destaque entre os principais autores em\_a área de desenvolvimento de sistemas. # ser uma técnica conhecida há algum tempo.)]**

One last graph was considered in order to capture the cases where there are three sentences joined by a connector between each pair of sentences/clauses. This graph is applied after all other graphs, because Unitex does not work in a recursive way thus, in order to identify, these sequences, the graph had to take the format acquired by the sentences after being identified with a connector, as exemplified in Figure 5:

Figure 5: Excerpt of an FST grammar to identify and classify *AdvConj* in sentences with the format:

**F1 (prev. marked sentence) =cs= =s= Connector F2 =cs=**



The complete graph contains all the other types of *AdvConj*. As in the previous cases, another graph containing all the types of conjunctive adverbs, maintaining the same structure, was produced, with no intention to capture any connector, but in order to ensure none occurred in that position.

When this sequence is recognized in the corpus, it is given the tag *S3Advconjconcessive*, in the following format:

*Por causa de\_a complexidade de informações envolvidas, é necessário que a simulação seja apoiada por ferramentas para ser adequadamente realizada. No entanto, uma questão importante que geralmente não é considerada pela simulação é o aspecto de cobertura de\_a atividade de teste, através da qual é possível a quantificação da qualidade dessa atividade.*

**[Por causa de, C2Conjsubordcausal (é necessário que a simulação seja apoiada por ferramentas para ser adequadamente realizada. # [em\_o entanto, S3Advconjconcessive (a complexidade de informações envolvidas # uma**

*questão importante que geralmente não é considerada por\_a simulação é o aspecto de cobertura de\_a atividade de teste, através de\_a qual é possível a quantificação de\_a qualidade dessa atividade.)]*

The former graphs are applied to the corpus in different phases:

- first, the FSTs that capture types #0 and #2 are applied simultaneously;
- graph for type #1 is applied after the former because it may overlap some of the cases that are to be tagged by the graph for type #2, and;
- graph for type #3 is the last one to be applied to the corpus, so that the rest of the corpus is already tagged, making it more secure to tag the sequence of three subordinated/coordinated sentences.

The grey boxes in the FSTs represent auxiliary graphs that represent *clauses*, that is, any string of words eventually including some separators, from a sentence boundary to another. The main formal variations include:

- Multiple (i.e.) recursive subordinate clauses modifying a main clause or another subclause
- coordinate clauses
- fronting of a subordinate clause modifying a main clause
- conjunctive adverbs linking two sentences (across a sentence or paragraph boundary)

**Table 2: Construction types and their frequency in the training corpus**

Construction type	Conj	Advconj	Count
#0 =s= F1 Connector F2 =cs=	137	55	192
#1 =s= F1 =cs= =s= Connector F2 =cs=	0	25	25
#2 =s= Connector F2 F1 =cs=	35	0	35
#3 F1 (prev. marked sentence) =cs= =s= Connector F2 =cs=	0	3	3
<b>Total</b>	172	83	255

**Table 3: Distribution of most frequent conjunctive adverbs (*AdvConj*) and conjunctions (*Conj*) in the corpus**

AdvConj	Count	Conj	Count
S0Advconjcomparative <i>por exemplo (29)</i>	29	C0Conjsubordcomparative <i>quanto (16), bem como (7), etc.</i>	29
S0Advconjappositive <i>ou seja (10), isto é (2), etc.</i>	13	C0Conjsubordecausal <i>devido a (15), uma vez que (4), etc.</i>	24
S1Advconjcomparative <i>por outro lado (5), por exemplo (3), etc.</i>	9	C0Conjsubordfinal <i>uma vez que (12), etc.</i>	23
S1Advconjcausal <i>assim (5), portanto (3)</i>	8	C0Conjsubordadditive <i>além de (12)</i>	12
S0Advconjcausal <i>portanto (3), assim (2)</i>	5	C2Conjsubordecausal <i>devido a (7), por causa de (2), etc.</i>	11
S1Advconjconcessive <i>no entanto (4)</i>	4	C0Conjsubordtemporal <i>antes de (2), depois que (2), etc.</i>	9
S0Advconjtemporal <i>em primeiro lugar (1), em seguida (1)</i>	2	C2Conjsubordadditive <i>Além de (7)</i>	7
S1Advconjtemporal <i>em seguida (2)</i>	2	C2Conjsubordconcessive <i>embora (3), apesar de (3)</i>	6
S3Advconjcomparative <i>por exemplo (1), por outro lado (1)</i>	2	C0Conjsubordconsecutive <i>de forma que (3), de maneira que (2)</i>	5
S0Advconjconsecutive <i>nesse sentido (1)</i>	1	C2Conjsubordfinal <i>para que (4)</i>	4

The raw frequencies of the constructions treated in this prototype are shown in Table 2. The data on Table 2 shows that conjunctions are much more used in type #0 (=s= F1 Connector F2 =cs=) than in any other type of sentences, being used only in type #0 and #2, which means it is only used to connect clauses that are inside the same sentence, be it in the canonical form or with the main clause after the subordinate.

Conjunctive adverbs, on the other hand, are used in both ways: between sentences (types #1 and #3) and within the same sentence (#0 and #2).

Naturally, the results above represent only the number of matches produced by the system from the development corpus. The error analysis of the evaluation corpus will be addressed in Section 5.

The 10 most frequently occurring tags in each class are shown in Table 3. In both, conjunctive adverbs and conjunctions, the most frequent class of connectors used is the comparative, which represents connectors such as the following:

```
tal como    Conjsubordcomparative
por exemplo Advconjcomparative
bem como    Conjsubordcomparative
assim como Conjsubordcomparative
```

In the next Section, we present a preliminary evaluation of the prototype discourse parser.

## 5. EVALUATION

For this paper, and because, to the best of our knowledge, there is no publicly available *corpus* that uses the same segmentation criteria we here adopt, we produced our own evaluation (or reference) *corpus* to assess the performance of our discourse parser prototype. This *corpus* is composed of 10 sentences that were randomly removed from the full TCC *corpus* and manually, and independently annotated, by a linguist. In total, the evaluation *corpus* consists of 10 documents with 103 paragraphs, 215 sentences, and 7.216 words, in total.

The annotation of this *subcorpus* consisted in indicating the relations involving the conjunctions and conjunctive adverbs here considered, as it was described in Subsection 2.2 and henceforward. This annotated *subcorpus* constitutes a *reference* or *golden standard*, against which the system's output is to be compared and evaluated. The annotator did not participate in the development stage of the grammar nor did he have any access to the development *subcorpus*. Conversely, the developer of the grammar ignored the evaluation *corpus*.

The evaluation was performed semiautomatically, and it compared the results from the parser with the manually annotated reference. In the evaluation *corpus*, there is a set of 74 connectors, and the parsing results obtained are the following (Table 4).

Table 4: Results

Results	Count
TP = correctly matched	20
Partially matched	4
FP = incorrectly matched	5
FN = Missed	50

Correctly matched instances correspond to the cases where the tag, and both clauses' boundaries in the output of the system are exactly like what has been encoded in the reference *corpus*. In partial matches, the connector is correct, but one of the clauses is incomplete. Incorrectly matched cases are the ones where there are no connectors present in the sentence but, because of an incorrect processing of the *corpus*, the parser assigns a wrong POStag to some word or expression. Missed instances correspond to the cases where a tag and its parse are present in the reference *corpus* but the parser failed to capture them. The evaluation took into account the standard evaluation metrics of Precision (P), Recall (R), Accuracy (A) and Fmeasure (Resnik and Lin, 2013). These metrics can be defined as follows (TP: true positives; FP: false positives; TN: true negatives; FN: false negatives):

- *Precision* is the sum of all correctly marked cases (TP) divided by the sum of all marked cases (TP+FP):

$$P = \frac{TP}{TP + FP}$$

- *Recall* is the sum of all the correctly marked cases divided by the sum of all the cases the system should have marked (TP+FN):

$$R = \frac{TP}{TP + FN}$$

- *Accuracy* is the sum of all correctly marked (TP) and the correctly unmarked cases (TN) divided by the sum of all cases under consideration:

$$A = \frac{TP + TN}{TP + FP + FN + TN}$$

- *Fmeasure* is the harmonic mean between *Precision* and *Recall*, according to each one an equal weight:

$$F = 2 \cdot \frac{P \cdot R}{P + R}$$

Two types of evaluation can be performed with the results mentioned above: we can adopt either a *strict* or a *relaxed* evaluation scenario, depending on the weight accorded to the partial matches. In partial matches, three elements are at play: the connector tag, and the two clauses; while the tag is always correct, either one of the clauses might be wrong or incomplete. We have attributed an equal weight of 0.33 to each of the three elements. In the *relaxed* evaluation we considered the partially matched clauses to be correct whenever the intersection between the output and the reference is not null. In a *strict* evaluation, the partially matched clauses count as false positives (FP).

The nonexplicit connection between sentences, which links every two consecutive sentences that are not otherwise linked by any discourse connector, is represented by the symbol '&', as explained in Section 2. Initially, this relation was not taken into account for in the evaluation. This drastically decreases the values of Precision and Recall, as can be seen in Table 5, for most related sentences are not explicitly connected to previous discourse. The same applies to the relations between paragraphs (tagged with the symbol '&&').

In the evaluation *corpus*, a total of 108 neutral connections between sentences, and 65 relations between paragraphs, were tagged. All these relations were correctly tagged.

Adopting this evaluation strategy, the following results were obtained (Table 5). In the strict evaluation, results show a relatively good precision (82%) but a moderate recall (61%) yielding suboptimal values for accuracy (54%) a reasonable Fmeasure (70%). These values improve, but little, in the relaxed scenario, as only a small number of partial matches occurred (4).

Table 5: Results

	w/o & nor &&		w/ &		w/ & and &&	
	Strict	Relaxed	Strict	Relaxed	Strict	Relaxed
<b>Precision (P)</b>	0.82	0.90	0.94	0.97	0.96	0.98
<b>Recall (R)</b>	0.61	0.62	0.85	0.85	0.89	0.89
<b>Accuracy (A)</b>	0.54	0.58	0.81	0.82	0.86	0.87
<b>Fmeasure (F)</b>	0.70	0.73	0.89	0.90	0.92	0.93

The main reason for the high number of FN was the fact that some lexical items (15 instances), mostly compound subordinate conjunctions, were still missing in our lexicon<sup>72</sup>. Some of these lacunae are obvious and result only from the fact that these lexical items were dispersed in the STRING lexicons. Completing the lexicon will suffice to yield better results.

The second problem comes from the imbrication of clauses within the same sentence, as already mentioned in Section §2.4. The example below exemplifies this case:

[após, C0Conjsubordconsecutivetemporal (*Assim, a fase de manutenção é a etapa do ciclo de vida do software na qual são efetuadas alterações no produto # sua liberação para o usuário.*)]

In this sentence, the parser first extracted the temporal subordinate conjunction *após* 'after' and, in the next step, it

<sup>72</sup> Namely, *ao passo que* 'but', *de fato* 'in fact', *de forma a* 'so that/in such a way that', *de maneira que* 'because', *de modo a* 'so that/in such a way that', *enquanto* 'while', *enquanto que* 'while', *quando* 'when', *porém* 'however'.

was not able to capture the causal conjunctive adverb *assim* ‘thus’.

In our results, shown in Table 5, the impact of considering the ‘&’ and ‘&&’ operators between sentences and paragraphs, respectively, as been separately assessed. In the strict evaluation, the ‘&’ connector produced an increase of 12% in Precision, 24% in Recall, 27% in Accuracy and 19% in Fmeasure. In the relaxed evaluation, results are only slightly better (from 1% to 3%) or nothing at all (Recall). This striking difference in the results shows the importance of this general cohesive process in the evaluation of discourse parsers.

On the other hand, and due to their smaller number, the fact of considering the default paragraph connector had but a small positive effect above the results already achieved with ‘&’. Compared with the results of the base evaluation (without & nor &&), in the strict scenario, one sees an increase of 14% in Precision, 28% in Recall, 32% for Accuracy, and 22% in Fmeasure. In a relaxed scenario, ‘&&’ increases the base results in 8% Precision, 27% Recall, 28% Accuracy and 20% Fmeasure. This corresponds to just a slight improvement, from 1 to 5% against the results with only the operator &.

Similar works in the area (Pardo *et al.* 2004, Maziero *et al.* 2015) consider the nonexplicit connection between sentences in their results, without distinguishing the clause segmentation task from the mere sentence splitting general procedure and thus increasing the evaluation results.

As stated in Section 3, the coordinate conjunctions, such as the additive *e* ‘and’, were not accounted in this stage of the parser’s development, given the difficulties in determining the coordination arguments and the clauses’ boundaries, even in a fully POSdisambiguated text. To have a clearer idea of the problem, we considered parsing only the conjunction *e* ‘and’, including it in the targeted lexicon and applying it to the evaluation corpus. A total of 88 matches (out of 156) were tagged, and 72 of those correspond to cases of coordination of nominal or prepositional phrases’, instead of clausal coordination. The following tagged sentence is an example of the coordination of subclausal constituents, instead of clauses:

*A flexibilidade e a facilidade de uso de hiperdocumentos em\_a Web têm garantido um futuro cada vez mais promissor para a utilização de sistemas de hipertexto.*

**[E, C0Conjcooordadditive** (*A flexibilidade # a facilidade de uso de hiperdocumentos em a Web têm garantido um futuro cada vez mais promissor para a utilização de sistemas de hipertexto*)

As can be seen, the word *e* ‘and’ was tagged as if it were introducing a clause, when it is actually linking two noun phrases. In STRING, this issue may be addressed, as coordination is so far treated at a strictly local level, between phrases. Hence, the coordination of clauses corresponds to a later stage of the interclause parsing.

A similar situation occurs due to POS classification of some discourse connectors, such as in the example below:

**[após, C0Conjsubordtemporal** (*Só é possível detectar esse tipo de erro # a análise da frase como um todo.*)

Certain words have different values, depending on what elements they introduce in a sentence. In this case, *após* ‘after’ is introducing a noun phrase, and therefore it should have been marked as a preposition. When this word introduces a clause, it has the value of conjunction. This is, in fact, the solution adopted in STRING. Because Unitex does not yet perform such disambiguation, the system considers it as a conjunction, thus producing a false positive (FP).

Considering this is still a prototype of a discourse parser, the results are quite satisfactory. This tool presents a fairly high Precision, both in the *strict* and in the *relaxed* evaluations. It still has a low Recall, but that can be improved by developing the tool further, particularly concerning issues found in embedded clauses and related, but independent sentences and paragraphs. Naturally the size of the evaluation sample is quite small and this results will have to be duplicated in a larger corpus and, eventually, from other text varieties.

## 6. CONCLUSIONS AND FUTURE WORK

This work presented a tool built for automatic discourse parsing, its main features and preliminary evaluation, which looks promising. This has proven to be a very difficult task, taking into account the existing POSambiguity in Portuguese, as shown in Section §4 and the effect of embedding of subclauses within sentences. Because of these difficulties, and in order to obtain a more accurate output, it is important to work with disambiguated text, where verbs are marked as being in the appropriate tense and other POS are also correctly tagged. This work on *corpus* annotation for lexically oriented, discursive related sentence relations, to the knowledge of the authors, has not been done to Portuguese yet.

One of the purposes of this paper was also to present the difficulty of the task at hand, and the challenges it poses for the task of content analysis. The relations addressed in this stage are relations between clauses within the same sentence or in adjacent sentences. In future developments of this tool more complexity will be added, by relating sentences and paragraphs in texts, improving the ability to analyse discourse.

Regarding future work, the prototype presented in this paper, when fully developed, may, on the one hand, contribute to the development of the STRING natural language processing chain; and, on the other hand, the automatic discourse parser can be improved by the use of the several modules of the STRING, as for example: lexical analysis (Vicente, 2013), identification of temporal expressions (Mauricio, 2011), and especially the anaphora resolution (Marques, 2013) and word sense disambiguation (Travanca, 2013; Suíças 2014).

After further development, this tool may also be tested on other types of texts, with a less formal writing, to test its efficiency in other genres and text types. To sum up, a lot of work is yet to be done in the area of automatic discourse analysis, starting with automatic discourse segmentation. This paper is a modest contribution in that direction.

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# LET'S PLAY WITH PROVERBS? NLP TOOLS AND RESOURCES FOR ICALL APPLICATIONS AROUND PROVERBS FOR PF

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## ABSTRACT

Proverbs are an important form of cultural expression of a society and are related to various areas of knowledge and human experience (González Rey, 2002). While linguistic elements in widespread use, proverbs are very rich structures both from a cultural and from a linguistic point of view and can therefore contribute significantly to the teaching of languages, both native and foreign (Council of Europe, 2001). However, though there are extensive collections of Portuguese proverbs with tens of thousands of forms and its variants (Reis, *in preparation*), its automatic identification in texts is quite difficult, given its formal variation, both lexical and syntactic (Chacoto, 1994). Nevertheless, using real examples, where proverbs are used in a natural or spontaneous discourse context, is a more natural way to learn and teach the complex conditions and communicative situations that determine the use and meaning of these expressions. On the other hand, frequency indices associated with proverbs and its variants would allow one to select the most common expressions. These are precisely the most interesting forms from the point of view of their teaching/learning and could serve as a basis for the construction of educational games, particularly for learning Portuguese autonomously as a foreign language (PFL) assisted by computer. To make this possible, it is necessary, first of all, be able to recognize the occurrence of proverbs in the texts (Rassi *et al.* 2014), including the instances where these expressions are presented in a truncated or creatively modified form, for example, to better suit the communicative situation or to produce new and more expressive meanings. In this paper, we present an ongoing project, which aims at automatic identification of proverbs in texts. In this interdisciplinary study, we combine natural language processing tools with questionnaires construction techniques for teaching purposes (Hoshino and Nakagawa 2005, Correia *et al.* 2010). This is illustrated here with different sets of formats that can be built based on the knowledge of the form and variation of proverbs, as well as their frequency in *corpora*.

Keywords: Portuguese Proverbs, Intelligent Computer Assisted Language Learning (iCALL), Natural Language Processing (NLP), Didactic Gaming.

JEL Classification: Z00.

## 1. INTRODUCTION

Proverbs are an important form of cultural expression of a society and are related to various areas of knowledge and human experience (González Rey, 2002). This type of expressions has a relatively frozen structure, usually formed by short phrases, and often composed of two (sometimes three, or more) parts. Also, it is common to find alliterations and rhymes in proverbs. These are all mnemonic features denoting their transmission process, which is predominantly oral, and they generic value as words of wisdom (maxim, precept, etc.). In spite of its frozen characteristics, because of their oral tradition, they also present a relatively wide spectrum of lexical and syntactic variation (Chacoto, 1994). This formal variation makes it particularly difficult the automatic identification of proverbs in texts, which constitutes a challenge to Natural Language Processing (NLP). However, their automatic detection and delimitation not only would be relevant for natural language understanding and automatic discourse analysis, as it could also prove to be extremely useful for several NLP applications (Witten *et al.* 2011), such as machine translation, or even to language learning and teaching. It is on this latter field of application that this paper will focus.

In order to use proverbs as linguistic material for language learning and teaching, it is necessary, in the first place,

to be able to retrieve them from the texts where they occur, and especially those that occur more frequently and in a larger set of communicative contexts. In order to be able to produce such careful selection for pedagogic purposes, it is important that frequency indices be associated to the proverbs and their variants.

In this paper, we focus on the types of activities (didactic exercises) that it is possible to develop around proverbs in the framework of computerassisted language learning (CALL). More precisely, we adopt the CALL perspective inspiring the REAP.PT platform, presenting a brief overview of its most salient features, in order to draw a set of exercises highlighting the linguistic resources and NLP tools required to build such complex objects. Our main goal is to set up a roadmap in view of developing those applications, which we expect to be able to build, in the future.

The paper is organized as follows: In 1.1. some general issues about proverbs and their role in language learning are addressed, particularly in an iCALL context for Portuguese as a Foreign Language (PFL). In 2, existing online exercises are presented and commented. In 3, the main NLP tools and resources for NLP helpful for building exercises on proverbs are briefly presented. In 4, the *corpus* of proverbs and its construction is briefly described. In 5, some remarks are made on the automatic identification of proverbs in texts, and in 6 we present several suggestions regarding the automatic generation of exercises with proverbs using the NLP tools and language resources mentioned in the preceding sections. Finally, in 7, the paper is summarized and future work is considered.

### 1.1 General Issues on teaching proverbs in a iCALLPFL environment

While linguistic elements in widespread use, proverbs are very rich structures both from a cultural and from a linguistic point of view and can therefore contribute significantly to the teaching of languages, both native and foreign. According to the *Common European Framework of Reference for Languages* (Council of Europe, 2001), the communicative language competence comprises three components: (a) linguistic competences; (b) sociolinguistic competences and (c) pragmatic competences. *Lexical competence*, an integral part of linguistic competences, concerns the “knowledge of, and ability to use, the vocabulary of a language” (*idem*: 110) and it includes the knowledge of both grammatical and lexical elements, including proverbs and other fixed expressions. “Sociolinguistic competence is concerned with the knowledge and skills required to deal with the social dimension of language use” (*idem*: 118), and also includes proverbs since they are “fixed formulae which both incorporate and reinforce common attitudes, make a significant contribution to popular culture” (*idem*: 120).

Information technologies have progressively acquired a more important role in teaching, and particularly in language teaching. Computerassisted language learning platforms allow students to have a more active role in the learning process, enabling them to exercise in an autonomous way their skills and, at the same time, providing constructive feedback on their progress. They are also an important tool to monitor students’ performance and progress, giving the teacher the means to target, in a more personalized way, his/her intervention.

The REAP.PT<sup>73</sup> is a computerassisted languagelearning platform developed for the teaching and learning of Portuguese. It is a powerful aid to the learning process, both for native speakers and for students of Portuguese as a foreign language, and it also constitutes a valuable auxiliary tool to the teacher. The system is specially aimed at the learning of vocabulary and it is based on the intensive use of Natural Language Processing (NLP) tools and techniques in order to build automatically a large variety of exercises, drawn from *corpora* of real texts, with their contents adapted to the topic preferences of the students. Many exercises consist of multiplechoice questions, in which a target expression (in the question) is presented (in the set of possible answers) along with a set of *distractors* (a.k.a. *foils*), usually no more than three, each one selected based on a set of linguistically motivated criteria. In this process, the sentences with the target expression are automatically retrieved from *corpora*, while the set of distractors is automatically built using NLP tools and techniques, using with linguistic resources adapted to that purpose. Furthermore, the REAP.PT system is conceived in order to be able to built a dynamic model of the student, keeping track of his/her progress and allowing the teacher to monitor it. Finally, the system, and most prominently, the system automatically correct the exercises and, as much as possible, produces some positive feedback about the linguistic aspect at stake, or alerting the student for the nature of incorrect answer (Pellegrini *et al.* 2012).

This paper intends to lay down the basis for the construction of didactic games with proverbs, in view of integrating them into the REAP.PT platform. With this games involving proverbs, students will be able to identify and use this type of culturally rich trove of expressions, hone their language skills, and evolve their vocabulary competence. To this end, we will first present an overview of the type of exercises involving proverbs that can be found in different websites and computerassisted language learning platforms, highlighting the challenges each type poses to its construction under the REAP.PT approach to language gamming, focusing on the type of linguistic resources and natural language processing techniques required to put them into practice.

<sup>73</sup> <http://www.l2f.inescid.pt/wiki/index.php/REAP.PT> (last access: March 31, 2016; all the remaining URL mentioned in this paper have been check on this date).

## 2. SURVEY OF LANGUAGE RELATED EXERCISES WITH PROVERBS

In this section, we present a brief survey of existing exercises built around proverbs or focusing on the learning form and meaning, including certain CALL platforms, especially in view of learning Portuguese as a foreign language.

A large part of the games and exercises on proverbs made available in several websites adopt a format whose goal is to complete the expression, either half of the proverb is provided so that the user is supposed to know and complete the other half, or one or more words had been removed and the uses had to fill in the corresponding blank spaces. The purpose of these games and exercises, besides promoting the better knowledge of the proverbial stock of the language, can sometimes be inferred as targeting several language skills. In the following lines, we present some of the most interesting of these websites' games and exercises.

The game *Finish the Proverb*<sup>74</sup> consists, basically, in a multiplechoice answering task, completing the proverbs from which one or more words have been removed. Several exercises (10) are presented at a time, each featuring a proverb that must be completed, and a set of four answers is provided, one being the correct answer and the other three the distractors (or foils). The exercise is automatically corrected but only after the entire set of questions has been answered (and not one at a time). In the correction, the user gets to see the correct answer for each question. The questions form a closed set and, as far as we could find, they have been manually constructed. One of the interesting aspects of this site is the fact that, in the feedback, the user is shown the percentage of players that got that answer right (but not the absolute number!). This could be an indicator of the frequency of the lexical availability of those proverbs. The meaning of each proverb is also explained.

The set of proverbs produced in this game aim at different linguistic competences from the player. In the next table, we try, in a nonexhaustive way, to identify those language skills. These linguistic aspects concern both the target word and the distractors, as well as the interplay between them, so that, on one hand, their decoding is not always easy, and on the other hand, it is sometimes difficult to grasp exactly the concepts at stake, often more than once at the same time. Hence, these are complex exercises, plainly justifying the human effort put into their construction, and highlighting the challenge that their automation involves. Table 1 provides a detailed analysis of the type of relations the distractors hold with the target word, for each proverb.

Several linguistics phenomena are dealt with in these proverbs, as the comments provided for each distractor and highlight, which are associated either to the structure or to the meaning of these expressions. In other words, distractors are never random, each has been produced with a purpose in mind. Each aspect that a distractor involves provides the student with the opportunity to test his/her linguistic competences, and often several of them at the same time, particularly his/her lexical and semantic knowledge. All this is done in a nonexplicit way but still very much "applied" situation, while the gaming context, with the scoring or agonistic situation, entails a more appealing stimulus. Among the relevant phenomena, the most prominent are: (i) the semantic relations between word senses (synonymy and antonymy; holonymy and meronymy; hypernymy and hyponymy; causeeffect) (ii) symbolic values invested in lexical items, having to do with culture and worldknowledge; (iii) collocational nature of word combinations<sup>75</sup>; and (iv) formal aspects such as rhyme, the two or threefold partition of proverbs (*hemistichs*), and paronymy.

**Table 1: Linguistic categories/phenomena and language skills mobilized in the task of completing proverbs**

Question	Proverb & Answers	Linguistic phenomena
1	<b>Hatred is as blind as ...</b> (D1) A mole (CA) Love (D2) Darkness (D3) None of these	<b>Correct answer:</b> antonymy <i>hatred/love</i> and a semantic relation with the proverb <i>Love is blind</i> <i>Distractor 1:</i> relation with the member of a set (animal/mammifer) and analogy with the frozen idiomatic adverb <i>to blind as a bat</i> <i>Distractor 2:</i> semantic association between <i>blindness</i> and <i>darkness</i> <i>Distractor 3:</i> something else (unknown target)
2	<b>Blood is thicker than ...</b> (D1) Wine (CA) Water (D2) Tears (D3) Sweat	<b>Correct answer:</b> (unmotivated, idiomatic) <i>Distractor 1:</i> semantic but culturallyfounded relation (in Christian tradition, the eucharistic wine is associated with blood) <i>Distractor 2:</i> member of the set of objects to which <i>blood</i> can be associated, and which could be subsumed under the term <i>bodily fluids</i> <i>Distractor 3:</i> same as above

<sup>74</sup> [www.123facts.com/playquiz/FinishTheProverb5244.html](http://www.123facts.com/playquiz/FinishTheProverb5244.html)

<sup>75</sup> The term collocation is used here in the sense of Mel'čuk & Polguère (2007): a word (the *collocate*) that establishes a well defined semantic relation (*lexical function*) with another word (the *base*); the choice of the collocate is lexically determined, usually idiosyncratic. Lexical functions are a finite, though large, set of semantic and syntactic relations such as qualitativepositive assessment BONUS ('good'), which is the case here: given the base *soil* a finite set of adjectives exist to express its quality (in view of its use) *rich*, *nutritious*, etc.

Question	Proverb & Answers	Linguistic phenomena
3	<b>A stitch in time saves ...</b> (D1) Thousands (D2) A dime (CA) Nine (D3) Everybody	<b>Correct answer:</b> rhyme <i>time/nine</i> <i>Distractor 1:</i> both <i>a</i> and the numeral <i>thousands</i> are determiners <i>stitch</i> ; the numeral is hyperbolic (= <i>many stitches</i> ) and it is the opposite of <i>a</i> (single) <i>stich</i> <i>Distractor 2:</i> rhyme <i>time/nine</i> <i>Distractor 3:</i> the distractor is an indefinite pronoun distributionally adequate as direct object of the verb, thus producing the generic reading typical of proverbs
4	<b>Tall oaks grow from ...</b> (D1) Strong earth (D2) Nutritious soil (D3) Small saplings (CA) Little acorns	<b>Correct answer:</b> antonymy <i>tall/little</i> and semantic relation between <i>oak</i> and <i>acorn</i> ; <i>Distractor 1:</i> the noun <i>earth</i> is semantically motivated as locative complement of <i>grow from</i> ~ and is quasysynonymous of <i>soil</i> ; <i>strong</i> is a collocational modifier of <i>soil</i> ; <i>Distractor 2:</i> <i>idem</i> ; <i>nutritious</i> is also a collocational modifier of <i>soil</i> ; <i>Distractor 3:</i> antonymy <i>tall/small</i> and semantic relation between <i>oak</i> a (tree species) e <i>sapling</i> (a development stage of a tree).
5	<b>The ... wounds more than a lance</b> (D1) Hand (CA) Tongue (D2) Word (D3) Evil eye	<b>Correct answer:</b> (unmotivated, idiomatic): the bodypart <i>tongue</i> connotes with <i>language</i> ; <i>Distractor 1:</i> metonymy between <i>hand</i> and the agent (human) subject of <i>wound</i> ; contrast between agent and the instrument ( <i>lance</i> ) <i>Distractor 2:</i> <i>word</i> also connotes <i>language</i> ; <i>Distractor 3:</i> the compound <i>evil eye</i> is formed with a bodypart noun (like CA <i>tongue</i> and D1 <i>hand</i> ); contrast between a physical instrument ( <i>lance</i> ) and a symbolic one ( <i>evil eye</i> ).

In this same website, there are other quizzes involving proverbs. *Finish the Proverb Vol.2*<sup>76</sup> is quite similar to the game presented above, but it also includes some questions whose goal is to identify the meaning of the proverb from four possible answers. This is also the goal of the quiz *Guess the Proverb*<sup>77</sup>, though this also includes questions aimed at identifying the sentence expressing the opposite meaning of the target proverb. Finally, in *Complete the Proverb/Idiom*<sup>78</sup>, is similar to the exercise we presented at length above: ten wellknown idioms and proverbs are produced with a missing word that the player must complete from a set of four possible answers. However, in this case, the feedback indicates that the players guessed 100% of answers correctly, which may indicate that this quiz is too easy, and may not be challenging enough for the user. To conclude, it is worth mentioning that the site allows players to rate, bookmark and recommend it to other users.

Table 1 (cont.)

Question	Proverb & Answers	Linguistic phenomena
6	<b>Two wrongs don't make ...</b> (CA) A right (D1) It easier (D2) A fight (D3) The world a better place	<b>Correct answer:</b> antonymy <i>wrong/right</i> <i>Distractor 1:</i> though the sentence is acceptable, the relation with the target word is unclear <i>Distractor 2:</i> Rima <i>fight / right</i> (CA) <i>Distractor 3:</i> though the sentence is acceptable, the relation with the target word is unclear
7	<b>Make a silk purse out of a ...</b> (D1) Silk dress (D2) Woolen sock (CA) Sow's ear (D3) Cow's ear	<b>Correct answer:</b> (unmotivated, idiomatic): opposition between a noble/expensive raw material ( <i>silk</i> ) and a cheap/gross one, with a negative connotation ( <i>sow's ear</i> ); <i>Distractor 1:</i> the same material adjective ( <i>silk</i> ) and a clothing item ( <i>dress</i> ), which can be associated with <i>purse</i> ; <i>Distractor 2:</i> another material adjective ( <i>woolen</i> ) outro adjetivo de matéria ( <i>woolen</i> ) and a clothing item ( <i>sock</i> ) <i>Distractor 3:</i> paronymy ( <i>sow/con</i> ) with the target word, both related to <i>livestock</i> (hypernym); the same bodypart noun ( <i>ear</i> )
8	<b>A loaded ... makes no noise</b> (D1) Horse (D2) Gun (D3) Train (CA) Wagon	<b>Correct answer:</b> collocation between <i>loaded</i> and <i>wagon</i> ; appeal to world knowledge, equating <i>make noise</i> with <i>speak loudly</i> and <i>loaded</i> with <i>richness</i> ; <i>Distractor 1:</i> collocation between <i>loaded</i> and <i>horse</i> ; <i>Distractor 2:</i> collocation between <i>loaded</i> and <i>gun</i> ; <i>Distractor 3:</i> collocation between <i>loaded</i> and <i>train</i> ; meronymy relation between <i>wagon</i> and <i>train</i> ;
9	<b>A burnt child dreads the ...</b> (D1) Match (D2) Stove (D3) Air conditioner (CA) Fire	<b>Correct answer:</b> semantic relation (causeeffect) between <i>fire</i> and <i>burn/burnt</i> ; <i>Distractor 1:</i> semantic relation between <i>fire</i> and <i>match</i> (instrument); <i>Distractor 2:</i> semantic relation between <i>fire</i> and <i>oven</i> (objecttool to generate heat) and, indirectly, a semantic relation (causeeffect) between <i>oven/heat</i> and <i>burn/burnt</i> ; <i>Distractor 3:</i> semantic relation between <i>air conditioner</i> and the distractor <i>stove</i> (both subsumed under the hypernym <i>domestic appliances</i> ), also involving the concept of <i>temperature</i> .

<sup>76</sup> <http://www.123facts.com/playquiz/FinishTheProverbVol25305.html>

<sup>77</sup> <http://www.123facts.com/playquiz/GuessTheProverb5297.html>

<sup>78</sup> <http://www.123facts.com/playquiz/CompleatetheProverbIdiom7046.html>

Question	Proverb & Answers	Linguistic phenomena
10	<b>Learn to walk before you ...</b> <b>(D1)</b> Crawl <b>(D2)</b> Speak <b>(CA)</b> Run <b>(D3)</b> Leap	<b>Correct answer:</b> <i>walk</i> and <i>run</i> are both motion verbs but <i>run</i> implies more speed, thus there is a gradation that motivates the order of these verbs in the proverb; <i>Distractor 1:</i> the relation between <i>crawl</i> and <i>walk</i> is similar as in <i>walk/run</i> (CA) but the gradation is inverted; <i>Distractor 2:</i> <i>walk</i> and <i>speak</i> represent two successive stages in child development; <i>Distractor 3:</i> the relation between <i>leap</i> and <i>walk</i> is similar (motion verbs) but the comparing parameter is not <i>speed</i> but rather <i>complexity</i> or <i>distance</i> .

CA= Correct answer; D1= Distractor 1; D2= Distractor 2; D3= Distractor 3; the order of the answers, which may also be relevant for the task, is the same as shown in the website. Apparently, this order is constant.

The *Centro Virtual Camões*<sup>79</sup> is one of the Portuguese websites that produces a set of language-related games/quizzes. The *Jogo da Lusofonia*<sup>80</sup> is a game about the Portuguese-speaking countries, providing 256 multiple-choice questions, drawn from different topics, including some proverbs and idioms. The player, who can choose to play 5, 10 or 15 questions at a time, can customize each run. The user also has 3 opportunities to ask for help. Answers consist of 3 choices and are timed (30 seconds each), which adds to the interest of the game. The game can be played alone or with a team, and with a number of other playing partners (or teams) as adversaries. The goal of the game is to achieve the maximal number of correct answers in the least time.

As far as the proverbs are concerned, most questions in this game consist in completing the proverb or choosing its correct meaning. The questions have been manually built and the authors have also produced the correction. In the feedback, along with the correct answer, the meaning of the proverb is also explained. Due to the overall goal of the game, some of the proverbs found in the game may not be part of the common stock of Portuguese-speaking countries (at least they were absent from the (European) Portuguese collections of proverbs known to us). For example, the Guinean proverb: *Os dentes do elefante não o cansam* ‘The teeth of the elephant do not tire it’ is explained as follows (our translation): ‘In Guinea-Bissau, the elephant is a symbol for parents, who, in spite of the material difficulties, are tireless in caring and raising their children’. However, in our European culture, elephants do not have the same connotations and shown by the five proverbs<sup>81</sup> we find in our *corpus*, where this animal is mentioned:

- a) *A sebe dura três anos, o cão três sebes, o cavalo três cães, o homem três cavalos, o corvo três homens e o elefante três corvos* (The hedge lasts three years, the dog three hedges, the horse three dogs, three horses a man, the crow three men and the elephant three crows)
- b) *Quando dois elefantes lutam a erva fica espezinhada* (When two elephants fight the grass gets trampled.)
- c) *Com um cabelo de mulher, pode amarrarse um elefante* (With a woman’s string of hair one can tie up an elephant)
- d) *Elefante grandorro de pequerruchinho cresce* (A big elephant grows from a little one)
- e) *O teu inimigo é pequeno como uma formiga, mas guardate dele como se fosse um elefante* (Your enemy is small as an ant, but beware yourself from him as if he were an elephant)

In these proverbs, the elephant can connote with: longevity (a); unwanted/collateral effect of an action, due to the size (b); the overpowering feminine influence over men: contrasting size/strength of a string of hair and an elephant (c); the size/strength of an adult animal can not be guessed from its size as a youngling: contrast between the size of a young and a grown elephant (d); prudence towards an enemy irrespective of its size: contrast between the size of an ant and an elephant.

Besides these proverbs, we also found in the game the idiom *apanhar pulgas e deixar passar elefantes* (lit: catch fleas and let elephants pass, ‘to be mindful of small details but ignore the larger mistakes), which we do not treat as proverb because of its subject being a distributionally free syntactic slot.

In the *Jogo da Lusofonia*, it was not possible to determine how many questions were there about proverbs; still, whenever we played it, we found several questions about proverbs and idioms. Another feature of the game is the feature of presenting on the topleft side the national flag of the Portuguese-speaking country the question is about. Notice, however, that many proverbs from the Brazilian Portuguese also belong to the European Portuguese stock, even if such fact is not signaled by the game. It was not possible to ascertain why was such or such proverb assigned to one the varieties, instead of the other one. Nevertheless, when the correct answer is explain, one often finds the indication that there is a corresponding proverb in more than one of the Portuguese-speaking countries. Fig. 1 is an

<sup>79</sup> <http://cvc.institutocamoes.pt/>

<sup>80</sup> <http://cvc.institutocamoes.pt/aprenderportugues/abrir/jogodalusofonia.html>

<sup>81</sup> In the *corpus* there are 16 instances of these proverbs with *elefante* ‘elephant’, distributed by several variants and repeated versions, that is, occurring simultaneously in more than one collection.

example of such type of indication. In this case, the proverb appearing in the question is exclusive of the Brazilian variety of Portuguese, which is hinted by the name of the animal, the *urubu*, a vulturelike species that is endogenous of South America. Furthermore, in this case, the proverb is not exactly explained; instead, a Portuguese equivalent (and yet another, related or almost equivalent) proverb is provided.

The *Ciberescola da Língua Portuguesa*<sup>82</sup> is language learning platform that provides support for Portuguese as a Foreign Language (PFL) by making available several interactive language resources and online courses, aimed both at teachers and students, since they can be used within the classroom context, in a collaborative process, as well as a selfstudy tool. This platform covers all level of study, from the 5th to the 12th grade, and it also includes training material for the A2 and B2 levels of PFL. Students can choose their topics of interest (music and other arts, sport, traveling, folklore, etc.) and practice Portuguese in a funny and autonomous way, with exercises aimed at different language competences, namely, the training of oral and written understanding. To the best of our knowledge, no games or exercises involving proverbs have been produced yet for this platform.

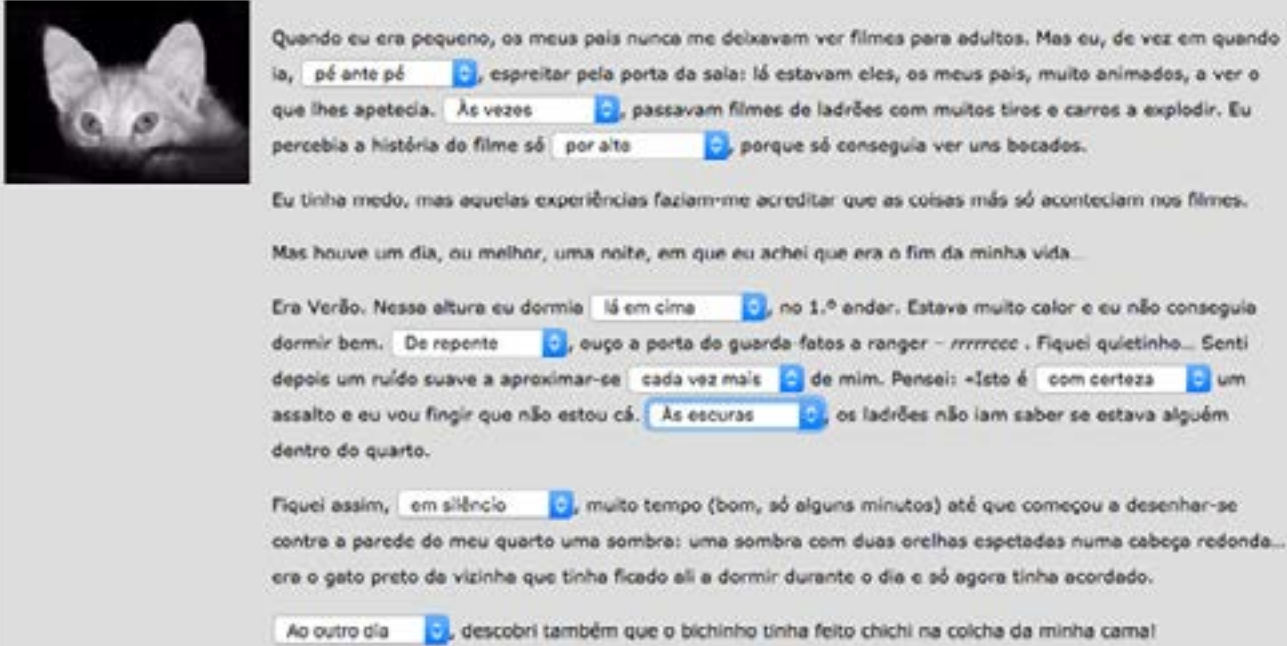
Fig. 1: Jogo da Lusofonia



<sup>82</sup> <http://www.ciberescola.com/>



Fig. 2: Exercise on frozen expressions (“expressões fixas”)



Quando eu era pequeno, os meus pais nunca me deixavam ver filmes para adultos. Mas eu, de vez em quando ia, , espreitar pela porta da sala: lá estavam eles, os meus pais, muito animados, a ver o que lhes apetecia. Às vezes , passavam filmes de ladrões com muitos tiros e carros a explodir. Eu percebia a história do filme só , porque só conseguia ver uns bocados.

Eu tinha medo, mas aquelas experiências faziam-me acreditar que as coisas más só aconteciam nos filmes. Mas houve um dia, ou melhor, uma noite, em que eu achei que era o fim da minha vida...

Era Verão. Nesse altura eu dormia , no 1.º andar. Estava muito calor e eu não conseguia dormir bem. , ouço a porta do guarda-fatos a ranger – rrrrrrrrr. Fiquei quietinho... Senti depois um ruído suave a aproximar-se , de mim. Pensei: «Isto é , um assalto e eu vou fingir que não estou cá. , os ladrões não iam saber se estava alguém dentro do quarto.

Fiquei assim, , muito tempo (bom, só alguns minutos) até que começou a desenhar-se contra a parede do meu quarto uma sombra: uma sombra com duas orelhas espetadas numa cabeça redonda... era o gato preto da vizinha que tinha ficado ali a dormir durante o dia e só agora tinha acordado.

, descobri também que o bichinho tinha feito chichi na colcha da minha cama!

Concerning idiomatic expressions, only a fill-in-the-blank exercise with frozen expressions (and collocations) has been found (Fig. 2). The goal of this exercise, marked as “difficult”, is to fill in the ten blank spaces, and for each one 10 solutions are presented. After all the spaces have been completed, the form is submitted and the player’s score is provided: this is the only feedback the application produces, the number of correct/incorrect answers, but not the solution to the exercise. In some cases, the answer choices were shown in uppercase, thus hinting on the correct answer whenever that slot was in the beginning of a sentence. Most of these idioms are compound/frozen adverbs (Gross, 1996; Ranchhod, 2003; Palma, 2009): *com certeza* (= *certamente*), *em silêncio* (= *silenciosamente*).

In this exercise, those adverbs express the circumstances of *time* (frequency: *às vezes* ‘sometimes’, daterelative: *ao outro dia* ‘the next day’), *manner* (most of them: *pé ante pé* ‘on tiptoes’, *por alto* ‘vaguely’, etc.), *place* (*lá em cima* ‘upstairs’) and *attitude* (Molinier and Levrier, 2000; *com certeza* ‘certainly’). One of the issues with the exercise comes from the fact that for certain slots more than one possible solution is produced. For example: *Fiquei assim, em silêncio/lá em cima/às escuras, muito tempo* ‘I stayed like that, in silence/upstairs/in the dark?; *Nessa altura eu dormia lá em cima/em silêncio, no 1º andar* ‘At that time, I used to sleep upstairs/in silence’.

The *Observatório da Língua Portuguesa*<sup>83</sup> is an association whose main goal is to promote the Portuguese Language. Its webpage presents several resources to help Portuguese learners, including a weekly podcast<sup>84</sup> for teaching proverbs and idioms to students from the B2 and C2 levels. To date, only 39 idiomatic expressions and proverbs of European Portuguese, a insignificant number in view of the size of the lexicon, are explained with some degree of detail, along with an mp3 downloadable audio file and the corresponding text. In some cases, different expressions are compared, for example, to clarify the distinction between the use of the proverbs *Filho de peixe sabe nadar* ‘The son of a fish knows how to swim’ and *Tal pai, tal filho* ‘Like father, like son’, or relating them with idioms like *ser a cara chapada de alguém* ‘be the spitting image of smb’ or *seguir as pegadas de alguém* ‘follow the footsteps of smb.’ Examples of the use of proverbs are also produced, including some cases of creative adaptation of a proverb to a situation, like the use of feminine equivalent forms in *Tal mãe, tal filha*, to adjust the proverb to female characters. Notice, however, that all these are fabricated examples, and not spontaneous utterances retrieved from *corpora*. This website does not feature any game/exercise involving proverbs, so its usefulness is somewhat limited.

### 3. LANGUAGE RESOURCES AND NLP TOOLS FOR SEMANTIC PROCESSING

In this section, we present several language resources and NLP tools that are already available for processing Portuguese texts, which may be useful to produce didactic games for learning the proverbs of the language. These resources consist, basically, of a vocabulary where words are explicitly related by a set of semantic relations. For lack

<sup>83</sup> <http://observatoriop.pt>

<sup>84</sup> <http://sayitportuguese.pt/podcasts/>

of a more consensual term, we call them all *ontologies*.

The *WordNet.PT*<sup>85</sup> (Marrafa, 2001) is a database developed at the Centro de Linguística of Universidade de Lisboa in the same methodological and conceptual framework as the English WordNet (Fellbaum, 1998)<sup>86</sup>. It is a language resource containing 19,000 expressions from European Portuguese, from different parts of speech and several semantic domains, structured in semantically homogeneous sets (or *synsets*) and the semantic relations between them, such as meronymy (or part-whole relations), synonymy, antonymy, class, event participants and structure. This data can be used in several areas of Computational Linguistics and Language Engineering. More recently, the Brazilian counterpart, *WordNet.Br*<sup>87</sup> (DiasdaSilva, 2013), includes 5,860 verbs structured in 3,713 synsets.

The *Linguateca* project website<sup>88</sup> also distributes several semantic language resources. *PAPEL*<sup>89</sup> (Oliveira *et al.* 2008) is a freely downloadable lexical resource that consists of 102,000 different words and 191,000 semantic relations. These were semiautomatically extracted from the *Dicionário da Língua Portuguesa*, edited by Porto Editora, and include 83,000 (approx. 44%) synonymy word pairs, and (approx. 26%) hyponymy relations.

**Table 2: Semantically related entries for the keyword *pássaro* ‘bird’.**

**Proverb:** *Mais vale um pássaro na mão que dois a voar* ‘Better a bird in the hand than two flying’

Language Resource	<i>Pássaro</i> ‘bird’ [semantic relation]: word(lemma)+
<b>WordNet.PT</b>	[quasisynonym]: <i>piúpiu</i> [agent/causeresult]: <i>chilreio</i> [corelated with]: <i>áugure</i> [is a member of] <i>bando</i> [hyponym (type of)]: <i>ave</i> [hypernym (supertype of)]: <i>andorinha, arara, beijaflor, bicodelacre, canário, catatua, corvo, cotovia, cuco, estorninho, gralha, melro, papagaio, pardal, pega, periquito, picapau, pintassilgo, pombo, rola, rouxinol, tarambola, tentilhão, tordo, tucano</i>
<b>PAPEL</b> <sup>90</sup>	[synonym_N_of]: <i>coucou, melriacho, pássarocoucou, picarei</i> [hypernym]: <i>barrete, lavandisca, pardal, petinha, poupa, ...</i> (172 entries) [is a member of]: <i>ordem_de_pássaro</i> [made_with]: <i>alçapão, aramenha, arapuca, armação, boiz, ...</i> (14 entries)
<b>Onto.PT</b>	[synonym]: <i>ave, passarinho, folecha</i>
<b>MWN.PT</b>	[synonym]: <i>ave</i> [is a member of]: <i>bando, ave</i> [hiponym (is a kind of)]: <i>vertebrado</i>
<b>PULO</b>	[synonym] <sup>91</sup> : <i>ave</i>
<b>TEP 2.0</b>	not found

*Onto.PT*<sup>92</sup> (Oliveira & Gomes, 2014) aims at building a lexical ontology for Portuguese, with information extracted from six different resources (dictionaries, thesauri, encyclopedias as well as from other ontologies and *corpora*<sup>93</sup>). It is also a freely downloadable ontology, and contains 156 lexical forms, organized in 117,000 *synsets* and more than 173,000 tuples and their semantic relations.

The *MNW.PT*<sup>94</sup> MultiwordNet of Portuguese (Pianta *et al.* 2002) covers manually allegedly validated 17,200 synsets, connected by hyponymy and hyperonymy relations, concerning over 21,000 word senses/forms and 16,000 lemmas of European and Brazilian Portuguese. It also includes subontologies for the categories Person, Organization, Event, Location and ArtWorks, and 98 core base concepts, suggested by the Global Wordnet Association, along with 164 concepts defined by the EuroWordNet project.

*PULO*<sup>95</sup> (Simões & Guinovart, 2014) is a Portuguese Unified Lexical Ontology and works as a wordnet compatible

<sup>85</sup> <http://www.clul.ul.pt/clg/wordnetpt/index.html>

<sup>86</sup> <http://wordnet.princeton.edu/>

<sup>87</sup> <https://en.wikipedia.org/wiki/WordNet>

<sup>88</sup> <http://www.linguateca.pt>

<sup>89</sup> [www.linguateca.pt/PAPEL](http://www.linguateca.pt/PAPEL)

<sup>90</sup> There were in total 220 words associated to *pássaro* ‘bird’. Due to this high number, only some few entries are shown here.

<sup>91</sup> The only information available is that the word belongs to the same synset. For consistency, we treated as a synonym.

<sup>92</sup> <http://ontopt.dei.uc.pt/>

<sup>93</sup> Namely the *Dicionário PRO da Língua Portuguesa 2005*, da Porto Editora, through the PAPEL project, the *Dicionário Aberto* ([dicionarioaberto.net](http://dicionarioaberto.net)), Wikcionário.PT (<https://pt.wiktionary.org>), TeP 2.0 (<http://www.nilc.icmc.usp.br/tep2/>), the *OpenWordNetPT* (<https://github.com/ownpt/openWordnetPT>) and the *OpenThesaurus.PT* (<http://paginas.fe.up.pt/~arocha/AED1/0607/trabalhos/thesaurus.txt>).

<sup>94</sup> <http://mwnpt.di.fc.ul.pt/>

<sup>95</sup> <http://wordnet.pt/>

with wordnets available for other languages (English, Galician, Basque, Spanish and Catalan), using Probabilistic Translation Dictionaries automatically created from parallel *corpora*. The process of bootstrapping an European Portuguese WordNet from the English, Spanish and Galician wordnets generated a total of 56,770 synsets and 97,058 variants.

TeP 2.0<sup>96</sup> (Maziero *et al.* 2008) is a vocabulary of Brazilian Portuguese, also developed from the Princeton wordnet framework, where words are grouped together in sets, establishing a synonymy relation (and in some cases antonymy), and providing examples for (some of) the queried words. The four major POS (noun, verb, adjective and adverb) are represented in TeP, which is freely available, and can be downloaded and used for many applications.

**Table 3: Semantically related entries for the keyword *amigo* ‘friend’.**

**Proverb: *Quem te avisa, teu amigo é* ‘He who warns you is your friend’**

Language Resource	<i>amigo</i> ‘friend’ [semantic relation]: word(lemma)+
WordNet.PT	[quasiantonym of (noun)]: <i>inimigo</i> [corelated with (noun)]: <i>amizade</i> [hyponym (type of) (noun)]: <i>pessoa</i> [hypernym (supertype of) (noun)]: <i>amigalhão, camarada, confidente</i> [quasiantonym of (adjective)]: <i>inimigo</i>
PAPEL	[synonym_N_of]: <i>afeiçoado, aliado, amante, camarada, camba, chamar, chapa, companheiro, partidário, simpatizante, xará</i> [synonym_ADJ_of]: <i>afeiçoado, aliado, unido</i> [hyperonym]: <i>amigalbote, antropófilo, copista, demófilo, filósofo, pendenciador, reinadão</i> [is a member of]: <i>pessoal</i> [antonym_ADJ_of]: <i>inimigo</i> [made_with]: <i>traição</i>
Onto.PT	[synonym (adjective)]: <i>afeiçoado, aliado, amante, amical, amigável, amigo, amistoso, apegado, apreciador, camarada, colaço, contubernal, ligado, pegado, unido</i> [synonym (noun)]: <i>achegado, acompanhante, aderente, afeiçoado, aliado amante, amásio, amizade, barregão, camarada, camba, capeba, chamar, chapa, colega, companheiro, companhom, compincha, concubino, confrade, conhecido, contubernal, dedicado, inclinado, irmão, malungo, miga, mirmidão, partidário, simpatizante, xará</i>
MWN.PT	[hyponym of] <i>criatura, indivíduo, pessoa, ser humano</i> [is a kind of] <i>alter ego, camarada, colega de apartamento, colega de escola, colega de quarto, compadre, companheiro, compincha, cupincha (BR), confidente, irmão</i>
PULO	[synonym] <i>aliado, aficionado, amante, amizade, colega, companheiro, irmão, seguidor, sócio</i>
TEP 2.0	[synonym (adjective)]: <i>afeiçoado, aliado, amical, amigável, amistoso, apegado, camarada, colaço, contubernal, ligado, pegado, unido</i> [synonym (noun)]: <i>afeiçoado, amante, amásio, camarada, companheiro</i>

Since most of the existing gaming exercises with proverbs feature several semantic relations between the distractors and the target word, we tried to assess the usefulness of some of these language resources in view of the automatic generation of didactic exercises, since they explicitly encode semantic relations between words. For two very common proverbs, appearing simultaneously in the 4 collections of proverbs we used to establish our *corpus* (section §4), we retrieved the words (potential distractors) these resources could produce when queried for entries that are in some semantic relation with the proverb keywords (the targets). The results are shown in Tables 2 and 3.

One of the issues that has to be addressed in the automatic generation of distractors for this type of exercise in the gendernumber agreement between, on one hand, the target word (*v.g.*, *pássaro* ‘bird’: masculinesingular) and the surrounding words in the proverbs (*v.g.*, *um* ‘a/one’: masculinesingular, *dois* ‘two’: masculineplural); and, on the other hand, the gendernumber of the distractors (*v.g.*, *ave* ‘bird’: femininesingular). Therefore, when retrieving the distractors, either these gendernumber features act as filters, selecting only those words that match the target word values; or some the surrounding words of the proverb may have to be adjusted (or the distractor inflected appropriately) to keep the sentence grammatically correct. For example, the two proverbs would need to be adapted to produce the following, grammatically correct strings (distractors shown [inside square brackets] and modified word in **bold**):

*Mais vale **uma** [ave] na mão do que **duas** a voar*

‘It is better to have a/one bird in the hand than two flying’

This latter option requires, however, the sentence be previously parsed in order to determine which words feature the gendernumber agreement with the target (basically determiners and modifiers, or the verb if the target word is

<sup>96</sup> <http://www.nilc.icmc.usp.br/tep2/index.htm>

the head of the subject). This is made more complex when nonlocal constraints are in place, as in this case, where *anaphora resolution* (Mitkov 2002, Marques 2014) is required: the numeral *dois* is an anaphor introducing a repeated (and, therefore, zeroed) instance of the target noun<sup>97</sup>:

*Mais vale um pássaro na mão do que dois (pássaros) a voar*

In this case, only one masculine noun is present in the sentence, that can be the antecedent of the zeroed word. However, in the case of the distractor *ave* ‘bird’, when producing the morphosyntactic adjustments for the gender/number agreement, two possible antecedents are available, the distractor proper and the word *mão* ‘hand’, also a feminine noun.

*Mais vale uma ave na mão do que duas (aves) a voar*

On top of it all, this inflection information is not available in lexical resources, since their purpose is different. Therefore, it is necessary to associate that information to the data retrieved from the ontologies, both for parsing the proverbs and to generate the adequate inflected forms for the morphosyntactic adjustments. Since there are already several computational lexicons of Portuguese (for example, Bick, 2000; Ranchhod *et al.*, 1999, Vicente, 2013, among others), this should not constitute an insurmountable subtask, though it involves some additional processing.

On the other hand, for the parsing stage, the natural language processing required is much more complex and only some few systems exist, for Portuguese, that could produce such data. Among others, one could cite PALAVRAS (Bick, 2000), LXParser (Silva *et al.* 2010) and STRING (Mamede *et al.*, 2012).

Another issue comes from the fact that some of the items retrieved from the ontologies under the relation of synonymy are not exactly so, probably because some of these resources were automatically derived from existing dictionaries (for human users). For example, the following words were indicated as synonyms of *amigo* ‘friend’: *conhecido* ‘acquaintance’, *irmão* ‘brother’, *sócio* ‘partner’, *aficionado* ‘id.’, but only those that can appear a predicative (postcopula) context with a human determinative complement (*X be N of Y*) are adequate to replace the target word. Thus, *aficionado* ‘id.’ does not have such properties and, therefore, it can not enter the proverb’s structure (*\*Quem te avisa teu [aficionado] é*). On the other hand, for antonyms, one finds *inimigo* ‘enemy’. This produces a semantic drift that may engender acceptability issues in the resulting distractors.

Naturally, some resources have limited usefulness since they do not feature the target words, or do not include any items from the same POS as the target. For example, TeP 2.0 has no entry for *pássaro* ‘bird’, a very common word, and MWN.PT only contains nouns, so it is useless for replacing verbs.

#### 4. CORPUS

Several (printed!) collections of proverbs are already available in the literature, but to the best of our knowledge, only one digital resource exist, with about 2,300 proverbs and (some) variants<sup>98</sup>. To fill in this important gap in available linguistic resources, a *corpus* with +114,000 proverbs and their respective variants has been built (Reis, *in preparation*), digitized from four printed collections of proverbs (Costa, 1999; Machado, 1996; Moreira, 1996; Parente, 2005) and semiautomatically corrected. Each proverb has been identified unambiguously by a conventional code, allowing the user to recover the source it came from.

One of the first tasks to make this new *corpus* useful consisted in determining which proverbs appeared in more than one of the source collections. This aims at identifying the most usual proverbs, since different authors would have collected them more than once and independently. However, achieving that goal is not trivial, since proverbs present a wide variation both orthographic and in the use of punctuation. Other proverbs are clearly variants, only differing slightly, in the use of a determiner, a preposition, or other grammatical words. Still, allowing for this difficulty, 44,272 (approximately 39%) of the proverbs appear more than once in the *corpus*, while 70,139 (approximately 61%) appear only once. Due to those variation factors (and remaining scanning/optical character recognition errors), it is likely that the number of repeated proverbs might increase.

<sup>97</sup> In fact, this is a special type of anaphora, the so-called *lexical anaphor*, since the zeroed *anaphor* refers to the *lexical item* (the noun) in the antecedent and not to the same extralinguistic entity that word refers to, as in a typical anaphoric relation.

<sup>98</sup> <http://natura.di.uminho.pt/jjbin/dac>

**Table 4: Distribution of the proverbs' keys by frequency classes (bins) in the *corpus***

Frq	Count	%	Frq	Count	%	Frq	Count	%
1	20,453	0,39	8	108	0,00	15	0	0,00
2	12,261	0,24	9	53	0,00	16	0	0,00
3	10,805	0,21	10	22	0,00	17	0	0,00
4	6,184	0,12	11	9	0,00	18	0	0,00
5	1,132	0,02	12	7	0,00	19	1	0,00
6	470	0,01	13	6	0,00	20	0	0,00
7	273	0,01	14	1	0,00	total	51,785	1,00

Since our ultimate goal is to group together variants of proverbs in order to be able to take that set of forms as a single *paremiologic unit*; and, as we intend to do so by associating to each proverb a set of distinctive keyelements, in order to be able to identify proverbs univocally in texts; we proceed with the construction of a **key** to each instance of the *corpus*, by automatically performing a set of operations on the strings of words that make up that large list. These operations included: (a) convert all text to lowercase; (b) remove all punctuation marks; (c) “cleaning” all repeated white spaces and incorrectly split words (due to the OCR); and (d) removing all *stopwords*<sup>99</sup>, after establishing a list of word forms, adequate to the task at hand, from extant lists of stopwords for Portuguese available in the internet. The resulting list of keys contains 51,785 different strings, whose distribution is presented in Table 4.

In spite of its approximate nature, this method allowed, nevertheless, to group together several variants of the same paremiological units, simply by associating them to a key formed of their lexical elements (content words).

## 5. AUTOMATIC RECOGNITION OF PROVERBS IN TEXTS

To produce certain exercises, it is necessary to be able to retrieve automatically from *corpora* or from the web the texts where the proverbs naturally occur. Recently, Rassi *et al.* (2014) presented a formal (syntactic) classification, based on a *corpus* of 3,500 proverbs and their variants, organized in 595 types (or base forms) and collected from several dictionaries of Brazilian Portuguese proverbs. The authors presented a method to automatically produce finitestate machines using the Unitex linguistic development platform (Paumier, 2003, 2016) that can be used to retrieve candidate proverbs from texts. The method was tested in the PLNBr *corpus* (Bruckschen *et al.* 2008), with 29 M tokens of journalistic texts, taken from the online edition of the Folha de São Paulo newspaper (19942005). A precision from 60% to 73% was reported, depending mostly on the formal class of the proverb and the degree of coverage of the variants represented in the list of proverbs. However, the number of proverbs found in this *corpus*, considering the total number of proverbs in the list, is quite small, which probably stems from the journalistic nature of the *corpus*.

Considering the data and the results obtained from this work, namely its reduced coverage of the language stock of proverbs, the issues found in the automatic generation of the finitestate automata, and their impact in the overall precision of the method, another approach has been envisaged. Based on the frequency of the proverbs' keys (produced as described in §), we intend to produce, manually, the finitestate automata (FSA) containing, for each paremiological unit the strings of keywords that uniquely identify it.

To better illustrate the method, let us consider the proverb *Deus escreve direito por linhas tortas* ‘God writes straight with crooked lines’, which is represented in the database by the following entries (the codes on the left represent the source of the variant), in alphabetic order.

LPP\_JRMC10132 *Deus escreve por linhas tortas.*

LP\_SP11372 *Deus escreve direito (certo) por linhas tortas (travessas).*

GLP\_JPM07945 *Deus escreve direito (certo) por linhas tortas.*

PP\_AM03569 *Deus escreve direito por linhas tortas.*

GLP\_JPM09795 *Escreve Deus às vezes o direito com letras tortas.*

<sup>99</sup> [https://en.wikipedia.org/wiki/Stop\\_words](https://en.wikipedia.org/wiki/Stop_words); Witten *et al.* (2011).

PP\_AM04397 *Escreve Deus às vezes o direito por linhas tortas.*

LP\_SP14248 *Escreve Deus às vezes o direito por linhas tortas.*

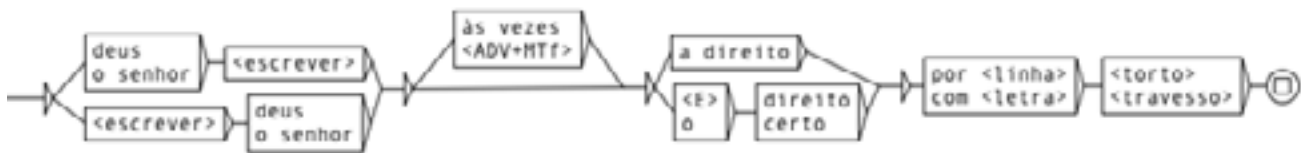
LPP\_JRMC10139 *Escreve Deus às vezes o certo por linhas tortas.*

The following variation can be found in these entries can be summarized as follows:

- Subject inversion: *Deus escreve/escreve Deus* ‘God writes/writes God’;
- Lexical variation: *Deus/o Senhor* ‘God/the Lord’<sup>100</sup>, *direito/certo* ‘straight’, *linhas/letras* ‘lines/letters’, *tortas/travessas* ‘crooked’; and the equivalence of the above with the compound manner adverb *a direito* ‘straightly’<sup>101</sup>;
- **Nominal use of adjectives** *direito/certo* ‘straight’, indicated by the article *o* ‘the’;
- (facultative) insertion of frequency adverb *às vezes* ‘sometimes’.

Considering the variation factors above, the following FSA can be built, using the Unitex (Paumier, 2003, 2016) linguistic development platform (Fig. 4)<sup>102</sup>:

**Fig. 4: Graph with a finitestate automata representing the formal variation found in proverb *Deus escreve direito por linhas tortas* ‘God writes straight with crooked lines’.**



By systematically exploring the graph paths, one can obtain around 120 different strings. A simple query in a search engine of some of these variants is sufficient to retrieve hundreds of instances of this proverb from the web.

Though this is a painstaking process, particularly when there are several, very similar, keys associated with the same proverb, it is possible, in this way, to group together a large number of variants of a paremiological unit, using the large database of collected proverbs described above as source of variation, allowing some degree of free morphologic e syntactic variation (lemmatization, lexical masks, facultative insertions, punctuation), thus aiming at achieving a better performance both in precision and recall in the retrieval of proverbs from texts.

This description work is still at its beginning. Once the coverage of this FSA library is sufficiently large, we expect to use it to retrieve proverbcandidates from texts from real texts, in *corpora* of different genres and text type, as well as from the web. This will allow us to determine the relative frequency of proverbs’ use, drawn from large textual *corpora*, which is an indispensable step towards the construction of didactic applications.

We expect, in this way, to be able to collect a *corpus* of proverbs in their context of use (full texts), thus paving the way to a study on the linguistic devices that introduce proverbs into a discourse, and to model the complex discursive relations they hold with the text around it, linked with the communicative, situationalpragmatic factors surrounding those utterances. Notice that, besides their cultural aspects, this communicative competence is one of the key interests in learning proverbs, both as a native and (which more difficult) as a foreign language.

## 6. DIDACTIC GAMES: SOME EXPERIMENTS

In this section, we sketch some of the didactic games involving proverbs that can be produced using NLP tools and available resources for Portuguese. Adopting the general framework of REAP.PT, illustrated by the works of (Correia 2010; Pellegrini *et al.* 2012; Correia *et al.* 2012), and briefly outlined above (§), our purpose, here, is just to create a roadmap, defining the games’ goals, and highlighting the complexity of the NLP tasks involved in automatically generating such exercises, eventually drawing the examples from real texts, whenever appropriate.

<sup>100</sup> This variant is not in the *corpus* of collected proverbs, but we found 2 instances in the web (using Google, with exact match and only under the top domain .pt).

<sup>101</sup> *Idem.* 6 instances of this variant were also found in the web.

<sup>102</sup> In the graph, the lemma of a word is given inside '<' and '>' (e.g. *escrever*, *linha*, *letra*, *torto* and *travesso*). This allows the system to match any inflected form associated with these lemmas. Notice also that *deus* and *senhor* are written in lowercase to allow case variation, should it appear in texts. The lexical mask <ADV+MTf> represents any adverb of the syntacticsemantic class of temporal (frequency) adverb, both simple and compound (Molinier and Levrier, 2000) Such lexical resources, with the syntacticsemantic information associated with adverbs, have already been built also for Portuguese (Palma 2009, Mamede *et al.* 2012).

Most games already available in the web have been manually produced by specialists (language teachers) in very small and closed batches. These exercises are mostly *multiplechoice* (or *cloze*) *questions*. Each exercise can be seen as a HIT (Human Intelligence Task)<sup>103</sup> where the student, using a complex interplay of his language competence and world knowledge, has to choose the appropriate word or expression to fill in a blank in the proverb that provided as *prompt*. Besides the correct answer, the student is presented with 3 alternative answers called *distractors* (or foils), to choose from. The selection of the foils is a complex issue, deriving from the objectives set for a specific exercise. In the case of language learning, these objectives are related to the training of linguistic competences, mostly of semantic nature, such as the semantic relations holding between the target word/expression and the set of foils within the proverb.

Since the ultimate goal of this work is to automatically generate the exercises, NLP tools and language resources are necessary to produce the exercises, in such a way that a large number of HIT be built, stored in a quiz database and made available to the student. We will ignore, in this paper, all technical aspects concerning the database construction and management, as well as the web interface and the procedures for correction, scoring, and keeping track of the students answers for future reference, and will focus solely on the linguistic aspects that building such games raises and the challenges they pose to a NLP, automatic generation approach. In Section 3, we presented some of the linguistic issues in choosing the appropriate distractors for a given target word, based on the semantic relations it may hold with other lexical items, using the information encoded in existing ontologies already built for Portuguese. We resume that exercise here, adding some further examples.

Consider the wellknown and already mentioned proverb, with the target word [*pássaro*]:

*Mais vale um [pássaro] na mão que dois a voar*

‘Better a bird in the hand than two flying’

Multiple, and complex, linguistic competences are at play and not all are necessarily under the scope of a HIT based on this sentence:

- the ability to **parse** the syntactic structure of a complex sentence with a subordinate comparative subclause (*mais C1 do que C2*);
- Parsing the main clause *C1* also involves: (a) the reconstruction of a reduced infinitive  $V_{inf} w = [ter\ um\ pássaro\ na\ mão]$  as the subject of *vale mais*; (b) the reconstruction of an indefinite (hence zeroed) generic subject of *ter* (*alguém/ toda a gente ter um pássaro na mão* ‘for someone/anybody/everybody to have a bird in the hand’), this type of subject and its zeroing being responsible for the ‘generic’, that is, ‘proverbial’ value of the proverb;
- while the parsing of the subordinate *C2* involves: (a) the (lexical) anaphora resolution (*dois pássaros*), explained above; and (b) reductions of repeated material under the comparative conjunction *do que* ‘than’; an adequate analysis of the subordinate infinitive ( $a\ V_{inf} = a\ voar$ ),
- as well as the knowledge of the **distributional constraints** on the subject of the verb *voar* in *C2* and of the complex clause underlying the relation between *pássaro* and *mão* in the first clause, involving locative preposition *em* and the particular grammatical value of *ter*.

It is on the latter, more semantically oriented, aspect that the type of HITs here suggested hinge, though all other factors be involved as well. The following distractors can be automatically selected using the semantic relations encoded in the ontologies and replacing the the target word by:

- a synonym (*ave*) or a quasisynonym (*piupiu*)
- a hypernym (°*animal*, *vertebrado*)
- a diminutive of any of the words, including the target (*passarinho*, °*avezinha*)
- a hyponym (*andorinha*, *arara*, ...)

All the examples above, except those marked with °, can be directly retrieved from the databases.

The specific selection of the noun *pássaro* in the proverb and using its synonym *ave*<sup>104</sup> as a distractor may not be entirely adequate, as 5 instances of this proverb with *ave* were found with Google exact match search (restricted to the top domain **.pt**), against 120 (different) instances of the variant with *pássaro*. A check for the full string (with all the selected foils candidates, such as *ave*) in the web would prevent an intelligent system to produce incorrect foils (an

<sup>103</sup> [https://en.wikipedia.org/wiki/Amazon\\_Mechanical\\_Turk#Artistic\\_and\\_educational\\_research](https://en.wikipedia.org/wiki/Amazon_Mechanical_Turk#Artistic_and_educational_research)

<sup>104</sup> We do not discuss here the issue of *pássaro* being a synonym, a hypernym or a hyponym of *ave*, which is a matter of linguistic adequacy of the semantic description, and pragmatically assume as correct any information in the language resources as given.

alternative correct answer). Notice the issue does not rise with *piupiu* and all other remaining options (no matches were found). Thus, such web search filtering mechanism should be of general use in any automatic exercise generation system. The choice of hypernyms conflicts with the somewhat constraint distribution found for the subject of *voar*. Besides, usually this strategy is not very productive, not only because of the limited number of lexical items functioning as hypernyms in the ontology hierarchy. The use of diminutives focuses not only on a morphologic competence, but also on the narrow distribution (or *frozenness*) of proverbs in general. It may be a good strategy for selecting foils, as diminutives (especially *inho* and *ito*) are a productive lexical device in Portuguese, which constitutes a further reason to be trained and learnt. Again, the filtering based on a web search would allow to discard *passarinho* (13 instances in Google) against *avezinha* (no exact match found). Finally, the list of hyponyms being very large would enable a substantial set of alternative foils.

Combining the different strategies in the same HIT could enable a system to produce a large number of HITs, all based on the same proverb. Irrespective of the computational complexity involved, all the necessary language resources and NLP tools exist and are adequate.

Another venue of research could result from exploring the fact that many proverbs are based on opposing/contrasting meaning, that is, words in an *antonymy* relation. However, in order to be able to explore such feature, one must first detect such proverbs having to do with antonym words.

To do so, we used the 388 word pairs of adjectival antonyms (e.g. the adjectives *direito/torto* ‘right, straight’/‘crooked, twisted’) encoded in PAPEL (Oliveira *et al.* 2008), and queried all the entries in the proverbs database containing such pairs, irrespective of their order: 556 instances of proverbs (and variants) were found in the database, which correspond to 330 different strings. Below are ten of the first proverbs (sorted alphabetically) of that list, involving the pairs of adjectives *fácil/difícil* ‘easy/difficult’, *certo/incerto* ‘certain’/‘uncertain’, *feliz/infeliz* ‘happy’/‘unhappy’, *amigo/inimigo* ‘friend’/‘enemy’ and *possível/impossível* ‘possible’/‘impossible’

- (1) *A crítica é fácil, a arte difícil.* ‘Criticism is easy, art (craft) is difficult’
- (2) *A crítica é fácil... a arte (é) difícil.* ‘Criticism is easy, art (craft) is difficult’
- (3) *A hora é incerta mas a morte é certa.* ‘The hour is uncertain but death is certain’
- (4) *A hora é incerta, mas a morte é certa.* ‘The hour is uncertain but death is certain’
- (5) *A inconstância da fortuna assusta os felizes e anima os infelizes.* ‘The fickleness of fortune scares the happy and animates the unhappy’
- (6) *A lisonja faz amigos e a verdade, inimigos.* ‘Flattery makes friends and truth enemies’
- (7) *A marido ausente, amigo presente.* ‘To absent husband, present friend (=lover)’
- (8) *A melhor maneira de nos desfazermos de um inimigo é fazer dele um amigo.* ‘The best way to discard an enemy is make a friend out of him’
- (9) *A morte é certa, a hora incerta.* ‘Death is certain, the hour uncertain’
- (10) *A quem busca o impossível, justo é que até o possível se lhe negue.* ‘To whom that seeks the impossible, it is fair that even the possible be denied to him’

Notice, first, that some of these instances correspond just to graphic (punctuation) variants of the same paremiological unit, namely (1) and (2) or (3) and (4); secondly, the reversal of the order of the antonymic word pair yields certain variants (9) where the two parts of the proverbs have just been permuted (3)(4).

Let us consider again the proverb *Deus escreve direito por linhas tortas* ‘God writes straight with crooked lines’ and try to define possible HITs for this type of antonymy-based proverb. A very simple exercise would be to swap the adjectives:

*Deus escreve torto por linhas direitas* ‘God writes crookedly by straight lines’

The purpose of such foil could be, for example, to identify illformed proverbs among correct variants. However, proverbs involving antonymy are very prone to creative reuse, which explains why 12 instances of such form have been found in the web, including a very wellknown dramatic text<sup>105</sup>:

Manuel: *Não é de espantar. Deus escreve torto por linhas direitas. Não é assim que se devia dizer?*

<sup>105</sup> [http://storamjoao.blogspot.pt/2008/11/anlisedefelizmentehluar\\_29.html](http://storamjoao.blogspot.pt/2008/11/anlisedefelizmentehluar_29.html)



‘Manuel: That does not surprise anyone. Gog writes crookedly by straight lines. It is not like this how one should say it?’ (Luís de Sttau Monteiro, *Felizmente há luar!*)

It is also noteworthy that, if this permutation were performed, many of the proverbs of the list above, they would still look like proverbs, though the interpretation of some of them would become awkward:

*A crítica é **difícil**, a arte **fácil**.* ‘Criticism is difficult, art (craft) is easy

*A hora é **certa** mas a morte é **incerta**.* ‘The hour is certain but death is uncertain’

*A inconstância da fortuna assusta os **infelizes** e anima os **felizes**.* ‘The fickleness of fortune scares the unhappy and animates the happy’

*A lisonja faz **inimigos** e a verdade, **amigos**.* ‘Flattery makes enemies and truth friends’

*A marido **presente**, amigo **ausente**.* ‘To present husband, absent friend (=lover)’

*A melhor maneira de nos desfazermos de um **amigo** é fazer dele um **inimigo**.* ‘The best way to discard an enemy is make a friend out of him’

*A quem busca o **possível**, justo é que até o **impossível** se lhe negue.* ‘To whom that seeks the possible, it is fair that even the impossible be denied to him’

On another perspective, one could also use the list of synonyms associated to each key adjective:

- **direito** (16 synonyms: *aprumado, desempenado, directo, erecto, especado, franco, imparcial, íntegro, justo, leal, liso, plano, rectiforme, recto, sincero, and vertical*)
- **certo** (19 synonyms: *ajustado, cabal, certo, claro, compassado, convencido, convicto, correcto, exacto, fixado, incontestante, indubitável, infalível, legal, positivo, preciso, seguro, tranquilo, and verdadeiro*)
- **torto** (16 synonyms: *desleal, embriagado, enviesado, errado, esconso, esquelhado, estrábico, inclinado, injusto, oblíquo, torcido, torso, tortuoso, troncho, vasqueiro, vesgo*)
- **travesso** (32 synonyms: *amarotado, atratantado <sic>, atravessado, colateral, desenvolto, diabólico, diabril, endemoninhado, endiabrado, estouvado, gabiru, gaiato, garoto, inquieto, irrequieto, judio, levadinho, levado, magano, maldoso, maroto, mexelhão, oblíquo, rabeador, rabino, remexido, roberto, safado, sapeca, traquinas, turbulento, vivo*)

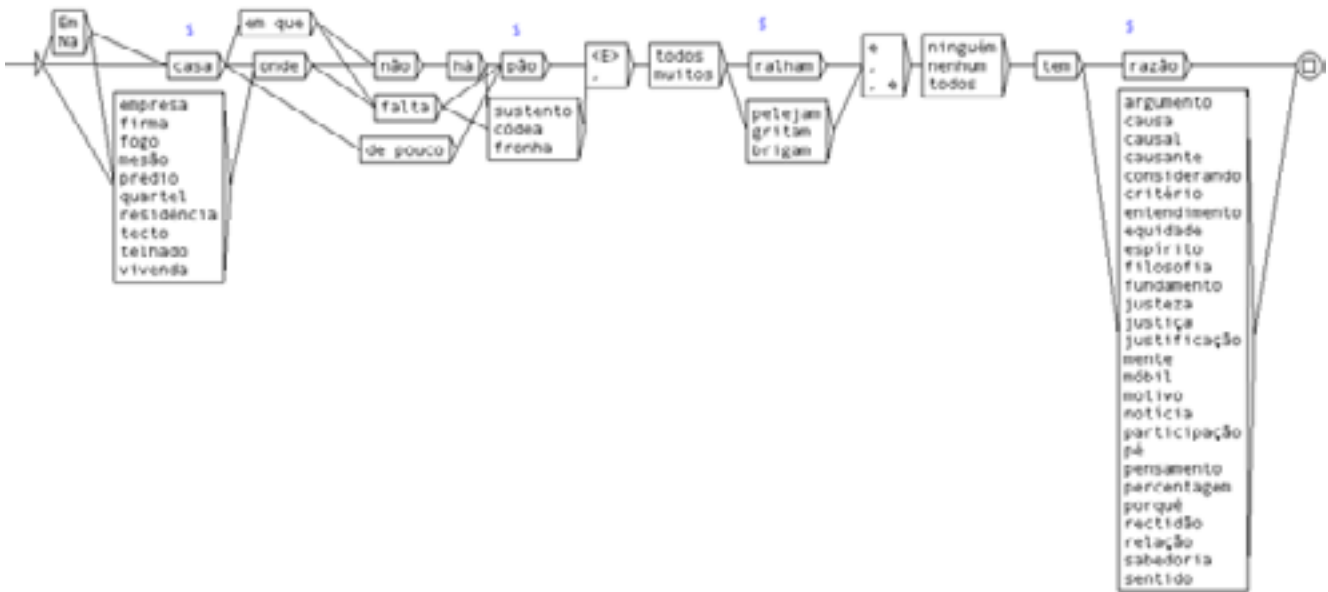
To create new distractors, it suffices to replace the key adjectives, one at a time, keeping the others constant, by their synonyms. This relatively simple permutation would yield 3,260 distractors (though not all were correct), that would enable the student to practice his/her semantic competence about the antonymy relations each adjective may (or may not) hold with the other adjectives in the proverb.

This, however, may be different depending on the language variety one considers. For example, one can imagine that in Brazilian Portuguese (but not in standard European Portuguese!) the equivalence of the (manner) adverbial use of the adjectives *direito* = *reto* and eventually *direto* would lead to consider as natural the variants (we found instances of both in the web):

*Deus escreve reto/direto por linhas tortas* ‘God writes straight by crooked lines’

Another type of exercise could involve the simultaneous variation of more than one word at the same time, which would increase the level of difficulty of the HIT. For example, consider the proverb *Em casa onde não há pão, todos ralham e ninguém tem razão* ‘In a house without bread, everyone argues and no one is right’. Defining as target words the nouns *casa* ‘house’, *pão* ‘bread’ and *razão* ‘reason’ and the verb *ralhar* ‘argue/discuss/quarrel’, and using their equivalent words, marked as synonyms in PAPEL, would yield the combinations (several thousands) represented in the graph of Fig. 4.

**Figure 4: Multiple word variation in a single proverb: synonyms associated to four target words in the proverb *Em [casa] onde não há [pão], todos [ralham] e ninguém tem [razão]* ‘In a house without bread, everyone argues and no one is right’.**



Notice that for each noun, the semantic relations between the target word and the so-called equivalent word are not always the same, depending on the word sense. By exploring this sense variation, the student may improve his/her lexical competence, extending the vocabulary not just in the number of new words, but also in the number of senses he/she can associate to already known words. For example, for *casa* ‘house’, the professional sense of *empresa* and *firma* ‘company’ is not to be confound to the sense of type of habitation building like *vivenda* ‘villa’ or *prédio* ‘apartment building’, nor with the figurative use of *tecto* and *telhado* ‘roof’, nor even with the almost technical value associated to *fogo* (literally: ‘fire’) ‘habitation’. Some of these “equivalent” words are just plainly bizarre, probably an error resulting from the automatic methods used to build the ontology and the lack of human verification (e.g. *pão* ‘bread’ and *fronha* ‘sleeping pillow cover’). Notice the figurative use of *pão* ‘bread’ in the equivalence with *sustento* ‘sustenance/livelihood’. The case of *razão* ‘reason’ is more interesting, since this use corresponds to a support verb (or light verb) construction, *ter razão* ‘to be right’, and the lack of equivalence results from the simple wordbyword equivalence (and the many senses the simple noun may present), without considering this multiword lexical unit. Probably, targeting this noun would result in uninterpretable HITs. However, very few NLP systems, nowadays, can parse support verb constructions adequately (Rassi *et al.* 2014b).

Looking beyond antonymy and synonymy, other semantic relations can be explored in the automatic generation of foils for a proverb, namely hiperonymy and hiponymy, or *wholepart* relations, i.e. holonymy and meronymy. An example of the later might be construed for the proverb:

*Mais vale um pássaro na mão do que [dois (pássaros)] a voar*

‘It is better to have a/one bird in the hand than two flying’,

where the numeral *dois* (pássaros) ‘two (birds)’ in the headless noun phrase could be replaced by *um bando* (*de pássaros*) ‘a flock (of birds)’ and then by different types of collective nouns, to explore the lexical knowledge about the distributional constraints on the use of collective nouns designating groups of animals (holonymy):

*Mais vale um pássaro na mão do que um bando/cardume/cacho/chorrilho a voar*

‘It is better to have a/one bird in the hand than a flock/school/bunch/ flying’

Naturally, we assume that the issue of anaphora resolution should have already been solved. Finally another, rather challenging, exercise could involve discovering the appropriate proverb for a given context. However, instead of doing like some of the websites that explain the proverbs’ meanings by presenting examples produced by their authors, one would use NLP tools to retrieve from the web and other sources real, spontaneous instances of proverbs in their context of use. This requires being able to find proverbs in texts, especially the most frequent, and hence the better known, variants, and selecting those instances more prone to the generation of

adequate distractors. For example, one of the proverbs already mentioned above has been found in a blog<sup>106</sup>, with an extensive enough context to provide some of the clues required for guessing it:

*Estudos feitos revelam que mais de 50% dos conflitos conjugais acontecem devido a problemas financeiros. Há um ditado popular que diz “[Em casa onde não há pão todos ralham e ninguém tem razão]”, e será que não é verdade?*

‘Studies show that more than 50% of marital conflicts happen because of financial problems. There is a popular saying that goes like “In the house where there is no bread all quarrel and no one is right,” and is it not true?’

In the preceding text, several nouns can serve as clues for this proverb: *conflitos conjugais* ‘marital conflicts’ and *problemas financeiros* ‘financial problems’. Other content words, like *estudos* ‘studies’, *verdade* ‘truth’ or even the verb *revelar* ‘reveal’, have little to do with the proverb’s lexical content. Furthermore, the proverb is clearly identifiable by the devices used to introduce it, namely, the quotation marks and the formula *Há um ditado popular que diz* ‘There is a popular saying that goes like’ (this type of formula, if identified, could be ruled out from the set of clues,

Different strategies can be put in place. A very simple approach is to retrieve from the *corpus* of proverbs the entries that have two or more of the same words of the contextual clues. In our *corpus*, there is an instance of such situation (though it is not clearly a proverb), where the word *problema* appears repeated (no case was found with any of the word pairs):

*Os problemas existem para se lhes dar soluções; quem não quiser defrontar os trabalhos de soluções deve evitar os problemas.*

‘Problems are there to be given solutions; who does not want to face the work required for the solutions should avoid any problems.’

Alternatively, from an ontology like MultilingualWordNet.PT<sup>107</sup> one can retrieve the words that have a given semantic relation with the contextual clue (Table 5), much as already shown above. As one can see, some words may be missing from the ontology. It is then relatively simple to extract from the *corpus* the proverbs containing two or more words from the combinations of these elements. For example, one finds:

*A desgraça do homem é falar fino, esmorecer, brigar com a mulher e ficar perto.*

‘The man’s misfortune is talking with a thin voice, fading/waning, fight with his wife and stay close.’

where the mention of a marital relation and the verb *brigar* ‘quarrel’ (but no mention of *problema* ‘problem’ nor *financeiro* ‘financial’) make this a good distractor. However, most of these word combinations may not exist in the *corpus*.

A more sophisticated approach would be to compute the word sense similarity (Clark *et al.*, 2010) between the words in the proverb, on one hand, and those of the context, on the other hand, thus retrieving from the *corpus* the proverbs that are similar/dissimilar with the values obtained.

**Table 5: Semantic relations in MWN.PT**

Word	[Semantic relation]
<b>estudo</b>	[hyperonym (is a kind of)]: <i>composição musical, música, peça musical</i>
<b>conflito</b>	[is a word for]: <i>briga, combate, luta</i> [hyperonym (is a kind of)]: <i>estado, acto colectivo (PE), ato coletivo (PB)</i> [hyponym]: <i>briga, choque, combate, contenda, desacordo, desavença, desentendimento, desinteligência, dissensão, divergência, duelo, embate, enfrentamento, fricção, guerra fria, lide, luta, pancadaria, peleja, pugna, recontro, refrega, rixa</i>
<b>conjugal</b>	not found
<b>financeiro</b>	not found
<b>problema</b>	[is a word for]: <i>aperto, apuro, dificuldade, problema</i> [hyperonym (is a kind of)]: <i>acontecimento, sucedido</i> [hyponym]: <i>aflicção, atrocidade, adversidade, desdita, desgraça, desventura, escândalo, indignidade, constrangimento, embaraço, inferno, interferência, massacre, ultraje</i>

<sup>106</sup> <http://reorganiza.pt/guiainformacao/familiareficaz/>

<sup>107</sup> <http://mwnpt.di.fc.ul.pt/> (we disregard the synset structure).

## 7. CONCLUSIONS AND FUTURE WORK

In this paper, we present some available NLP tools and resources that can be used to develop didactic exercises, automatically generated and corrected, to train linguistic competence students of PFL (and also of native speakers) and built around proverbs. We demonstrated that existing exercises require an inordinate amount of time and effort to be sufficiently apt to train those competences, so the automation of the process of creating them, particularly in a gaming environment, would help students and teacher alike, and improve the learning process. We have shown that these existing exercises heavily rely on semantic relations among words. Portuguese already has a number of automatically built or manually crafted language resources, as well several NLP systems that could be use as the basis for such project. The iCALL framework provided by the REAP.PT project could be adopted for such project. Naturally, this would require a close interaction and collaborative work involving both linguists and computer scientist. Part of the preliminary work is already under way: a large *corpus* of proverbs and variants has been collected and the construction of tools for retrieving paremiologic units (proverbs and their variants) from text is being done. In the near future, we expect to present some results from this process.

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# TOURISM AND CLIMATE CHANGE: MITIGATION AND ADAPTATION IN THE PATH OF TRANSFORMATION

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## ABSTRACT

The present and future climate change will lead to impacts on tourism, which will change the human thermal comfort and tourist seasonality, decrease landscape aesthetic quality to be expressed by continuous reduction of beach area, changes in vegetation and animal biogeographical distribution and loss of biodiversity, among others.

Being Adaptation the intent of adjustment to the impacts of climate change in order to minimize damage and find opportunities, and Mitigation any intervention that aim to reduce greenhouse gas emissions, the dilemma arises, in a world of scarce resources, from which approach should be enhanced on the choice of adapting, defensively, to the consequences, or mitigating, offensively, the causes of climate change in tourism sector.

As such, it's paramount to discuss the duality between the challenges of adaptation and mitigation of climate change in tourism science, not in a contingent way, but, above all, by the need for transformative transition of tourist industry towards sustainable exploitation of landscape as means of increasing the resilience of tourist regions.

Keywords: Climate Change, Tourism, Adaptation, Mitigation.

## 1. INTRODUCTION

Tourism, especially since its spread from the 60s of last century, has a “push-pull” character, where it is assumed, on one hand, the existence of factors that trigger the tourist to travel (push) and, on other, factors that characterize a particular tourist destination and are responsible for its attractiveness (pull), being that climate affects these two motivational forces (Machete, 2011, p.142).

In the present and future context, climate change constitutes a dramatic disruption element of a such vulnerable sector as tourism (UNWTO, 2008, pp.61-68), where are expected impacts of direct order, as the reset periods of climate pleasantness and respective seasonality of tourism demand, as well as changes in operating costs of tourist establishments (Casimiro, Gomes & Almeida, 2010, pp.6-7), environmental indirect impacts, including increased temperature effects, the rise in the sea level rise and the occurrence of extreme events (heat waves, intense precipitation events, floods and droughts), which could enhance the scarcity of water resources, coastal erosion and reduction of beach area, increasing number of fires, decreased agricultural production, bleaching of coral reefs, reducing the snow surface, landscape aesthetic quality degradation and increased incidence of vector-borne diseases, like malaria and leishmaniosis, due to the disappearance of climate barriers, among others (Simpson, et al . 2008, p.13; Becken & Hay, 2007, pp.38-50).

Such deteriorations may imply changes in the geography of tourist attractiveness, corresponding to societal impacts of receiving destinations by decreasing their booking, such as political and social instability with danger to

public safety as a result the inherent break in development of these regions (UNWTO, 2008, pp. 67-68).

Other impacts could come from mitigation policies, i.e., the reduction measures of greenhouse gases (GHGs), enhancing the increase of tourist travel costs and consequent commercial-tourist aviation route changes, which could disrupt also the development of tourist receiving regions by the lack of its demand (UNWTO, 2008, pp.116-117).

## 2. ADAPTATION AND MITIGATION: WHAT IS THE PRIORITY?

The future seems, figuratively dantesque, to tourism sector due to their susceptibility and vulnerability. However, no matter how catastrophic the future looks there is no ground to a “victimization” of tourism in relation to the impacts of climate change, because it should not be forgotten its contribution to the worsening of global warming, since the impact of tourism on the causes of climate change is profound as well (Prista, 2015).

Note that in a sector that by the hierarchy of Maslow’s needs is not a basis of psychologic priority and fulfilment of human being, unlike, for example, agriculture, carbon dioxide emissions from the sector represents about 5% of the total issued worldwide by all sectors of economic activity. The main contributory factor for GHG emissions from the tourism sector is air transport, which accounts for 40% of global tourism emissions, and long-distance travel between the five continents are 16% of these emissions, representing only 2.2% of all tours that last more than one day (UNWTO, 2008, p.144). Followed by aviation, car transport is the second largest emitter factor, with a share of 32% of all total sector emissions.

So, being the Adaptation intent and adjustment to the impacts of climate change in order to minimize damage and find opportunities, and Mitigation any intervention to reduce GHG emissions, the dilemma arises from which approach should followed: the defensive strategy to the consequences induced by climate change through adapting or offensive to their causes by way of mitigation (Machete, 2011, p.148).

There is here the need to explain this issue in order to illuminate reason with greater ubiquity on this paradigm.

David Weaver (2011, p.10) elucidates to the fact that adaptation ensures a rational response to cope with the impacts of climate change consistent with the mainstream capitalist model. Examples are the investment in the snow production in tourist destinations in winter sports (Cit. By Weaver, 2011, p.10) due to the decrease of snow cover by the increasing of temperature or the construction of shoreline protection spurs in response of sea level rise, which are achievable and accepted at a more localized level (Thomalla et al, 2006, pp.46-47; Stern 2006, p.404), mirroring the unsustainable maintenance of *status quo* posture (Jackson, 2010, p.20-25). The paradigmatic question is the adaptation has a contingent character and can float, for example, the ski resorts in a weak short-term profit raft, achieved by the contamination of water and soil, derived from the use of freezing chemical solutions and extreme increase of energy consumption, thus contributing to greenhouse gas emissions and global warming (Weaver, 2011, p.10; UNWTO, 2008, pp.90-91), overshadowing, from the mitigation point of view, the concept of sustainability in this adaptation measure or other, based on similar assumptions. Another similar case is the tourist scuba diving for observation of coral reefs that are disappearing by rising ocean temperature and acidification. It should be noted that this tourist interest conduces to long distance travel from developed countries, often, to emerging countries, exacerbating their emissions contribution to a phenomenon that is inciting anthropogenic global destruction of the same resource that motivated the trip (UNWTO, 2008, p.140).

In contrast, only mitigation fights the root of the problem, either by carbon sequestration and reduction of the ecological footprint of tourism enterprises through the use of renewable energy and use of regional products of tourist regions, either through the prometheus technological innovation in efficiency fuel consumption or the encountering of renewable energy sources with lower potential emissions for aviation and other ways of transport, either up to modal shift to modes of transport such as rail train, more efficient and less emitter of greenhouse gases per passenger compared with a plane and automobile, which can only be achieved by changing the tourist behaviour and tutelary transport management institutions (UNWTO, 2008, pp.145-174).

Sir Nicholas Stern (2006 pp.2, 211, 404) at the Stern Report lectures that the annual cost GHG reduction in the order of three-quarters of current levels by 2050 would be on average 1% of Gross Domestic Product (GDP) per year, and the cost of mitigating inaction represent the loss of 5% of GDP per year and may go up to 20% or more, being adaptation more costly than mitigation.

But what else is in disfavour of Mitigation? The Adaptation wins by its demerit? Several have been the mitigation initiatives in the tourism sector (Scott & Becken, 2010, pp. 286-291). Although there is still much to achieve due to the difficulty of commitment on GHG’s reduction agreements, uncertainty fulfilling their desiderata and meagre individual and collective behavioural change by lackawareness for the challenge of climate change to reduce greenhouse gas emissions, adding, largely, the needed mitigation effort to ensure sustainability of human life on the planet. As such, by the inertia of the climate system on the basis of GHG high residence time on the atmosphere (Santos, 2012, pp.40-43), even in the most ambitious scenario in terms of mitigation (IPCC, 2013, p.701), global warming will not stop rapidly and the understanding of the inevitability of the impacts of climate change stimulates the investment in



adaptation over mitigation, not to mention the potential use of this problem by the nordic destinations, which could have an increase of climate pleasantness, while its decrease could happen in the south, such as the Mediterranean regions, in order to eliminate their competitors, or the promotion of “disaster tourism” or “last chance” (Weaver, 2011, pp.9-10; Prista, 2015), like it’s occurring in Churchill, Canada, through the increase of travel motivations for observing polar bears, endangered due to global warming. Also the unpredictability of future and uncertainty of projections and impacts in the long run (Weaver, 2011, pp.5-6) and the denial of climate change occurrence (Stoll-Kleemann, O’Riordan & Jaeger, 2001, pp.112-115) continue to discouraging the sector in betting truly on a coherent mitigation policy. More, the economic mechanisms of command-control and taxes on emissions as recognition of their externalities are assumed as an added burden for aviation operators and tourist accommodation, which reflect them in price increase of services, raising resistance by tourists and inherently decrease in tourism demand (Weaver, 2011, p.9). This adds the resistance of local communities by the risk in economic and employment decline, most concerning phenomenon where tourism is the main way of poverty alleviation in emerging countries (UNWTO, 2008, p170) Furthermore, adaptation competes with mitigation also in this field. One example is the existence of regulation instruments on airlines activity (Air Passenger Adaptation Levy) in order not to reduce, but to contribute to the emergency adaptation, for example, to sea level rise in small and low-lying islands, like Maldives (Weaver, 2011, p.10).

### 3. CONCLUSION

To this extent, the adaptation may face present impacts not as an end in itself, but as the ultimate hope of reaching a worldwide mitigation commitment, which can only arise from a full transformation of Man and Tourist and inherent renunciation of the current anomie in their behavioural, cultural and systemic appropriation of Earth (O’Brien & Hochachka, 2010, pp.94-101).

Therefore, the search of new tourist types, beyond the conventional tourism, with less consumptive demand for resources, such as Ecotourism (Prista, 2015), and modal change of tourist trip way of transport with the recourse of rail train are proactive and substantial anticipation strategies to catastrophic challenges (Pelling, M., 2011, pp. 95-103) that the future can bring.

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# AN INTERDISCIPLINARY APPROACH TO *DEMOCRATIC LEGITIMACY*: THE ROLE OF ONLINE TOOLS, EXPERT SYSTEMS, OPEN FORUM AND OPEN-SOURCE GOVERNANCE TO SUPPORT DELIBERATIVE WILL- FORMATION IN EUROPE

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## ABSTRACT

This paper elaborates on a catch-phrase – “whilst in politics elected representatives often ignore public opinion in the media and in protests, easily discarding citizens’ dissatisfaction in the streets”. Provided that the *deliberative model of democracy* maintains that democratic legitimacy is possible only insofar as political power can be explained and justified in relation to the citizens’ interests, the question we seek to answer is: could the *deliberative model of democracy* be an antidote to indifference to public views and a solution to bring unresponsive political deliberation under control? By unresponsive deliberation we mean instances where governments have decided to go to war without sound justification, or promoted ambiguous decisions on the refugee crisis in Europe, or promoted an exit from the European Union with no clear explanation for the consequences of such withdrawal proposition.

To investigate the feasibility of a *deliberative model of democracy* this paper engages with the works of philosopher and sociologist Jünger Habermas, member of the Frankfurt School and known for his discourse-theoretical view on *discourse democracy*, which strongly emphasises conflict resolution. This model of democracy observes both the liberal principles that govern individual right priority and the republican insight that legitimacy is born from citizen’s deliberations. We claim that intelligent applications such as open source governance, online tools for deliberation and expert systems have already inaugurated this new era of decentralised intersubjective justification (Keen, 1978; Marakas, 1999; Shen 2009). Yet interdisciplinary research has not yet investigated whether new technologies can give a valid contribution to implement a procedural model of deliberative politics.

Based on a bibliographic review, this paper establishes a dialogue between the pros and cons of deliberative democracy, and the use of new technologies in politics to promote a self-grounding notion of democratic legislation. This study seeks to explain how new technologies protect societies against a sentiment of alienation from government law-making. I also aims to address some of the theoretical limitations of deliberative democracy. Examples of such limitations in are: self-government may be an empty and incoherent ideal; deliberative democracy could pose a threat to autonomy and restrict basic liberties whilst producing and illusive consensus

Keywords: Democracy, Deliberation Theory, Legitimacy, Interdisciplinarity, New Technologies, E-Participation, Artificial Intelligence.

## 1. INTRODUCTION

Several *modern democracies* follow the same practices they did almost two centuries ago. In normal conditions citizens will interact with the political system during elections only. These practices from the past no longer respond to an emergent public claim for government transparency and for political involvement of citizens in law making. Today, threats of fundamentalism, and the advent of apparently irreconcilable value systems, produce a new reasons to believe that citizens can benefit from interactive technologies and interdependence and dialogue in the public sphere is preferable to competitive individualism, ethnocentrism, nationalism and particularism that have marked 20<sup>th</sup> century thinking and culture. Virtual debates around the globe demonstrate that politicised citizens are not convinced that the results of a democratic elections are invariably a guarantee that elected governments will engage in legitimate law making.

Faced with the emergence of the internet as a self-organising community governments are now pressurised by internet networking. Nation state representative governments can no longer justify unethical or wrong decisions made during a parliamentarian or a presidential mandate. Non-governmental organisations and individuals around the world have been voicing their concern about mistaken decision making by elected governments on critical national

and international issues (e.g. War in Iraq, War in Syria, management of the migrant crisis in Europe, and corruption of state-run business in Latin America). The social media has become a scape valve for people to discuss a sense of civil society's powerlessness or impotency when confronted with elected political leaders who carry on with their unjustified projects despite the rejection of such projects amongst dissatisfied citizens.

There is evidence in the EU state members that many of its citizens have disengaged from formal EU politics. Voter turnout has fallen, membership of political parties has declined, and there was a widespread sense of a loss of trust in representative government and politicians. On the other hand, researchers collected evidence of a surge of grass-root, single issue engagement in policy making, and greater awareness of public policy issues. Over the 2000s a participatory surge in Europe was driven forward by new ICT tools ranging from emails and electronic forums, blogs, social networking, and applications that enabled users to upload their own content and manipulate the content of others, facilitating deliberation and debate. (The European e-Participation Summary Report, 2009:4)

More recently, Florida (2013) highlighted the comeback of participatory democracy allied to a critique of globalisation put forward by the New Global movements of the late 1990s and early 2000s. This was partially thanks to the renown of certain innovative experiments such as the Participatory Budget of Porto Alegre. This revival of calls for a "participatory democracy" re-proposed certain aspects of the original conception of republican democracy, particularly a local and communitarian view of democracy against the logic of a "single thought". At the time activists perceived a necessity to activate a "bottom-up" social leadership. Participatory democracy was then considered as the tool through which a new, critical and antagonistic, subjectivity could be built. (Florida, 2013:6)

Matt Leighninger, Executive Director of the Deliberative Democracy Consortium (IBM-US), proposed that "deciding how best to use online tools to engage the public may be the ultimate moving target for public managers"<sup>108</sup>. Government managers face challenges such as understanding the increasing complexity of how people organize themselves online. In order to aggregate opinions expressed on social media networks, governments around the world are using a number of tools such as discussion forum, participatory budget, large-scale deliberation, and online crowdsourcing sites allowing users to listen in on existing online discussions of public issues.

With reference to aggregation of public opinion tools, five local councils in the United Kingdom were the first municipalities in Europe to use Citizenscape, a web platform that connects existing social websites, such as community forums and sites like Facebook and Twitter, to participatory tools such as ePetitions, webcasts, or consultations. In the US, the White House implemented ThinkUp to track the "ripples"— comments, retweets, related posts, and so on—that emanate from the various social networking sites used by the administration. The platform was designed to help users search, sort, filter, export, and visualize these online discussions. The government of Singapore began to monitor citizen reactions to policy decisions using a social media tool called Business Analytics<sup>109</sup>. The software, developed by IBM<sup>110</sup>, looks for key words or phrases in social media sites. By compiling lists of positive and negative terms, the software aims to identify trends in public sentiment. IBM Analytics for Government can also support governments to improve social program performance<sup>111</sup>.

The technology of aggregating opinions expressed online (as well as other technologies exposed in this paper) is still being developed. According to Leighninger "even when it is more fully operational, aggregation seems unlikely to provide a representative sample of public opinion, not just because of "digital divides," but because the people participating in most online discussions are a self-selected group that is not necessarily representative of the larger population"<sup>112</sup>. That is to say, online technologies have to overcome some weaknesses.

Despite debates on the meaningfulness and feasibility of deliberative democracy tools under development, it is a fact that e-Participation supported a surge of bottom-up activity in Europe and other countries such as the US, Australia, Canada, Singapore and Brazil. Leadbeater (2008), Shirky (2008), Surowiecki (2004), Tapscott (2006 & 2007) considered e-participation as a step change in the way citizens think about politics and policy making. But in this new scenario of e-Participation one of the most pressing challenges became how to align these bottom-up activities with formal structures and processes at all levels of integration: nation states, federation of states, transnational governance and world organisations.

This paper questions what other democratic instruments (besides periodic democratic elections) can reflect civil society's will in the context of nation states and at the same time strengthen the legitimacy of government institutions.

<sup>108</sup> Leighninger (2016) Using Online Tools to Engage—and be Engaged by—the Public [http://www.businessofgovernment.org/sites/default/files/Using%20Online%20Tools%20to%20Engage%20The%20Public\\_0.pdf](http://www.businessofgovernment.org/sites/default/files/Using%20Online%20Tools%20to%20Engage%20The%20Public_0.pdf)

<sup>109</sup> IBM Social Media Analytics [http://brainworks.com.br/wp-content/uploads/SMA\\_YTD03069CAEN.pdf](http://brainworks.com.br/wp-content/uploads/SMA_YTD03069CAEN.pdf) The IBM Social Media Analytics enable organizations to identify top influencers, measure the volume of commentary, and perform geo-location across multiple digital and social channels. It can be integrated with Cognos Business Intelligence and SPSS predictive analytics for rich insights concerning consumer interests, motivations and preferences. View also Davenport Thomas H and Sirkka L. Jarvenpaa (2008) "Strategic Use of Analytics in Government IBM Centre for the Business of Government". <http://www.businessofgovernment.org/sites/default/files/Strategic%20Analytics.pdf>

<sup>110</sup> IBM Analytics for Government <http://www.ibm.com/analytics/sg/en/industry/government/index.shtml>

<sup>111</sup> IBM Analytics for Government Social Programs <http://www.ibm.com/analytics/sg/en/industry/government/index.shtml>

<sup>112</sup> Leighninger (2016) page 27

Adopting an interdisciplinary perspective we discuss the insufficiencies of the Liberal models and of Republican models to produce consensual solutions for problems by means of mutual considerations in society. We discuss the validity of new pragmatic solutions to support the institutionalisation of the deliberative model of democracy as proposed by Jünger Habermas.

Central epistemic claims in the Habermasian<sup>113</sup> deliberative ideal are: (1) public deliberation can improve the quality of decisions; and (2) deliberation makes it more likely for outcomes to be rational, well-justified, true, and fair; (3) Deliberative democracy can integrate normative and empirical elements in politics and society to reconstruct the relationship between law and democracy.

Habermas's utopian realist reconstruction proposes that if one is to search for solutions for global justice and address widespread democratic anxieties these resolutions must be contained in present, via dialogue and collective will formation. There can no longer be a totalising knowledge of rationality but rationality conceived as a disposition expressed in reasonable deliberative behaviour. Habermas' notion of *deliberative democracy* in public sphere and the concept of *communicative action* are therefore central to a discussion of how to structure stable societies. *Communicative action* is "oriented to achieving, sustaining and reviewing consensus - and indeed a consensus that rests on the intersubjective recognition of criticisable validity claims".<sup>114</sup> Ganuza, Francés, Lafuente and Garrido (2012)<sup>115</sup> argued that deliberative theory stems from a central assumption about understanding politics in deliberative terms: individuals' preferences have an endogenous nature, which means they are liable to change and are not exclusively determined by material reasons outside of the individual. This principle gave rise to the argumentative nature of decisions adopted deliberatively, dependent on other individual attitudes (Gutman and Thompson, 2004; Mendelberg, 2002). Deliberative theory's potential comes therefore fundamentally from its capacity to adopt in a regulated way a political process (non-coercive) that rests on an individual mechanism (reflection) which, in turn, calls for argumentation (deliberation) as the main political procedure. The general difficulty with deliberation became: Is argumentation the crucial feature of a discussion between free and equal individuals? Are the outcomes of deliberation always argued? (Ganuza *et al.* 2012: 225-6).

## 2. METHODOLOGY

A bibliographic review methodology will (1) Explain the place of discursive democracy vis-a-vis Liberalism and Republicanism; (2) Elucidate controversies regarding deliberative rationality in the exchanges between Habermas, Jon Elster, John Rawls Jon Elster, David Estlund, Joshua Cohen, and Gerald Gaus concerning reason and politics; (3) Present arguments for and against whether socio political normative foundations established within existing decentralised deliberative *social practices* can help the reconstruction of the relationship between legitimate law and democracy.

Our main proposition that underpins this paper is that "technology-supported process for sustainable decision-making<sup>116</sup> have already inaugurated a new approach in political justification and decision making allowing nation states, federation of states transnational governance and world organisations to consult the people. There is an ongoing interdisciplinary dialogue between social scientists, information technology engineers, expert systems specialists (Bostrom, 2014, 2006, 2011; Atkinson, Bench-Capon, and McBurneyand, 2006), open-source governance advocates (Ruskoff, 2003)<sup>117</sup>, discussion forum scientists (Atkinson, Bench-Capon, and McBurney, 2006), and deliberative corporation experts (Fishkin, 2011) which can give some insight into the contribution of these new communication structures to a self-grounding notion of procedural deliberative politics and the realisation of a strong democracy: "In a strong democracy, people –citizens – govern themselves to the greatest extent possible rather than delegate their power and responsibility to representatives acting in their names. Strong democracy ... mean politics (citizenship) as a way of living: an expected element of one's life" (Daly, Prugh and Costanza (2000: 112)).<sup>118</sup> Our argument is: (1) will formation needs to be legitimate; (2) procedures that ensure free communication and legalise consensual interests can protect societies against a sentiment of alienation and exclusion felt in certain representative governments; (3) at higher levels of integration such as a federation of states (a grouping of states) and beyond (e.g. trans-national governance and world organisations), deliberative democracy procedures can facilitate other forms

<sup>113</sup> Habermas, Jünger "Concluding Comments on Empirical Approaches to Deliberative Politics", in *Acta Politica*.

*International Journal of Political Science*, vol. 40, n.3 (2005), p. 386. And this was the starting point of most studies on the deliberative procedures in the international sphere of politics.

<sup>114</sup> Habermas, Junger (1986) *Reason and the Rationalisation of Society: Reason and Rationalisation of Society*, Vol 1 Polity Press. Cambridge. Paperback edition, page 17.

<sup>115</sup> Ernesto Ganuza, Francisco Francés, Regina Lafuente y Fernando Garrido (2012) Do Participants Change Their Preferences in the Deliberative Process? ¿Cambian sus preferencias los participantes en la deliberación? *Reis* 139, julio-septiembre 2012, pp. 225-246

<sup>116</sup> View James Fishkin and Bobby Fishkin (2011) *The Deliberative Corporation* at <http://www.managementexchange.com/hack/deliberative-corporation>

<sup>117</sup> Ruskoff, Douglas (2003) *Open-source democracy: how online communication is changing offline politics*, Demos: London, page 56.

<sup>118</sup> *The Local Politics of Global Sustainability* by Herman Daly, Thomas Prugh and Robert Costanza (2000), p. 112

of allegiance that go beyond a shared attachment to a we feeling. These other forms of allegiance are rights-based collective identities, epistemic founded identity, and respect for cosmopolitan law.

Before exploring the relation between new technologies and deliberative rationality we propose some clarifications: (1) Have Habermas' notion of discursive democracy raised any theoretical controversies against deliberative democracy? (2) Could such controversies invalidate any serious steps towards the institutionalisation of a procedural model of deliberative politics? In the context of nation states, would it make sense for social scientists to advocate more channels of civil society's participation in politics and law making? What would be the advantages of using new technologies to expand and ease the exchange of information and political arguments in nation states?

### 3. QUESTIONS, DEFINITIONS AND DISPUTES

While democracy has made unparalleled advances in Europe, in Asia-Pacific Regimes<sup>119</sup> and in South-America,<sup>120</sup> social scientists still nourish anxieties on the fairness of declared democratic regimes and their preferred deliberative strategies. In this paper we will seek to justify why nation states, would benefit from deploying new technologies in the service of democratic procedures that provide the terms of communication which are required for collective goal attainment

#### 3.1 Deliberative Democracy and the role of republican conceptions

In 1984, Benjamin Barber published a classic of democratic theory proposing that representative or "thin" democracy was rooted in an individualistic "rights" perspective that diminished the role of citizens in democratic governance. The work offered a theoretical critique of representative or liberal democracy and a foundation for participatory politics. Barber elucidated practical ways to apply the theory of strong democracy in large industrial societies. Based on such argumentation lines, the concept of a *deliberative democracy* took a more definite shape with the advocacy of a legitimate law making that should arise from the public deliberation of citizens. Joseph Bessette<sup>121</sup> had already coined the term 'deliberative democracy' as a response to elitist interpretations of the Constitution.

In "Participatory Democracy versus Deliberative Democracy: Elements for a Possible Theoretical Genealogy. Two Histories, Some Intersections"<sup>122</sup> Antonio Florida (2013) contributed to the critical and historical reconstruction of two different paradigms of democracy with attention to interpretations of American Democracy and the Constitution, when some scholars introduced the term "deliberative democracy". In fact the most influential use of the term was found in an essay by Cass R. Sunstein, a famous scholar of the American Constitution. Later, other scholars (Jon Elster, Bernard Manin, Joshua Cohen) set the first theoretical boundaries of the new paradigm for the elaboration of a more complete theoretical account of the new perspective.

#### 3.2 Democratic theory: Issues affecting the Liberal and the republican models of democracy

Jünger Habermas (1992a, 1992b, 1992c, 1992d, 1993a, 1993b, 1993c, 1993d, 1993e, 1994a, 1994b, 1994c, 1996a, 1996b, 1998a) tackled some of the major issues in a democratic theory undermined by its division into two camps: (1) the Liberal Model which conceives the freedom of individuals as the highest good and (2) the Republican Model which asserts that society consists of virtuous citizens who are actively engaged in collective affairs. According to the first model, individuals have a right to freedom that precedes political freedom therefore democracy is limited by basic individual rights protected by a constitution. The Liberal community of rights does not generate obligations and values, rather power is the basis of the state. On the other hand, Republicans conceive democracy as subordinated to political participation. Politics here is a normative activity for resolving conflicts, with the common will as the very basis of the state.

Diagram 1 summarises the characteristics of Liberalism and Republicanism concerning their main comparable features in relation to the features proposed by the Procedural Model of Deliberative Democracy.

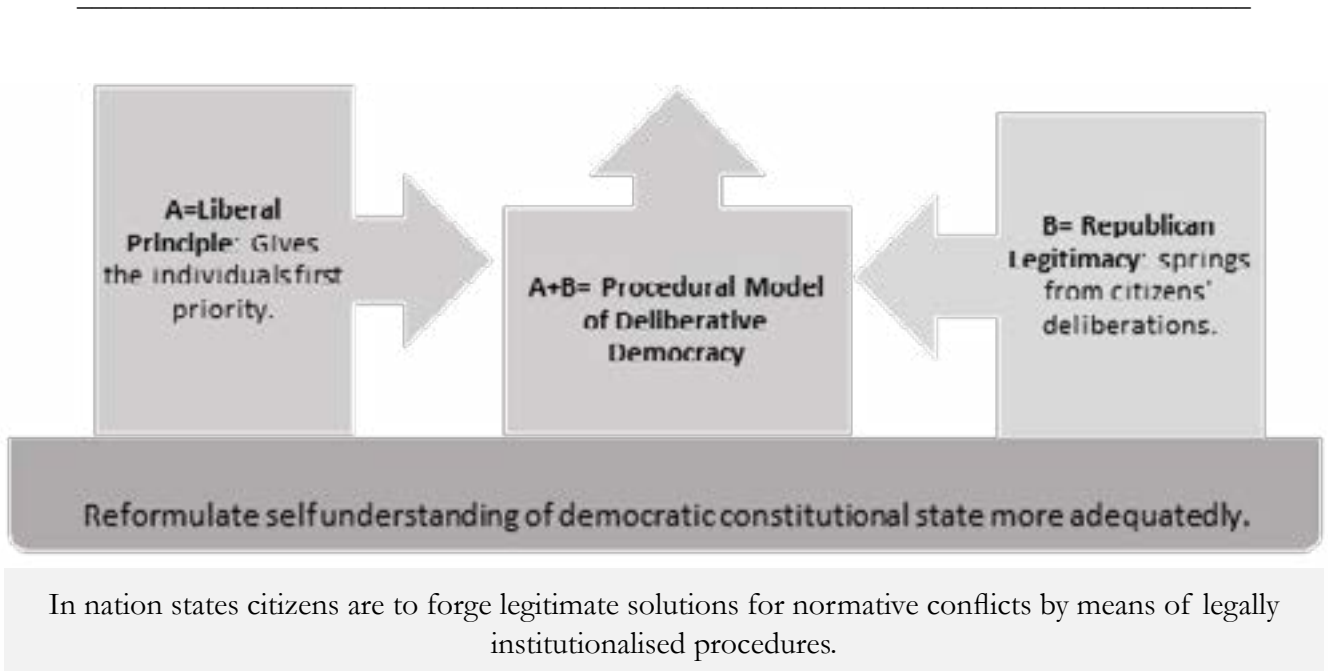
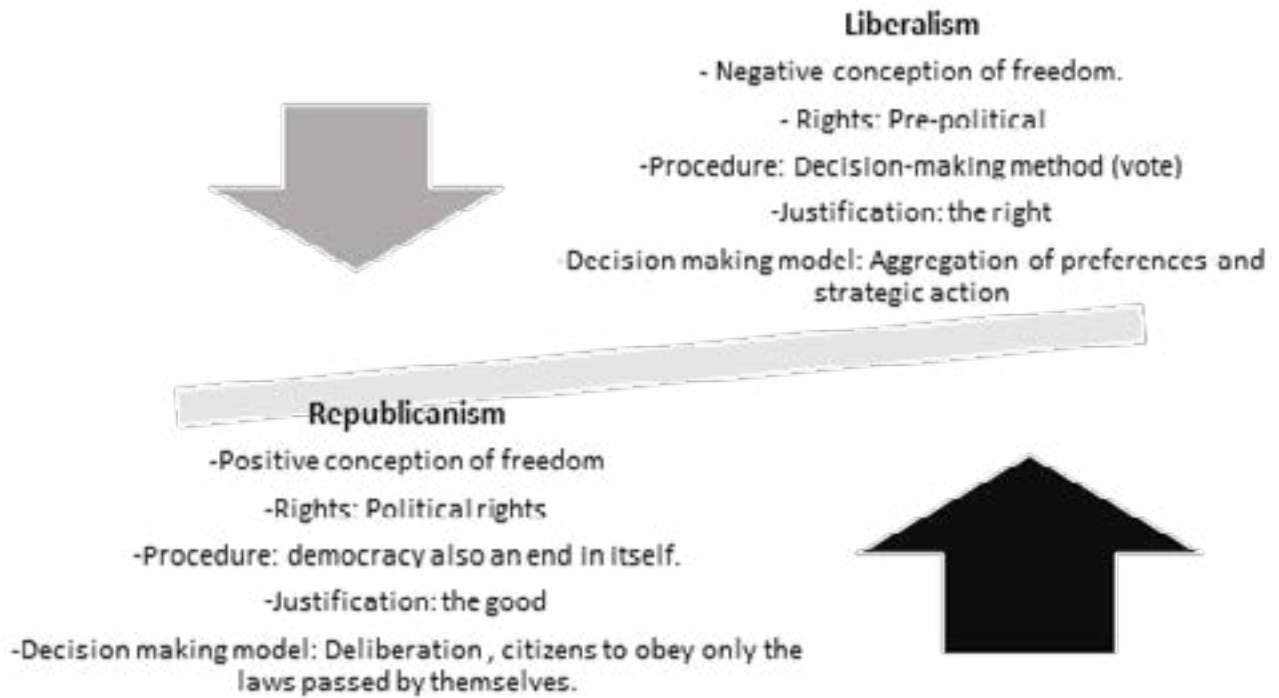
<sup>119</sup> <http://www.systemicpeace.org/polity/asia2.htm>

<sup>120</sup> <http://www.systemicpeace.org/polity/samerica2.htm>

<sup>121</sup> Joseph M. Bessette, "Deliberative Democracy: The Majority Principle in Republican Government," in *How Democratic Is the Constitution?*, eds. Robert A. Goldwin and William A. Schambra (Washington: American Enterprise Institute, 1980), pp. 102–116. View also Bessette (1994) *The Mild Voice of Reason: Deliberative Democracy and American National Government* (Chicago: University of Chicago Press, 1994).

<sup>122</sup> Antonio Florida (2013) Paper presented at the 7th ECPR General Conference Sciences Po, Bordeaux, 4 - 7 September 2013 <http://ecpr.eu/Filestore/PaperProposal/71d7f83c-3fe4-4b11-82a2-c151cd3769f4.pdf>

Diagram 1- Relation between Procedural Deliberative Politics, Liberalism and Republicanism



Schumpeter (1942) and Anthony Downs (1957) characterised the liberal model of democracy as a decision-making method, or a competitive elitism system in which political parties compete to obtain the right to govern. In this model citizens behave as passive consumers, with the political process being a fight between rival interests. The Liberal common will is the sum of everyone's will (or aggregated will). Legislators comply with voter's wishes aggregating citizen's preferences. But one of the main criticisms of the Liberal model is that the outcomes of voting can be distorted by strategic voting. The aggregation of preferences and strategic action in the Liberal model of democracy can raise concerns as to the soundness of the consequent decision making process because actors acting out of idiosyncratic self-interest will tend to generate an uncertain and unstable political order. It is highly possible that this atomistic model of democracy can only constitute a society in which individuals have no ethical bonds. Voting rule per se do not ensure a meaningful aggregation of private predilections. A Liberal model of democracy cannot therefore explain the emergence of common will.

The Republican model grounded on Jean Jacques Rousseau ideal of the general will also has its problems. In this case society supports a positive concept of freedom and society prospers on the account of virtuous citizens keen to engage with collective affairs. The aim of republican politics is to cultivate and educate citizens to participate in discussions about the common good. In this scenario, politics is a normative activity that creates obligations and social stability. Citizens' ability to agree on a project is fundamental in Republican politics. The Republican model has nonetheless a collectivist- holistic bias and disregards modern political decision making processes.

Eriksen and Weigard (2003: 119)<sup>123</sup> identified problems arising from Republican model failure to distinguish between political allegiance and commitment relevant in a social context

1. Republicans do not realise that the extra-parliamentary debate in the public sphere must be separated from institutionalised decision-making procedures within formal political bodies. The public sphere must be viewed as an arena outside the state that can shape opinions and control the authorities through free and open debate. But the Republican model of democracy fails to distinguish public sphere and state organs.
2. The Republican model also fails to acknowledge the procedural realities and the structural complexity of modern political systems. Differentiated forms of discussion that typify contemporary politics are given null weight to shape popular consensus. Political parties' competition are also not considered as circumstances for the realisation of the popular rule;
3. The model is not compatible with modern societies marked by diversity and pluralism. A pure Republican model is not easily applicable to political decision-making in multi-cultural societies this is because the model relates politics to deliberation and the common good. Yet in multicultural societies (pervaded by social complexity and conflicting interests) many standards for the good society will exist and those will tend to be ignored.
4. The Republican model does not correct the liberal atomistic understanding of society. Because modern societies are integrated around different conceptions of what is necessary according to different groups, cultures and local societies, many sub-cultures, minorities and dissidents would be in danger of being stifled by hegemonic values of the majority (Eriksen and Weigard, 2003:120).
5. The model is only suitable to realities where a normative community already exists and opinions on the good life are already shared.

Could deliberative democracy allied to new technologies facilitate the emergence of common will in Liberal regimes? Could deliberative democracy encourage a convergence of standards for the good society and sustain a coherent conception that could legally protect individuals' rights? What major solutions Habermas proposed to address democratic weaknesses?

### 3.3 Deliberation and the Public Sphere

In "Popular Sovereignty as Procedure", Habermas (1996)<sup>124</sup> contrasted (a) *communicatively generated* power to (b) *administratively employed* power as two kinds of power pervading the *public sphere* (Öffentlichkeit). Public sphere is here considered as an area in social life or a *discursive space* in which individuals gather to freely debate and identify societal problems. In the *political public* sphere these two contrary processes encounter and cut across each other: the communicative generation of legitimate power (a normative model), and the political-systemic acquisition of legitimacy (a process by which administrative power becomes reflexive). These two processes will interpenetrate, with one overshadowing the other. What interested Habermas was that the administrative system should translate all normative inputs into its own language. There is a need to explain how the administrative system is to be programmed through the policies and laws emerging from processes of public opinion- and will-formation. Normative reasons (of citizens) could achieve an indirect steering effect on the administrative power only to the extent that the political system restrained itself from steering the production of these reasons. Democratic procedures should be therefore designed to institutionalize the forms of communication necessary for a rational will-formation, always being submitted to critical evaluation.

Existing parliamentary bodies would need to be supplemented by institutions allowing affected people to exert a stronger pressure for legitimation on the executive and judicial branches. But one would need also to ensure the autonomy of the opinion and will-formation. In summary, parliamentary deliberations should not proceed according to ideologically *pre-given* assumptions but should take citizens' will into consideration.

From a Habermasian perspective there are differences and opportunities in the relations between formally

<sup>123</sup> Erik O. Eriksen and Jarle Weigård (2003) *Understanding Habermas: Communicating Action and Deliberative Democracy*. Continuum: London, New York.

<sup>124</sup> Jürgen Habermas, "Popular Sovereignty as Procedure," from *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy* (Cambridge, MA: MIT Press, 1996), 463–490. Reprinted with the permission of the author and The MIT Press.



structured political will-formation (e.g. general elections) and the surrounding environment of unstructured processes of opinion formation. Whereas electoral results lead to decisions, citizens' opinions remain informal due to a lack of decision making pressures. Democratic procedure lead to a rational will-formation only insofar as organized opinion-formation influence accountable decisions within government bodies. These decisions nonetheless may remain permeable to the free-floating values, issues, contributions, and arguments of a surrounding political communication that cannot be *organized* as a whole. Communicative power can become effective insofar as it will limit the implementation of administrative power. Yet, a broad and active participation would require a background political culture that is egalitarian, divested of all educational privileges, and thoroughly intellectual.

The new approach to *deliberative democracy* amongst political theorists exposed an emerging antagonism against rational-choice frameworks which provide the prevalent model for rational decision making. (Bohman & Rehg, 1997: xiii)

Lubenow (2012)<sup>125</sup> approached the transformations of the conception of politics in Habermas' writings arguing that in the early '90s, Habermas theories introduced important changes in the investigations on the public sphere and democracy, reshaping the relationship between *system* and *lifeworld* (*Lebenswelt*)- a world that subjects may experience together. Many theorists still questioned the basic assumptions of the Habermasian deliberative public sphere and democracy. In the next sections we engage with the major controversies involving the ideals of deliberative public sphere and democracy.

### 3.4 Deliberative democracy and the ideal of political justification

The deliberative conception of democracy is structured around an ideal of political justification (Cohen, 1997: 412). To justify the exercise of collective political power is to advance on the basis of a free public reasoning among equals. By requiring reasons acceptable to others, the deliberative view suggests an especially compelling picture of the possible relations among people within a democratic order" (Cohen, 1997:415).<sup>126</sup> This conception of democracy entails a normative ideal of political justification where citizen's reasons must be given equal concern and consideration for a decision to be reasonable. Such reasonable decisions mandate equality in two senses: *citizens* must be equal and their *reasons* must be given identical consideration. Citizens regard their basic institutions as legitimate insofar as they establish the framework for free public deliberation (Cohen, 1989).<sup>127</sup>

The formal conception of a *deliberative democracy* has in summary five main features (Cohen, 1989, 1997:72):

1. It is an ongoing and independent association, whose members expect it to continue into the indefinite future;
2. The members of the association share the view that the appropriate terms of association provide a framework for or are the results of their deliberation. For them, free deliberation among equals is the basis of legitimacy;
3. A deliberative democracy is a pluralistic association. While sharing a commitment to the deliberative resolution of problems of collective choice they also have divergent aims, and do not think that some particular set of preferences, convictions, or ideals is mandatory;
4. The members of a democratic association regard deliberative procedures as the source of *legitimacy*;
5. The members recognize one another as having deliberative capacities.

In the next section we will : (1) Investigate whether deliberative procedural mechanisms can contribute to protect opinion and will formation from the influences from unequal social economic conditions; (2) Consider the issues affecting the notion of *public reason* and (3) Explain whether Habermas' theory addressed effective deliberation or ideal deliberation processes. We structure our exposition according to pros and cons of the deliberative democracy ideal.

### 3.5 Pros of deliberative democracy: Habermas' solutions for democratic weaknesses

Discourse theory provided Habermas' model of deliberative politics with an action-theoretical basis in analogous ways to which a theory of rational-choice provided the liberal model of politics with an action-theoretical basis (Eriksen and Weigard, 2003: 122). Habermas relocated the crucial conditions of rationality to the social structure of

<sup>125</sup> Jorge Adriano Lube now (2012) Public Sphere and Deliberative Democracy in Jürgen Habermas: Theoretical Model and Critical Discourses, American Journal of Sociological Research 2012,2 (4):58-71 DOI: 1 0.5923/j.sociology.20120204

<sup>126</sup> Joshua Cohen "Procedure and Substance in Deliberative Democracy" pp.405-437 in Bohman, James and William Rehg (1997) Deliberative Democracy: Essays on Reason and Politics. MIT Press, Cambridge, Massachusetts, London.

<sup>127</sup> Joshua Cohen, "Deliberation and Democratic Legitimacy," from A. Hamlin and P. Pettit, eds., *The Good Polity* (Oxford: Blackwell, 1989), 17-34. Reprinted with the permission of the author and Blackwell Publishers.

Reproduced in Joshua Cohen, "Deliberation and Democratic Legitimacy" in Bohman, James and William Rehg 1997, *Deliberative Democracy: Essays on Reason and Politics*, page 66.

language use. Communicative action became dominated by an egalitarian and cooperative attitude (1984: 94)<sup>128</sup> which made it *rational* where rationality is associated with a cooperative form of the argument. In his perspective language served to legitimize relations of organized power but Habermas did not reduce language to a tool of domination. Communicative rationality in this case meant actors who are rational not only when they select the most efficient means to achieve their goals but also when they are gifted to justify their selections and support their actions against disapproval.

## 4. ARGUMENTS AGAINST DELIBERATIVE DEMOCRACY THEORY: CONCERNS WITH THE LOCUS OF RATIONALITY

### 4.1 Difficulties with the idea of public reason

John Rawls (1996)<sup>129</sup> approached a basic difficulty with the idea of *public reason*, one that made it seem paradoxical. The question was “why should citizens in discussing and voting on the most fundamental political questions honour the limits of public reason?” (Rawls, 1996, 1997: 96). The author aimed to dissolve this paradox by invoking the principle of liberal legitimacy as explained in *Political Liberalism* (PL) IV: 1.2–1.3. Rawls recalled that the legitimacy principle is connected with two special features of the political relationship among democratic citizens: First, it relates to a relationship of persons within the basic structure of the society. Second, in a democracy political power is the power of the public, that is, of free and equal citizens as a collective body.

Political liberalism proposed that people’s exercise of political power is justifiable only when it is exercised in accordance with a constitution. Rawls maintained that it is crucial for citizens to reach practical agreement in judgment about the constitutional essentials. (Rawls, 1996, 1997: 105) In this perspective, the limits of public reason are not, clearly, the limits of law or statute but the limits that people honour when they honour an ideal. The ideal of democratic citizens trying to conduct their political affairs on terms supported by public values that one might reasonably expect others to endorse, being ready to accept reasonable accommodations or alterations in one’s own view.

### 4.2 Challenges against the new locus of rationality

Giddens (1995), McNeeley (2003) and Kompridis (2006)<sup>130</sup> argued that whilst moving the locus of rationality from the autonomous subject to subjects in interaction, Habermas approached rationality as a property not of individuals per se, but mainly of structures of undistorted communication. Habermas’ procedural ethics of communicative rationality shaped a variant of liberal theories of justice which was therefore criticised on the account that the change of paradigm to linguistic intersubjectivity was accompanied “by a dramatic change in critical theory’s self-understanding ...[that] severely weakened the identity of critical theory and inadvertently initiated its premature dissolution” (Kompridis 2006:25) .

Giddens (1995), McNeeley, (2003), Kompridis (2006) also challenged Habermas ideals of reconciliation insofar the formal prerequisites of equality among argument participants engaged in communicative action would in fact disguise the reality of unequal social capital. McNeeley contrasted Habermas’ perspective with Michael Foucault’s notion of communication. Foucault’s theory would be far more defensible because it already embodied pre-existing power relationships. On the other hand, Habermas ideal of power-free communication<sup>131</sup> produced illusive consensus attained via rational argumentation. This illusive consensus could foreseeable legitimise social action that is detrimental of marginalized members in society.

Bohman (1997) added another element to a critique of deliberative democracy which would restrict its feasibility to a few nation states. How could this system promote reasoned agreement among free and equal citizens where level of inequalities is high and therefore undermines the democratic ideal? In some contexts citizen’s reasons would not be given equal concern and consideration and therefore decisions reached would not be reasonable. The equalities proposed in Habermas’ model might after all not be feasible in all cases. The very basis of legitimacy for free deliberation among equals could be challenged depending of the nation state under consideration - “how large can actual inequalities be before they undermine the democratic ideal?” (Bohman, 1997:321)<sup>132</sup>

<sup>128</sup> Habermas, J. (1984). *The Theory of Communicative Action, Vol. I: Reason and the Rationalization of Society*. London: Heinemann.

<sup>129</sup> John Rawls, “Introduction” and “The Public Use of Reason” from *Political Liberalism* (New York: Columbia University Press, 1993, 1996), xxxvii–xxxviii, xliii–xlvii, 212–254.

<sup>130</sup> Kompridis, Nikolas. *Critique and Disclosure: Critical Theory between Past and Future*. Cambridge, MA: MIT Press, 2006

<sup>131</sup> Ian McNeeley, *The Emancipation of Writing*, Berkeley: Univ. of California Press, 2003

<sup>132</sup> Bohman, James and William Rehg (1997) *Deliberative Democracy: Essays on Reason and Politics*. MIT Press, Cambridge, Massachusetts, London, p.321

### 4.3 The sort of Political Equality that Deliberative Democracy Requires

Knight and Johnson (1997) claimed that capitalists have a disproportionate effect on democratic policy making. Capitalists control institutional arrangements and the material resources that determine the ultimate success of policies. To address this issue democratic institutional arrangement would need to generate binding political decisions through processes that are open to participation and that, from the perspective of participants, outcomes are not known in advance because they depend on the actions of participants, not on their prior position or characteristics.

Knight and Johnson (1997) emphasized that:

1. Political equality would entail a guarantee of effective participation with *equality of capacity* being a central feature of the requirements of political equality.
2. Assessing the existence and extent of political equality would be more difficult than anticipated. This is because political equality presupposes effective participation, such assessment presumes that one can determine with some confidence the effectiveness of participants within deliberative arrangements. But in a deliberative scheme it may be impossible to determine in a straightforward way how the interests of particular individuals relate to the collective outcome.
3. A commitment to political equality will always involve potential trade-offs with other societal goals. In order to guarantee that each citizen will enjoy equal opportunity of political influence, society will need to take the steps to guarantee that each citizen has the capacity to effectively participate in the deliberative arena. This may entail some redistribution of power and relevant material resources as well as an acceptance of inequalities in the treatment of citizens by the state.

The *capability-based* notion of political equality in deliberation has enabled social scientists to broaden the scope of political rights and liberties beyond procedural opportunities. Freedom on this account amounts to the capability to live as one chooses. It includes the capability for effective *social* agency, the ability to participate in joint activities and achieve one's goals in them. Yet, stubborn inequalities of race, class, and gender reduce the social agency of certain groups in relation to the effectiveness of others in achieving their goals. Inequalities also reduce social freedom that is realized when one's reasons receive approval from others. In the lack of social freedom for all, cooperative arrangements end up promoting the goals and plans of those agents who are competent to convert their opportunities and information into effective action. (Bohman 1997:343)

In the next sections we expand on other criticism against deliberative democracy weaknesses.

### 4.4 Threats to autonomy: externality issues

Habermas theorised deliberative democracy as a form of political community (Elster, 1998: 222). Deliberative democracy requires that all who are governed by collective decisions must find the bases of those decisions acceptable, even when they disagree with the details of the decision. Notwithstanding, the ideal deliberative scheme pose two main threats to autonomy- the first is what Elster (1982) has called "adaptive preferences" the second is "accommodation of preferences". Adaptive preferences shift with changes in the circumstances of the agent without any deliberate contribution by the agent to that shift. This is true, for example, of the political preferences of instinctive centrists who move to the median position in the political spectrum. On the other hand, the phenomenon of "accommodation of preferences" means accommodation that is achieved by exercising on an economy of moral disagreement maximising agreement and minimising areas of disagreement.

Bohman (1998: 405) postured that even with the goal of fairness defined by substantive principles, there is no reason to assume that such process of accommodations of existing views and enlarging one's perspectives necessarily get people any closer to an impartial answer or that one among the well-considered and stable views in collective deliberation will be fair. One will still demonstrate why a particular view is fairer to take. Moreover, accommodation of preferences indicates the need for favourable conditions for the exercise of the deliberative capacities. When institutions for collective decision making are modelled on the ideal deliberative procedure the institutions themselves *must provide the framework for the formation of the will*. Institutions will determine whether there is equality, whether deliberation is free and reasoned, and whether there is autonomy.

Cohen alluded to other objections made against deliberative democracy, also protecting the concept in regarding its reliance on freedom of expression and its relevance:

1. The ideal of deliberative democracy is *sectarian* because it depends on a particular view of the good life—an ideal of active citizenship.

2. Self-government is an empty and *incoherent* ideal. Because the majority rule is so unstable, the actual decision of the majority will not be determined by underlying preferences themselves, since they do not constrain the outcome. (Cohen 1989,1997: 82).
3. Deliberative democracy may promote *injustice* as the ideal of democracy is not suited to the role of fundamental political ideal because it makes those liberties dependent on judgments of majorities and thus endorses the democratic legitimacy of decisions that restrict the basic liberties of individuals. Cohen noted that “the deliberative conception holds that free expression is required for *determining* what advances the common good, because what is good is fixed by public deliberation, and not prior to it. So the ideal of deliberative democracy is not hostile to free expression; it rather presupposes such freedom (Cohen, 1989, 1997:83-4).
4. Deliberative democracy is accused of *irrelevance* because modern political conditions do not presuppose direct democracy. Cohen viewed no merit in this claim that direct democracy would be the uniquely suitable way to institutionalize the ideal procedure because as soon as one rejects the idea that a direct democracy is the natural or necessary form of expression of the deliberative ideal, the straightforward argument for irrelevance will no longer work.

Cohen observed that at the heart of the institutionalization of the deliberative procedure is the existence of arenas in which citizens can propose issues for the political agenda and participate in debate about those issues. The existence of such arenas will be a public good, and ought to be supported with public money. Public provision will express the basic commitment of a democratic order to the resolution of political questions through free deliberation among equals. The problem is to figure out how arenas might be organized to encourage such deliberation.(Cohen 1989, 1997:85)

#### 4.5 Can political action be a means to a non-political end?

Elster (1986) asked whether in the perspective of Habermas’ political theory, political action would be primarily a means to non-political end by means of a consensus oriented discourse,<sup>133</sup> only secondarily, if at all, an end in itself. Elster proposed that one should only defend deliberative democracy if it presented clear advantages as a method of deciding political questions in deliberative contexts requiring citizens to overcome private self-interest and turn themselves to public interests of the “forum”. The aim should always be that of improving political decision making and achieving common ends. In Elster’s view the goal of politics should be *rational agreement* rather than *compromise*, and the decisive political act would be that of engaging in public debate with a view to the emergence of a consensus. To respond to issues in Habermas’ theory political scientists should not assume that one will in fact approach the good society by acting as if one had already arrived there. Habermas seemed to suggest that free and rational discussion is only possible in a society that has abolished political and economic domination. Yet, to Elster it was not obvious that abolition of politics could be brought about by rational argumentation. Even in the good society, the process of rational discussion could be fragile, and vulnerable to adaptive preferences, conformity, wishful thinking and the like. To ensure stability and robustness of a deliberative democracy there would be a need for structures—political institutions or constitutions—that could easily reintroduce an element of domination.

#### 4.6 The notion of an ideal deliberative procedure

Other set of critique against deliberative democracy can be found in John Rawls’s account of democratic politics. Cohen (1985) raised some doubts about whether their importance could be explained in terms of the notion of a fair system of social cooperation. Rawls proposed that a just society should obey three conditions:

-First, in a well-ordered democracy, political debate should be organized around alternative conceptions of the public good. So an ideal pluralist scheme, in which democratic politics consists of fair bargaining among groups each of which pursues its particular or sectional interest, is unsuited to a just society (Rawls 1971, pp. 360–361).

-Second, the ideal of democratic order have egalitarian implications that must be satisfied in ways that are manifest to citizens. In a just society political opportunities and powers should be independent of economic or social position. (Rawls 1971, pp. 225–226, 277–278; 1982, pp. 42–43).

-Third, democratic politics should be ordered in ways that provide a basis for self-respect, that encourage the development of a sense of political competence, and that contribute to the formation of a sense of justice; it should fix “the foundations for civic friendship and [shape] the ethos of political culture” (Rawls 1971, p. 234). When properly conducted, democratic politics would involve *public deliberation focused on the common good*, requiring some form of *manifest equality* among citizens.

<sup>133</sup> Jon Elster, “The Market and the Forum,” from J. Elster and A. Aarund, eds., *The Foundations of Social Choice Theory* (Cambridge: Cambridge University Press, 1986),103–132. Reprinted with the permission of the author and Cambridge University Press.

The three formal conditions of democratic politics in Rawls should be satisfied if constitutional arrangements were to ensure participation rights, guarantee a fair value to those rights, and plausibly produce legislation that encourages a fair distribution. Rawls suggested that those accepting the intuitive ideal of a fair system of cooperation should want political institutions themselves to conform to the requirement that terms of association be worked out under fair conditions. Yet critical views suggested that to express the ideal of fairness in deliberative democracy institutions one should not proceed by seeking to “mirror” ideal fairness in the fairness of political arrangements. Cohen (1989, 1997) proposed that collective decision making ought to be different from bargaining, contracting, and other market-type interactions. (Cohen, 1985, 1997: 72). One seeking to embody the ideal deliberative procedure in institutions may want to design institutions that give prevalence to political debate on the common good. This type of institution would be efficient in shaping the identity and interests of citizens in ways that would contribute to an attachment to the common good. These institutions would also provide the favourable conditions for the exercise of deliberative powers that are required for autonomy. In Cohen’s view, a central aim in the deliberative conception would be to specify the institutional preconditions for deliberative decision making.

#### 4.7 Epistemic dimension of deliberative authority

What divided democratic theorists on issues with deliberative democracy was whether democratic deliberation improved the outcomes by independent standards (its epistemic value), or at least whether this was any part of the account of democratic authority (Estlund, 1997: 177). Non-epistemic versions proposed that democratic deliberation did not improve the outcomes of deliberation because its legitimacy rested on the procedure’s impartiality among individuals’ convictions and arguments. On the other hand, epistemic versions proposed that democratic deliberation improved the outcomes of deliberation.

A summary of non-epistemic conceptions of democracy in contrast to epistemic theories of democratic legitimacy could be helpful to explain the Estlund’s support for epistemic proceduralism as the basis for democratic decision making legitimacy, as follows: (1) **Fair Proceduralism**: claims that outcomes are fair in a procedural but not in a substantive sense; (2) **Fair Deliberative Proceduralism** makes no claims about the epistemic value of democratic deliberation, but it insists that citizens ought to have an equal or at least fair chance to enter their arguments and reasons into the discussion prior to voting; (3) *Rational Deliberative Proceduralism*: insists that the only thing to be said for the outcomes is that they were produced by a reason-recognizing procedure; no further claim has to be made about whether the outcomes tend to meet any independent standard of correctness. The outcomes are rational only in a procedural sense, not in any more substantive sense; (4) **Epistemic Proceduralism**: refers to procedural impartiality among individual’s opinions and generates more legitimacy out of a given level of the procedure’s epistemic value. Unlike correctness theories it allows that there can be legitimacy without correctness. The epistemic needs of epistemic proceduralism cannot be met without the voters having a certain decent level of competence; (5) **Correctness theory**: holds that political decisions are legitimate only if they are correct by appropriate procedure-independent standards. The authority of the public view takes the place of the authority of the general will. If the general will is replaced then political obedience will no longer be obedience to oneself, and political society cannot be reconciled with freedom. (Estlund (1997: 198)

Based on the contrast of epistemic theories, *epistemic proceduralism* would meet several of the criteria for accounts of democratic legitimacy. First, it is procedurally fair. Second, it can be held to perform better than a random selection from the alternatives in a way that is acceptable to all reasonable citizens. Epistemic proceduralism requires obedience, not any surrender of moral judgment. In this way a conception of *public view* will tie well with epistemic proceduralism since it signals the application of cognitive intelligence to moral questions that are collectively faced.

#### 4.8 Practical resolution of disputes

Going back to a conceptualisations of reason, justification and consensus Gauss (1997)<sup>134</sup> explained why democracy can’t contain all three ideals. The author highlighted three points:

1. Deliberation is *reasoned* in that the parties to it are required to state their reasons for advancing proposals, supporting or criticizing them. They give reasons with the expectation that those reasons (and not, for example, power) will settle the fate of their proposal. (Cohen, 1989:22)<sup>135</sup>
2. According to *the Ideal of public justification*, a policy or principle is justified only if it can, in some way, be embraced by all members of the public.

<sup>134</sup> Gauss Reason, “Justification, and Consensus: Why Democracy Can’t Have It All” in *Deliberative democracy : essays on reason and politics* / edited by James Bohman and William Rehg, pp.205-242

<sup>135</sup> Joshua Cohen, “Deliberation and Democratic Legitimacy” in Alan Hamlin and Philip Pettit (eds.) *The Good Polity: Normative Analysis of the State* (Oxford: Blackwell, 1989): 17–34, 22.

3. Together, the ideals of *reason* and *public justification* would produce what Gaus (1997) called the *Regulative Ideal of Real Political Consensus*. But complete actual consensus is not a reasonable aim (even under ideal conditions). Posterman (1995:359) proposed that a “public discussion must remain open until common conviction is reached.”<sup>136</sup>

Far from leading citizens toward the regulative Ideal of real political consensus, the ideals of reason and public justification could rather drive citizens away from it. Therefore common conviction should not be a regulative ideal of political discourse aimed at sincere public justification. Prominent attempts to unite the Ideals of reason and public justification with the Regulative Ideal of Real Political Consensus should fail to insulate politics from broader disagreements. In this light deliberative democracy would have failed to show how actual political consensus could arise in a pluralistic society.

#### 4.9 Key elements in the deliberative debate

Based on the previous discussions here expressed, even if existing procedures and practices for decision making were considered to be broadly fair and democratic, they might fall short from being deliberative. Policies might not promote such agreement, offer enough opportunities for public participation, or the indispensable access of citizens to significant public arenas. According to early explorations of the deliberative debate (Bohman and Rehg, 1997: xviii) an entirely developed version of Habermas’ deliberative ideal would need to satisfy at least four requisites:

- First, it would have to specify a *goal* for deliberative decision making: should this goal be consensus, or something weaker such as cooperation or compromise?
- Second, it would have to say more about the *process* of deliberation, involving public discussion, formal institutions and various methods of decision making.
- Third, it would have to specify certain *conditions* necessary for deliberation to be democratic, and these are usually discussed broadly as freedom and equality of citizens.
- Fourth, the conditions of deliberation must be *shown to apply*, even if only approximately, to current social conditions, including increasing cultural pluralism and social complexity.

As discussed, the critique against deliberative democracy is vast and difficult to deal with but it also provides a program of work for social scientists and technologically minded activists aiming to transform scenarios of indifference to public views. The main obstacle in need of attention are summarised in Table 2.

**Table 2- Pros and Cons of Deliberative Democracy theory**

<i>Deliberative Democracy Pros and Cons</i>	<b>Pros</b>	<b>Cons</b>	<b>Solutions</b>
<b>Autonomy</b>	Deliberative democracy institutions will provide the favourable conditions for the exercise of deliberative powers that are required for autonomy.	Deliberative democracy poses threats to autonomy (Elster 1982 and Cohen (1989, 1997: 78): (1)“adaptive preferences” an (2) the phenomenon of accommodation of preferences.	Institutions must be designed to determine whether there is equality, whether deliberation is free and reasoned, and whether there is autonomy.
<b>Conditions of rationality.</b>	Locus of rationality is the interaction between subjects who adopt rational egalitarian and cooperative attitude.	Locus of rationality is rather on autonomous subjects. Ideals of reconciliation are not possible. Deliberative democracy encourages sectarianism- a particular view of good life and ideal of active citizenship	Validity claim about democratic consensus must rest on both consensus in the public sphere and the rationality of autonomous individuals.

<sup>136</sup> Gerald J. Posterman(1995). “Public Practical Reason: Political Practice” in Ian Shapiro and Judith Wagner DeCrew (eds.) *Nomos XXXVII: Theory and Practice* (New York: New York University Press, 1995): 345–385, 359.

<b>Consensus</b>	Deliberative democracy takes into account differentiated forms of discussion that typify contemporary politics and should have an impact on popular consensus. The goal of politics should be <i>rational agreement</i> .	Habermas ideal of power-free communication produced illusive consensus attained via rational argumentation. This illusive consensus could foreseeable legitimise social action that is detrimental of marginalized members in society. Consensus is not always desirable or likely in pluralistic political settings. Complete actual <i>consensus</i> is not a reasonable aim.	Political parties' competitions are not the only circumstances for the realisation of the popular rule. Deliberative democracy should institutionalise participative arenas that reflect the increasing complexity of how people organize themselves to capture citizens' evolving expectations of government.
<b>Delegation of power and institutionalisation of deliberative democracy</b>	Citizens – govern themselves within limits rather than delegate their power and responsibility to representatives.	Some delegation of power is required in a type of rule such as representative government.	At the heart of the institutionalization of the deliberative procedure must be arenas in which citizens can propose issues for the political agenda and participate in debate about those issues. Such arenas ought to be supported with public money.
<b>Domination</b>	Stable deliberative democracy requires the end of elements of domination. This will allow a process of process of rational discussion.	To ensure stability and robustness of a deliberative democracy there would be a need for structures—political institutions or constitutions—that could easily reintroduce an element of domination	One must review the legal framework which governs public participation. These laws can suppress innovation and discourage public officials and civil servants from reaching out to citizens to engage in rational discussion.
<b>Equality</b>	Requirements of political equality are given in the social structure of language and free public reasoning.	-There will always be an unequal social capital disguised behind the formal prerequisites of equality among participants engaged in communicative action. -Capitalists have a disproportionate effect on democratic policy making. -Assessing the extent of political equality is difficult because political equality presupposes effective participation. But one cannot determine how the interests of particular individuals relate to the collective outcome.	Equality of capacity would be a central feature of the requirements of political equality. The development of public capacities could provide the primary measure of effective political freedom. Equality of capacity should be a central feature of the requirements of political equality.
<b>Institutional design of Deliberative Democracy</b>	<i>Discourse democracy</i> strongly emphasises conflict resolution via institutions and forums of civil society where equal citizens can discuss political issues as free individuals. The public sphere must be viewed as an arena outside the state that can shape opinions and control the authorities through free and open debate.	One seeking to embody the ideal deliberative procedure in institutions may want to design institutions that give prevalence to political debate on the common good. This type of institution would be efficient in shaping the identity and interests of citizens in ways that would contribute to an attachment to the common good.	Design institutions that give prevalence to political debate on the common good. This type of institution will be efficient in shaping the identity and interests of citizens in ways that can contribute to an attachment to the common good. Existing parliamentary bodies need to be supplemented by institutions allowing people to exert a stronger pressure for legitimation on the executive and judicial branches.

<b>Justice</b>	Habermas' procedural ethics of communicative rationality shapes a variant of liberal theories of justice. Justice and resolutions of conflict must be contained in present, via dialogue and collective will formation.	Habermas' notion of justice moved justice to a paradigm of linguistic intersubjectivity. Deliberative democracy liberties are dependent on judgments of majorities. It endorses the democratic legitimacy of decisions that restrict the basic liberties of individuals and therefore restrict justice in a liberal sense.	The deliberative model of democracy is to be designed to help neutralize economic, social, cultural, cognitive disparities, and promote a satisfactory result of equality and justice. <i>Epistemic proceduralism</i> can offer legitimate results in deliberative exercise. A certain level of competence is essential.
<b>Politics</b>	For Habermas political action is primarily a means to a non-political end, only secondarily, if at all, an end in itself.	Habermas seemed to suggest that free and rational discussion about politics is only possible in a society that has abolished political and economic domination yet the abolition of politics cannot be brought about by rational argumentation.	One should defend deliberative democracy if it presents clear advantages as a method of deciding political questions in deliberative contexts requiring citizens to overcome private self-interest and turn themselves to public interests of the "forum".
<b>Responsiveness and relevance</b>	Deliberative democracy is a vision that can respond to and change with the changing world.	Modern political conditions do not presuppose direct democracy methods so deliberative democracy can be accused of irrelevance.	One must not view claim that direct democracy is the uniquely suitable way to institutionalize the ideal procedure.

To conclude this unit on definitions and disputes around deliberative democracy, we can say that despite of the controversial nature of Habermas' theory we will still adopt a hopeful view on the matter. We provisionally accept Habermas' propositions for the sake of our inquest into how technical innovations can advance responsive deliberation that reflects public views on key policy areas. So we accept that: (a) public deliberation can improve the quality of decisions; (b) deliberation makes it more likely for outcomes to be rational, well-justified, true, and fair; and (c) deliberative democracy can reconstruct the relationship between law and democracy.

In the next section we progress to investigate what operationalisations of deliberative democracy are feasible and defensible and how civil society is influencing politics in newly institutionalised ways that are already reinforcing democracy.

## 5. ONLINE TOOLS, EXPERT SYSTEMS, OPEN-SOURCE GOVERNANCE, DELIBERATIVE CORPORATION AND THEIR APPLICATION IN DELIBERATION

Governments around the world have been using online deliberative democracy tools to encourage citizens to take shared ownership of an issue and to respond to short-term needs, and crises. Examples can be found in Geraldton-Greenough, a city in Australia where twenty-one small action teams used "Wikki" planning CivicEvolution<sup>137</sup> to work on ideas that have emerged from "2029 and Beyond," an initiative that involved 4,000 residents in planning for the future of this city. The CivicEvolution platform guided participants through a process of recruiting collaborators, brainstorming solutions, discussing pros and cons, identifying resources, and planning for action.

It is not clear whether these new actions steered by the local and central governments are improving the quality of political decisions around the world. In this section we articulate the above question with a more general one: Is there evidence that new technologies can help citizens govern themselves? To what extent have new technologies helped citizens to overcome private self-interest and turn to public interests of the "forum"?

### 5.1 Open source-governance

*Open-source governance* advocates the application of the philosophies of the open-source<sup>138</sup> and *open-content* movements

<sup>137</sup> CivicEvolution online tool: [www.civicevolution.org](http://www.civicevolution.org)

<sup>138</sup> St. Laurent, Andrew M. (2008). *Understanding Open Source and Free Software Licensing*. O'Reilly Media. p. 4. ISBN 9780596553951. See also Verts, William T. (2008-01-13). "Open source software". *World Book Online Reference Center*. Archived from the original on January 1, 2011.



(coined by David Wiley)<sup>139</sup> to democratic principles. These models were designed to enable any interested citizen to add to the creation of policy, as with a website document which allows collaborative modification of its content directly from the web browser. This system potentially supports legislation to be democratically open to the general citizenry, employing their collective wisdom to benefit the decision-making process.<sup>140</sup>

There is no one dominant theory of how people might author legislation with the open-source governance approach. One example of ongoing initiative is *metagovernment* – “government of, by and for the people”<sup>141</sup> with a variety of active projects.<sup>142</sup> Some of metagovernment’s most active recorded projects are:

### *Airesis*

\* [<https://airesis.eu> **Airesis**] — Airesis is a free software platform built by a team of Italian developers to enable communities and groups to organise themselves in a productive manner according to the principles of direct democracy. This global social platform for participatory democracy is available in 9 languages and 11 country localizations. Airesis uses a Schulze voting algorithm<sup>143</sup> for multiple solutions. Airesis was developed in responsive web design to provide optimal access by mobile devices.<sup>144</sup>

### *DemocracyOs*

\* [[DemocracyOS]] Voting platform: DemocracyOS is an online space for deliberation and voting on political proposals. It is a platform for a more open and participatory government. The software aims to stimulate better arguments and come to better rulings, as peers. DemocracyOS was created in 2012 by group of activists, entrepreneurs, students and hackers in the city of Buenos Aires. The first initiative of DemocracyOS activists was to create an open source, free software<sup>145</sup> with an easy user experience for citizens to get informed, debate and vote on every single bill presented in Congress. DemocracyOS evolved to become one of the most used platforms for collaborative decision-making and was translated into 15 languages. “It was used in Tunisia to debate its national constitution; by the Federal Government of Mexico to develop its open government policy; by the youngest parliamentarian in Kenya to consult his constituency or the Congress of Buenos Aires becoming the first experience on digital democracy in the American continent”<sup>146</sup>

Other examples of open source *metagovernment* tools are:

### *Liquid Democracy*

\* [<https://liqd.net/>] — The Liquid Democracy Association works on innovative ideas and projects for democratic participation. Their mission is to promote the advantages of online participation in all kinds of contexts, from international organisations to small local initiatives. This is a non-party, non-profit association based in Berlin. Since 2009, they have been working on innovative concepts and methods for citizen participation. The key element of their work is the development of Adhocracy, a free software which serves as a digital participation tool. It offers various functions for the different needs of our users.

### *Votorola*

\* [<http://reluk.ca/project/votorola/home.html>] — Votorola is a software for building consensus and reaching decisions on local, national and global levels. This is an experimental technology for the public guidance of electoral systems, executive offices, legislatures, and other decision systems. This software combines the devices of recombinant text, transitive voting, and vote pipes to build a maximum of personal freedom into its facilities. The main facilities are tree-form<sup>147</sup> decision guideways.

Votorola claims to expose the hidden complexity of political decision making to the scrutiny of rational discourse.

The way in which the internet encourages user activity could be a metaphor for reawakening a public appetite

<sup>139</sup> Wiley, David (1998). “Open Content”. *OpenContent.org*. Archived from the original on 1999-01-28. Retrieved 2016-03-21.

<sup>140</sup> Rushkoff, Douglas (2003) Open-source democracy: how online communication is changing offline politics, y Demos.London, pp.56

<sup>141</sup> **Meta government** [http://www.metagovernment.org/w/index.php5?title=Talk:Main\\_Page&action=edit](http://www.metagovernment.org/w/index.php5?title=Talk:Main_Page&action=edit)

<sup>142</sup> Metagovernment active projects: [http://www.metagovernment.org/w/index.php5?title=Active\\_projects&action=edit](http://www.metagovernment.org/w/index.php5?title=Active_projects&action=edit)

<sup>143</sup> The **Schulze method** is a voting system developed in 1997 by Markus Schulze that selects a single winner using votes that express preferences. The method can be used to create a sorted list of winners.

<sup>144</sup> **The Social Network for E-Democracy** <https://airesis.eu/edemocracy>

<sup>145</sup> <http://docs.democracynos.org/>

<sup>146</sup> View <http://democracynos.org/>

<sup>147</sup> For in depth information view “Steering the future diagram”: <http://reluk.ca/project/votorola/home.html>

for civic engagement. Douglas Rushkoff (2003) sustained that policy makers should keep in mind that presently equality cannot be served by demanding a ‘one-size-fits-all’ or top heavy approach. Governments will need to create democratic frameworks to support the sharing of decision-making and the development of a pluralistic approach and open source government institutions could become a ‘laboratory’ of policy-making, altering perceptions of the constituency of interest at every new question.

## 5.2 Online tools for deliberation

Matt Leighninger, Executive Director of the Deliberative Democracy Consortium (IBM-US) recognised that in managing 21st-century citizen engagement, public managers and policy makers are in some cases following important advise (1) governments are developing a long-term plan for public engagement in the issue area in which they are operating and (2) governments are responding to short-term needs, crises, and opportunities using online tactical tools that fit different scenarios.<sup>148</sup> In

“Using Online Tools to Engage – and be Engaged by –The Public” Leighninger’s referred to online tools that have been helpful in different political circumstances in the US, Australia, UK and elsewhere as a response to five classical scenarios in policy making:

## 5.3 Scenarios and tools

### *Aggregation tools*

In a scenario where Government representatives want to know the immediate citizen reaction to a particular, well-known issue or decision), the main consideration for governments to make is whether to use a demographically representative sample of public opinion, or obtain a general sense of what the most active and interested citizens think. *Survey tools* are used to provide a sample of public opinion. Aggregation online tools are nonetheless likely to reveal the terms and ideas people are already using to describe an issue or problem. Aggregation tools permit the user to listen in on existing online discussions of public issues rather than try to bring citizens to a new online space.

### *Large-scale deliberation online*

In a scenario where Government is in the midst of a high-profile situation with different sets of people who do not agree about what should be done, it is very difficult to overcome polarization among different segments of the population. Policy makers may need to bring those people together in a structured environment. When citizens are able to consider different arguments or policy options, they usually can find a substantial degree of common ground. The most adequate tactic in this case is *large-scale deliberation online* tools<sup>149</sup> which allow citizens to learn more about the issues, communicate with one another across divisions, wrestle with policy options, and find common ground on a particular decision, issue, or plan. Example of large scale deliberation using online tools took place in Ontario where the North West Local Health Integration Network (LHIN) worked with Ascentum to organize “Share Your Story, Shape Your Care,” an engagement initiative that received the International Association for Public Participation (IAP2) inaugural Innovation of the Year Award for 2009. Ascentum built a suite of online and in-person tools to involve local patients, health care workers, and stakeholders. These included an online deliberative Choicebook,<sup>TM</sup> a stories-and ideas-sharing platform, and a creative community Conversation Guide.

### *Online crowdsourcing tools*

In scenario where government representatives need new ideas, and more information, from citizens to help make government more effective or efficient one requires a tactics designed to gather and rank ideas and solutions for generating concepts. *Online crowdsourcing* allows participants to propose and then vote on ideas or solutions. The German BürgerForum (Citizens’ Forum) 2011 was an example of successful crowdsourcing. . The German BürgerForum was designed to “promote and strengthen social cohesion and equal opportunities in an increasingly diverse society.”<sup>150</sup> Over 10,000 citizens, selected randomly from 25 German cities and towns, took part in the project.

*Online crowdsourcing* is perhaps the best-known online engagement technique which taps into the skills and knowledge of people outside government. Policy makers and civil servants ask people for ideas and solutions, then bringing even

<sup>148</sup> Five main scenarios can be found in Leighninger, Matt (2013) Making Public Participation Legal. Compiled by the Working Group on Legal Frameworks for Public Participation October, 2013, pages 10-15 [http://www.deliberative-democracy.net/index.php?option=com\\_docman&task=cat\\_view&gid=45&Itemid=74](http://www.deliberative-democracy.net/index.php?option=com_docman&task=cat_view&gid=45&Itemid=74)

<sup>149</sup> Examples of large-scale deliberation online tools Ascentum Choicebook,<sup>TM</sup>: [www.ascentum.ca](http://www.ascentum.ca); DialogueApp: [www.dialogue-app.com](http://www.dialogue-app.com); Zilino: [www.zilino.com](http://www.zilino.com) Microsoft TownHall : [www.microsofttownhall.com](http://www.microsofttownhall.com) ; IBM Jam: <http://www.ibm.com/ibm/jam/>

<sup>150</sup> Leighninger, Matt (2013) Making Public Participation Legal. Compiled by the Working Group on Legal Frameworks for Public Participation October, 2013, page 21 [http://www.deliberative-democracy.net/index.php?option=com\\_docman&task=cat\\_view&gid=45&Itemid=74](http://www.deliberative-democracy.net/index.php?option=com_docman&task=cat_view&gid=45&Itemid=74)

more citizen skills and knowledge into the mix when asking the “crowd” to rank the ideas that emerged in a first consultation. Scenarios where government representatives need new ideas, and more information, from citizens to help make government more effective or efficient would also require a tactics to work with citizens to identify and prioritize problems that government can fix. This can be done through government implementation of Instant citizen reporting of public problems using mobile phones and Geographic Information Systems (GIS) mapping.

*Wiki planning, closed online workspaces and participatory budgeting.*

In scenarios where governments aim to encourage citizens to take shared ownership of an issue and participate in addressing it. Relevant tactics can be:

- (a). The use of “Wikis”; (b). Shared Work Space; (c). Large-Scale Deliberation and (d). Identify Priorities.
- Governments may use “Wikis”<sup>151</sup> to develop documents collaboratively. Wikis are websites that allows a group of people to write and edit any number of interlinked web pages using a web browser. Governments are already adopting such online tool in large-scale public engagement projects like the City of San José used Wikiplanning™ to incorporate the input of thousands of residents and employees into the 2040 Envision San José planning process.<sup>152</sup>
  - Governments may create shared work space for citizens. Closed online “work spaces” can make it easier for a group of people to communicate, plan, write, and make decisions. Using this tactic is more appropriate when: Small groups of citizens, or a combination of citizens and public employees, are working together on an idea or a plan.
  - Governments may opt for using online large-scale deliberation tools<sup>153</sup> in situations in which people confront a high- profile situation but do not agree about what should be done. Online large-scale deliberation tools are known to encourage citizens to take shared ownership of an issue and participate in addressing it. The same tactics help educate and inform citizens about a particular issue or decision;
  - Governments may identify policy priorities by means of online tools<sup>154</sup> in situations in which there is a need give citizens a more informed, realistic sense of the trade-offs involved in budget decisions.

*Mapping, Serious gaming tools, online tools to identify problems and priorities.*

In scenarios where a government is seeking to educate citizens about a particular issue or decision the relevant tactics are those which can facilitate engagement. Online engagement theory proposes that people learn better in interactive environments where they can envision how different proposals will affect their lives, and where they can test the strengths and weaknesses of different ideas. Informing citizens tends to make them more aware of the pressures and compromises facing public managers. The tactics associated to the scenario above mentioned are:

- a) Large-Scale Deliberation
- b) *Serious Gaming tactics*<sup>155</sup> when governments decide to use online games to give citizens a chance to test their knowledge or come up with their own solutions to public problems. In 2010, over 1,000 people played the “Thousand Visions Game,” created by the city of Spokane, Washington, to help involve residents in transportation budgeting and planning for the region. Participants chose funding options, selected projects, and balanced the budget to produce their own regional vision. The Maryland Budget Game, a joint project of the Maryland Budget and Tax Policy Institute and the University of Baltimore, allowed users to develop their own proposals for balancing the state budget.
- c) *Online tools to identify problems*<sup>156</sup>: By implementing this online tactic governments empower citizens to transmit precise data quickly and easily. The same system can also allow residents to prioritize problems and also to

<sup>151</sup> [www.wikispaces.com](http://www.wikispaces.com) and [www.wikiplanning.org](http://www.wikiplanning.org)

<sup>152</sup> The Envision San José Wikiplanning site attracted almost 4,500 online participants in under four months, with online participants posting over 100 images, completing 2,784 surveys, and leaving 240 pages of posted comments. [http://www.businessofgovernment.org/sites/default/files/Using%20Online%20Tools%20to%20Engage%20The%20Public\\_0.pdf](http://www.businessofgovernment.org/sites/default/files/Using%20Online%20Tools%20to%20Engage%20The%20Public_0.pdf)

<sup>153</sup> Examples of large scale online deliberation tools: Ascentum Choicebook: [www.ascentum.ca](http://www.ascentum.ca); DialogueApp: [www.dialogue-app.com](http://www.dialogue-app.com); Zilino: [www.zilino.com](http://www.zilino.com); Microsoft TownHall: [www.microsofttownhall.com](http://www.microsofttownhall.com); IBM MiniJam and InnovationJam: [www.ibm.com/ibm/jam/](http://www.ibm.com/ibm/jam/)

<sup>154</sup> Examples of online tools to help citizens to balance budget and revenue options Budget Simulator: [budgetsimulator.com](http://budgetsimulator.com); Budget Allocator: [www.budgetallocator.com](http://www.budgetallocator.com); Demos-Budget: [www.demos-budget.eu](http://www.demos-budget.eu)

<sup>155</sup> Serious gaming online tools: Second Life: [www.SecondLife.com](http://www.SecondLife.com) ; Zynga: [www.zynga.com](http://www.zynga.com) and Persuasive Games: [www.persuasivegames.com](http://www.persuasivegames.com).

<sup>156</sup> Examples of online tools to identify and prioritise problems ClickFix: [www.seeclixfix.com](http://www.seeclixfix.com); OpenStreetMap: [www.openstreetmap.org](http://www.openstreetmap.org); OpenLayers: <http://openlayers.org>; WikiMapia: <http://wikimapia.org>; Twitter: [www.twitter.com](http://www.twitter.com).

organize citizen-driven efforts to fix some problems. However, this tactics doesn't address limits of government resources and may create unrealistic expectations and increased frustration.

- d) *Mapping tactics*:<sup>157</sup> This strategy (mentioned above) amounts to instant citizen reporting of public problems using increasingly sophisticated cell phones and Geographic Information Systems (GIS) mapping. It is used by governments when harnessing the power of citizens to be intelligent sensors of the world around them, giving them the chance to report problems—potholes, water leaks, broken streetlights, graffiti, extensive litter—that public employees need to know about. Twitter Vote Report is an example of mapping at work in the US during the 2008 elections. The Twitter Vote Report mobilized citizens into a network of poll watchers who could share information and monitor election procedures.
- e) *Identify Priorities tactics*: This strategy (mentioned above) consists of making available public budget websites that allow participants to get a bird's-eye view of a budget, and let them see how different choices affect the bottom line. The Participatory Budgeting Initiative in Chicago's 49th Ward gave residents the change to allocate \$1.3 million of the ward's capital budget. Citizens gathered in face-to-face meetings and an online forum to discuss budget options and vote projects into implementation. In Brazil, a system of "Digital Participatory Budgeting" (e-PB) was used parallel to its face-to-face participatory budgeting (PB) process in the city of Belo Horizonte, 2006. On this occasion citizens were able to make spending decisions for a fund of US\$11 million. Online voters could choose among four public works projects for each of the nine districts of the city.

The five main scenarios and correspondent online tactics presented by Leighninger (2013) raised the question as to how easily these tasks and tools could be scaled up to engage thousands or even millions of people. This problem seem to be at the root of expert systems that are not meant to reproduce direct democracy by involving all citizens in political decision making. As it will be clear in the next section, expert systems are designed to emulate decision-making ability of a human expert.

#### 5.4 Expert systems and discussion forum

*Expert systems*<sup>158</sup> are computer systems that imitate the decision-making aptitude of a human expert and were created in the 1970s. These systems proliferated in the 1980s, becoming the first successful forms of artificial intelligence software. The first Expert systems created in the US where IF-THEN rule-based systems. From mid 2000s, the application of experts systems was adapted to support political decision making. Evidence of an IT platform for political scientists and politicians alike can be found in Atkinson, Bench-Capon, and McBurne (2006)<sup>159</sup> who brought expert systems into politics. The authors forged a structure for persuasive argument that was intended to ease these communication problems between governments and users, promoting informed debate.

#### 5.5 Discussion forum to justify a governmental action

Atkinson, Bench-Capon, and McBurney (2006) implemented the PARMENIDES (Persuasive Argument in Democracies) discussion forum used in the UK (University of Liverpool) as the means to solicit public opinion on reasons to invade Iraq. This forum presented users with a position justifying a particular action, giving them "the opportunity to critique that position by disputing various points". The authors started from an assumption that one party (e.g. the Government) proposes a course of action, and presents a justification for this proposal to the other party, who will probably respond. The structure for the interaction between the two parties needs to involve a clear statement of the justification for an action, which makes explicit all the components of the reasoning underlying the argument. It provides an opportunity for citizens to challenge any of the components and any of the inferential links between argument components and an opportunity for the proponent to respond to these challenges.

The idea in the PARMENIDES project was to provide a simple web based interface which would guide the user in a structured fashion through a justification of an action giving opportunities to disagree at selected points. The users' responses would be written to a database so that information of what points of the argument were more strongly supported than others could be gathered. In PARMENIDES the authors focused on negative criticism of the argument but they also created a similar interface to allow the construction of positive alternative arguments.

<sup>157</sup> Examples of Mapping online tools are: **GoogleMaps**: [www.googlemaps.com](http://www.googlemaps.com); **Virtual Earth**: <http://virtualearth.com>; **WorldKit**: <http://worldkit.org/>; **CommunityViz**: [www.communityviz.com](http://www.communityviz.com); **MetroQuest**: [www.metroquest.com](http://www.metroquest.com)

<sup>158</sup> Jackson, Peter (1998), *Introduction To Expert Systems (3 ed.)*, Addison Wesley, p. 2, ISBN 978-0-201-87686-4

<sup>159</sup> Atkinson, K.M. , Bench-Capon, T.J.M. and McBurney, P. . *PARMENIDES: facilitating deliberation in democracies*. (2006) Artificial Intelligence and Law, 14 (4). pp. 261-275. ISSN 0924-8463

With the exemplified forum<sup>160</sup> the aim was to present users with a position justifying a particular action and give them the opportunity to make a number of attacks on that position. In practical terms, the interface consisted of an introductory screen, which gathered information about the user and provided some explanation about the purpose and use of the system. The user was then presented with a structured statement of the position to be considered - "Is Invasion of Iraq Justified?" At this point users could simply accept the argument in which case they were sent to a farewell screen. Otherwise, the user was then lead through a series of pages where they were given the opportunity to agree or disagree with the following elements, which comprised their position on:

- the social values of the position (Disagree that the desired value is worth promoting ),
- the promotion of the values by the desired consequences of the proposed action

(Disagree that these features promote the desired value). Here respondents also had the opportunity to state consequences of the action which they believed compromised the desired value (Believe the action has undesirable side effects which demote the desired value),

- the consequences of the proposed action (Disagree with the consequences of the proposed action),
- the suggestion of alternative actions to realize the desired consequences (Believe the consequences can be realized by some alternative action ).
- the description of the current situation (Disagree with the description of the current situation)
- the user was then taken to the exit screen.

Atkinson, Bench-Capon, and McBurne (2006) were satisfied that PARMENIDES was usable by its target audience, and that it could effectively identify points of disagreement regarding the war on Iraq. This was achieved without requiring the user of the system to have any particular familiarity with the underlying model of argument.

## 5.6 Deliberative Pooling Methodology

Deliberative Corporation Pooling<sup>161</sup> is a technology-supported process for sustainable decision-making. It permits any organization or governing group to consult its population. The process shapes trust and knowledge so those who implement new products and novel policies can find out what the people would think if they were reflecting on such innovations.

Deliberative pooling methods integrate "a proven methodology for obtaining representative, informed opinions from a scientific sample with a patented technology that empowers an entire population to offer their views... This process can enhance decision-making for almost any group, including global multi-national companies -- geographically dispersed and multi-lingual -- as well as companies with more regionally concentrated workforces"(Fishkin, 2011)

Advocates of Deliberative Corporation claim that deliberation creates "political capital" and is the foundation for producing decisions that can be successfully implemented with the support of those who are affected by them. When leaders (have evidence of what stakeholders think under stable conditions, this evidence can generate legitimacy for a decision and political cover to do the right thing.

A sound deliberative pooling methodology will create a deliberative process that includes the ability for participants to learn about opposing viewpoints and adjust their opinions accordingly. It will also use scientific random sampling to ensure that all points of view are represented Furthermore it will

- Create briefing materials with a diverse group of experts who disagree with one another to ensure that arguments for and against each alternative are sincerely expressed;
- Ensure that in-person discussions are moderated so that all individuals in each small group can participate roughly equally and fairly together;
- Offer the ability for the entire population to participate in the discussion;
- Provide a mechanism during online discussion that prevents highly mobilized groups from skewing the discussion;
- Ensure that all comments are moderated and relevant to guarantee that the discussion take place within the broad parameters established at the beginning of the process;
- Gather opinions in confidential questionnaires to insulate the collection of data from the pressure for consensus;
- Enable sufficient discussion from a variety of perspectives to that ensure major concerns are declared; insert expert information where there is confusion, and build a robust understanding of trade-offs involved;

<sup>160</sup> <http://www.csc.liv.ac.uk/~katie/Parmenides.html>.

<sup>161</sup> The Deliberative Corporation <http://www.managementexchange.com/hack/deliberative-corporation>

- Where there is serious cultural divisions, Deliberative can be effective since it can create mutual understanding even when the divide is deep or even intractable. (Fishkin, 2011)

## 5.7 Agent-based models

Artificial Intelligence (AI) is the field of research that strives to understand, design, and build cognitive systems. It relies on the assumption that "intelligence is a kind of computation" (Goel & Davies, 2011:468).<sup>162</sup> Through the use of computers or of computer programs, computing engineers achieved many success stories from helping to connect inconsistent evidence on imminent terrorist attacks, produce medical diagnoses, detect credit card fraud, or help detect explosive devices in war.

*Agent-based models (ABM)* are a class of intelligent computational models used for simulating the actions and interactions of autonomous agents. These agents can be individual or collective entities (e.g. organizations or groups). The objective of such models is to assess the effects of such actions of autonomous agents on the system as a whole. ABM combine game theory, complex systems, emergence, computational sociology, multi-agent systems, and evolutionary programming, with Monte Carlo methods used to implement randomness.

ABM's scientific experimentation was notably used in the social sciences for study of ethnocentrism (Axelrod and Hammond 2003)<sup>163</sup> (Hammond and Axelrod 2005a)<sup>164</sup>; Hammond and Axelrod 2005b).<sup>165</sup> One major concern in relation to the use of AI in the social sciences is that since 1996, thousands of agent-based models (ABMs) have been published but few of these models have been publicly replicated (Epstein and Axtell 1996, 1999)<sup>166</sup>; (Axelrod 1997a).<sup>167</sup> Wilensky and Rand (2007)<sup>168</sup> argued that such replications should become a more common practice within the ABM community because replication of computational models would foster model verification and validation, increasing shared understanding about modelling social and political decisions.

Looking at the shift from "factors" to "actors" in computational sociology Macy and Willer (2002)<sup>169</sup> showed how agent-based modeling differed fundamentally from earlier sociological uses of computer simulation. ABM could help social scientists to focus on the emergence of social structure and social order out of local interaction. Macy and Willer (2002) used agent ABM as an alternative approach in sociology whilst modelling social life as interactions among adaptive agents who influence one another in response to the influence they receive.

ABM helped therefore social scientists to demonstrate how simple and predictable local interactions can generate familiar but unfathomable global patterns, such as the diffusion of information, emergence of norms, coordination of conventions, or participation in collective action. As opposed to a single empirically observed dataset for a given setting generated by real world processes, ABM drive explicit and well specified data generation processes to create a potentially infinite number of artificial datasets that are consistent with the theoretical model of the problem under investigation. Yet, repeated use of AI would should not do away with empirical aspects of social sciences methodologies.

## 6. CONCLUSION

In this article we established an interdisciplinary dialogue between political theory and the implementation of new technologies to facilitate deliberative democracy. It is clear that the Internet brought together people across the world to solve common problems, creating a network of shared ideas and shared experiences from which all can learn. Many left wing libertarian and radical centrist organizations around the world globe have begun advocating open-source governance and its related political ideas as a reformist alternative to current governance systems. We have also presented evidence that online tools for deliberation (e.g. online crowdsourcing, "Wikis", shared work space, serious gaming, mapping and participatory budgeting), expert systems, discussion forum and pooling tools have already

<sup>162</sup> Goel, Ashok K. and Davies, Jim (2011) "Artificial Intelligence" in Robert J. Sternberg and Scott Barry Kaufman (Eds.) (2011) *The Cambridge Handbook of Intelligence*, Cambridge University Press. Chapter 23 pp. 468-482

<sup>163</sup> Axelrod, R and Hammond, R A (2003). *The Evolution of Ethnocentric Behavior*. Paper presented at the Midwest Political Science Convention, Chicago, IL.

<sup>164</sup> Hammond, R A and Axelrod, R (2005a). Evolution of Contingent Altruism When Cooperation is Expensive. *Theoretical Population Biology*: In Press.

<sup>165</sup> Hammond, R A and Axelrod, R (2005b). The evolution of ethnocentrism, University of Michigan, Technical Report

<sup>166</sup> Epstein, J and Axtell, R (1996). *Growing Artificial Societies: Social Science from the Bottom Up*. Cambridge, MA, MIT Press.

Epstein, J (1999). Agent-based computational models and generative social science, *Complexity* 4(5): 41-60.

<sup>167</sup> Axelrod, R (1997a). "Advancing the Art of Simulation in the Social Sciences". In Conte R, Hegelsmann R and Terna P (Eds.) *Simulating Social Phenomena*, Berlin, Springer-Verlag: 21-40.

<sup>168</sup> Uri Wilensky; William Rand (2015). *An introduction to agent-based modeling: Modeling natural, social and engineered complex systems with NetLogo*. Cambridge: MIT Press. ISBN 978-0-262-73189-8.

<sup>169</sup> Michael W. Macy and Robert Willer (2002). "From Factors to Factors: Computational Sociology and Agent-Based Modelling" *Annual Review of Sociology* Vol. 28: 143-166 DOI: 10.1146/annurev.soc.28.110601.141117

given a contribution to harmonise procedural and substantive approach to deliberation.

Habermas elaborated a model of *deliberative democracy* as an idealized deliberation dialogue. His model was challenged regarding not only the conditions of rationality, consensus formation, as well as the possible restriction of justice in the liberal sense and abolition of politics. A crucial question for Habermas was how could the normative force of reasons generated by the public deliberation of citizens have an effect on government administrations who answer exclusively to power? The answer to Habermas' question was in the *internal relation* between the exercise of political power and the rule of law. In constitutional regimes, government officials would be minimally constrained by the arguments and reasons circulating in the public sphere. This constraint would depend on a broadly dispersed communication among citizens being free to develop in autonomous public spheres and to penetrate into receptive representative bodies with formal decision-making power. In this way, the notion of *popular sovereignty*—a democratically self-organizing society—would be possible. But would this ideal of popular sovereignty possible and desired?

From an optimistic perspective of Habermas' theory (Lubenow, 2012: 65), the conception of *deliberative democracy* consider citizens' participation on deliberations and decision-making to be the central element of democratic process comprehension. Deliberation procedure is not only a discussion stage which come before the decision-making but aim to justify decisions. The deliberative procedure of public reason must offer a spectrum of reasons acceptable by all possible targeted, even though not all share with the theme or subject in question. Other authors emphasised that the focus on discursive engagement does not have to mean “completely shunning the state (Dryzek, 2003:19).<sup>170</sup> But a balance would need to be reached: the link between public sphere and state should not be too tight because a serious contest for sovereign authority could resume. Yet, if the link between the public sphere and the state is totally absent then there will be a danger the public sphere can decay into irrelevance as it was the case in Poland and Czechoslovakia in the declining years of communism. “Such decay would undermine the legitimacy of the state itself” (Dryzek, 2001). In this paper we argued for a legitimate state and not for the dissolution of its legitimacy. This legitimate state in our view presupposes a public sphere viewed as an arena outside the state that can shape opinions and control the authorities through free and open debate.

On a practical level, procedural reforms of institutions could encourage a redistribution of political resources through the public funding of multiple public spheres in which disadvantaged groups can develop political capabilities, public expression, and organization skills. Collective action can be a significant remedy for deep and persistent cultural biases and social exclusions. Yet, such action could fail when advantaged citizens are insufficiently committed to the ideal of equality. Problems of persistent political inequalities will therefore require a more practical and relational account of public functioning. Social scientists will need to set the sorts of capabilities that are involved in political functioning to shape the course of ongoing deliberation.

By engaging citizens in political deliberation new technologies have addressed issues with law-making and deliberation changing the course of public apathy and disengagement in modern democracies. In this sense there is evidence that new technologies have the potential to revert democratic deficit. Yet, before perfecting new tools for deliberative democracy social scientists will need to work with engineers to consider and respond to each critique of deliberative democracy exposed in this paper. New deliberative tools ought to be discussed with and agreed upon in consultation with political representatives across Europe. This consultation would be a significant research project on its own.

As advanced capitalist societies enter their third major wave of enthusiasm for AI technology, this paper has also initiated a debate on the transition from a stage where information technology developers are still working on a roughly human-level artificial intelligence to a stage where one will experience a full-blown superintelligence, with revolutionary applications. This possibility of a sudden emergence of superintelligence was referred to as the *singularity hypothesis* (Vinge 1993; Hanson *et al.* 1998). But problems affecting democratic deficit and deliberative democracy are as complex as the singularity hypothesis and in fact can have an impact on the very policy making on the regulation of new AI technology so this topic deserves a separate discussion.

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# PROCESSOS COGNITIVOS INTERVENIENTES NA REPRESENTAÇÃO MENTAL

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## RESUMO

A realização de representações mentais é um fenómeno que sempre aconteceu desde a existência do ser humano. Apesar deste fenómeno nem sempre ter possuído um nome e uma caracterização, já deste há muito tempo que este é estudado, tendo sido apresentados diversos modelos que estudavam o seu funcionamento. Por sua vez, a imagética utiliza diversos processos cognitivos, sendo vários os fatores que condicionam o funcionamento das funções mentais, e conseqüentemente, poderão afetar o desenrolar da imagética.

Palavras-chave: Representação Mental, Imagética, Processos Cognitivos, Fatores.

## ABSTRACT

Mental representation is a phenomenon that ever happened to this human existence. Although this phenomenon has not always a name and characterization, this already long ago that this is studied, several models having been presented to analyze its functioning. In turn, the imagery uses various cognitive processes, and various factors that affect the functioning of the mental functions, and thus may affect the development of the imagery.

Keywords: Mental Representation, Imagery, Cognitive Processes, Factors.

## 1. INTRODUÇÃO

Atualmente a imagética é definida como a capacidade de realização de uma representação mental. Desde a antiguidade que se tem uma noção semelhante sobre o que é a imagética, pois Aristóteles, um dos primeiros filósofos, afirmava que “o pensamento era impossível sem imagens”. Isto vem comprovar que na Antiguidade Grega estudava-se o facto de ser possível construir uma representação mental de uma imagem, objeto, emoção entre outros, isto sempre associado, à construção de um pensamento (Raposo, Costa & Carvalhal, 2001).

A interação do mundo externo (estímulos) com o mundo interno (representação mental), sempre foi algo que criou no homem uma grande curiosidade, especialmente na forma como o mundo externo pode influenciar o mundo interno. Perante isto, foram muitos os autores, que desenvolveram diversas explicações sobre a forma como a imagética se desencadeava no cérebro humano, sendo o modelo computacional de Kosslyn, o mais aceite atualmente (Caldeira & Ferreira, 2007).

Estando a imagética relacionada com o mundo externo, esta relaciona-se por sua vez com o mundo auditivo, visual, tátil, entre muitos outros, estando sempre condicionada por diversos fatores e processos cognitivos que são essenciais para a sua realização. Dentro de todos os processos cognitivos existentes, a atenção, a perceção e a memória, são aqueles que mais são utilizados no processo da imagética. Com isto, défices nestes mesmos processos cognitivos, como défices de atenção, de memória e défices na perceção, especialmente visual e auditiva, podem condicionar muito a construção de representações mentais no indivíduo. Para além destes fatores existem ainda outros, como a cultura,

no qual o indivíduo está inserido, a idade, o género, a inteligência e tipos de estímulos utilizados que podem também influenciar a imagética (Raposo, Costa &Carvalho, 2001).

### 1.1. Definição de imagética/representação mental

A definição do que é a imagética e como esta se processa na mente humana, já é discutido há muitos anos, tendo um foco de discussão essencialmente após a década de 1970, resultando numa explosão de várias publicações de artigos científicos, onde esta temática era discutida. No entanto, a ideia sobre o que é a imagética e especialmente como esta se processa nem sempre foi a mesma, existindo uma controvérsia entre os vários autores que abordam esta temática. Dentro destes, os autores cujas ideias se destacam foram Paivio (1971), Pylyshyn (1973), Shepard e Metzler (1978) e Kosslyn (1994) (Chaves, 2011).

Com isto, atualmente, a imagética remete para representação mental de algo, produzindo a experiência de visualizar algo na ausência desse mesmo estímulo. Por sua vez, imagética é muitas vezes confundida com a imaginação, o que as distingue, é o facto da imaginação remeter para a parte real e/ou imaginária (não real) associada ao objeto, e a imagética remeter apenas para a representação real do objeto. Segundo Kosslyn (1994), cujo modelo aceite atualmente, sobre a forma como este fenómeno se processa, imagética é vista “como um estado do cérebro semelhante aos que têm lugar durante a percepção, mas que ocorre na ausência de estimulação imediata; tais eventos são normalmente acompanhados de uma experiência consciente como é o ver com os olhos da mente e ouvir com os ouvidos da mente” (p.62), estando a imagética ligada ao mundo auditivo, tátil, gustativo, visual e olfativo (Raposo, Costa &Carvalho, 2001).

## 2. CONTRIBUTOS PARA A COMPREENSÃO DO PROCESSAMENTO DA REPRESENTAÇÃO MENTAL

### Paivio

Paivio foi um dos primeiros a contribuir, em 1971, para o entendimento da imagética, apresentando um estudo, aquele que seria um dos primeiros sobre esta temática. Este via as imagens como parte integrante das interpretações de origem na mente humana, defendendo assim a teoria da dupla codificação, onde as representações mentais são constituídas por dois códigos diferentes, de forma a organizar a informação recebida (Caldeira & Ferreira, 2007).

Através desta teoria Paivio afirmava que, perante um estímulo os sujeitos obtinham uma informação verbal e outra visual sobre este, por exemplo, quando é pedido a um sujeito que imagine um cão, fornece-se uma informação verbal, mas o sujeito tem a capacidade de obter uma informação visual sobre este estímulo – a imagem do cão. Para além disto, Paivio acrescentava que quando era apresentada uma palavra, informação verbal, o sujeito demorava mais tempo a criar a representação mental, do que se fosse apresentado uma imagem, informação visual. Acrescenta ainda que quando feitas questões sobre o que está a ser representado mentalmente, o sujeito respondia mais rápido quando eram aspetos relacionados com a informação visual do que se fosse informação verbal. Mais rápido seria ainda, se houvesse uma grande distinção entre os objetos, cujas representações mentais estão a ser pedidas (Covre, Piza, Lukasova & Macedo2002).

Através dos seus estudos Paivio verificou ainda que se fosse apresentado uma imagem que não representasse o tamanho real, como por exemplo, se na imagem estivesse presente um coelho ao pé de um elefante, cujo tamanho do coelho fosse superior ao do elefante, os sujeitos iriam demorar mais tempo a responder a questões sobre estas imagens, quando estas realizassem uma representação mental. Isto deve-se ao facto da informação que está a ser transmitida não ir ao encontro áquilo que está retido na memória do sujeito, pois este processo implica a recuperação de uma informação retida anteriormente (Battilani, 2013).

### Pylyshyn

As ideias de Pylyshyn contrariam as de Paivio e até mesmo o modelo atual de imagética – Modelo de Kosslyn. Com isto, Pylyshyn em 1973, apresentou a sua perspectiva sobre esta temática, afirmando que perante uma representação mental, o sujeito era incapaz de representar uma imagem real. Posto isto, Pylyshyn afirmava que perante a representação mental de um estímulo, os indivíduos atribuíam um símbolo a esse estímulo, ou seja, que as representações mentais eram feitas de forma abstrata. Como por exemplo, um sujeito ao imaginar um cão, realiza uma representação do animal de forma abstrata, não o representando na sua mente de forma realística. Por outro lado, uma representação visual pode desencadear várias representações verbais, como por exemplo, ao fornecer-se a informação de “a mesa está acima do cão” ou “o cão está debaixo da mesa” corresponde à mesma representação visual, estando assim as representações mentais associadas a outros processos cognitivos (proposições) (Shineidr, Noel & Soares, 2000).

Perante estas ideias, Pylyshyn apresenta uma perspectiva proposicional, onde os símbolos que os sujeitos atribuem

aos objetos não correspondem às propriedades do meio que o rodeia, mas sim aos conhecimentos que o sujeito possui sobre o mundo, sendo estes influenciados pelas crenças do indivíduo em causa. Deste modo, Pylyshyn afirmava que realizar uma rotação mental de uma imagem a 180° demoraria mais tempo, do que realizar uma rotação de 90°, isto devido à crença de que a primeira rotação mental seria mais complicada de realizar. Sendo assim, a imagética é um epifenómeno – fenómeno secundário que ocorre como resultado de outros processos cognitivos - onde não podemos afirmar que são realizadas imagens mentais (Battilani, 2013).

### Shepard e Metzler

Shepard e Metzler (1978), ao contrário de Pylyshyn acreditam que era possível estabelecer analogias entre as imagens mentais e as percepções, ou seja, que seria possível representar mentalmente algo muito semelhante à realidade. Os estudos realizados por Shepard e Metzler, baseiam-se essencialmente numa das vertentes da imagética, fenómeno de rotação mental. Posto isto, realizaram várias experiências que consistiam em mostrar aos sujeitos algumas figuras bidimensionais e tridimensionais, onde inicialmente era mostrado uma imagem bidimensional e, posteriormente, essa mesma imagem era mostrada em diversos ângulos (imagem tridimensional), onde os indivíduos tinham que identificar se era a mesma imagem, realizando uma representação mental de uma rotação. Perante estas experiências, os observadores puderam concluir que os sujeitos levavam mais tempo a identificar as imagens que possuíam mais rotação (Covre, Macedo, Capovilla & Schwartzman, 2005).

Sendo a rotação mental uma função cognitiva complexa baseada numa hipótese de equivalência funcional, ou seja, a rotação mental é análoga à rotação física, existe assim uma equivalência, por vezes parcial, da representação mental com a percepção visual (Shineidr, Noel & Soares, 2000).

### Kosslyn

Perante as hipóteses apresentadas anteriormente, estas contradizem-se em certos aspetos umas às outras, Kosslyn apresenta então o seu modelo, modelo computacional de imagens de Kosslyn, em 1994. Neste modelo, Kosslyn faz uma seleção das ideias apresentadas anteriormente afirmando que, para a realização de imagens mentais é necessário uma codificação proposicional, onde se relaciona os objetos/imagens e as suas características (Caldeira & Ferreira, 2007).

O processo de formação de imagens mentais é um processo sequencial que envolve a captação das partes dos objetos. Inicialmente tem a capacidade de obter uma imagem global (esqueleto da imagem), onde de seguida, associa-se as características restantes deste mesmo objeto. Posto isto, Kosslyn acrescentava que na nossa mente existiria um espaço limitado, designado por meio espacial, onde este seria uma área de elevada resolução. Neste mesmo meio, ocorre uma associação dos ficheiros de imagem com os ficheiros proposicionais. Tanto os ficheiros de imagem bem como os ficheiros proposicionais, estão armazenados na memória a longo prazo, no entanto o ficheiro de imagem remete para a imagem esquemática (imagem global) e os ficheiros proposicionais às características da imagem (Shineidr, Noel & Soares, 2000).

Por sua vez, os ficheiros de imagens e os ficheiros proposicionais relacionam-se através de uma lógica proposicional, obtendo-se assim uma figura final daquilo que estamos a representar mentalmente. Kosslyn acrescentava que, neste processo complexo são usados dois subsistemas, onde um é responsável pela construção de imagens e o outro pela ordenação das partes constituintes da imagem (Shineidr, Noel & Soares, 2000).

Através dos seus estudos, Kosslyn concluiu que na realização das representações mentais, existe uma interação entre o mundo interno e o mundo externo. Com isto, realizou duas das suas mais conhecidas experiências, onde uma permite concluir que o tempo a percorrer uma distância mental é análogo a percorrer a mesma distância real. Através da outra experiência, Kosslyn concluiu que existe uma relação entre as dimensões dos objetos com o tempo de resposta de questões sobre estes mesmos objetos, através de uma representação mental (Alves, 2012).

A primeira experiência referenciada anteriormente, foi uma das inúmeras demonstrações realizadas por Kosslyn, onde este estudava o facto da imagética visual possuir propriedades semelhantes à percepção visual. Esta experiência consistia na demonstração de um mapa dum ilha, onde estavam referenciados diversos pontos ao longo desta, com diferentes distâncias entre estes. Perante isto, os indivíduos tinham que memorizar os pontos assinalados no mapa, pois posteriormente, iriam ser-lhes pedido que se deslocassem mentalmente, imaginando um ponto negro, entre estes. Perante os resultados do seu estudo, Kosslyn conseguiu concluir que perante o esquadramento – representação mental – da deslocação entre os pontos, o tempo que os sujeitos demoravam a fazer o mesmo, era semelhante à distância medida entre os pontos, achando assim uma relação entre o mundo interno e externo (Battilani, 2013).

A granularidade – pormenor das imagens, dependente do tamanho e dos pontos que a configuram – é um aspeto que está diretamente relacionado com o meio espacial, e por sua vez, com a forma como se processa a representação mental. Quanto maior for a imagem, maior será a quantidade de detalhes (pontos), logo maior será a granularidade. Tendo em conta esta possível relação entre a construção de uma representação mental e da granularidade, Kosslyn

realizou uma experiência de maneira a estudar esta interação. Com isto, a experiência consistia inicialmente em colocar os sujeitos a olhar para duas imagens, e posteriormente, pedia-se a estes que imaginassem o animal apresentado, sendo este de pequeno porte, como por exemplo, um coelho, nas duas situações apresentadas nas imagens, onde uma delas ao pé de um elefante e a outra ao pé de uma mosca. Para finalizar a experiência eram ainda colocadas questões sobre detalhes sobre os animais nas duas situações (como por exemplo: “o coelho tem orelhas grandes?”) (Caldeira & Ferreira, 2007).

Com esta experiência, Kosslyn concluiu que os sujeitos tinham mais facilidade em responder a questões sobre quando o coelho possuía dimensões maiores, ou seja, quando era colocado ao pé de uma mosca, sendo assim o tempo de reação menor do que se o coelho estivesse ao pé do elefante. Perante uma menor granularidade, ou seja, menos detalhes do animal, situação onde o coelho apresentava um tamanho inferior (coelho ao pé do elefante), os sujeitos relatavam a necessidade da utilização de um “zoom” na imagem, para observarem mentalmente, melhor os pormenores da imagem. Com isto, Kosslyn confirmava que a percepção dos estímulos externos, possuíam uma influência no processo de representação mental (Battilani, 2013).

### 3. PROCESSOS COGNITIVOS E REPRESENTAÇÃO MENTAL

A psicologia cognitiva defende “que os organismos não são recetores passivos de estímulos e acentua a importância da atividade cognitiva” (p.27). Neste ponto de vista, os processos cognitivos como a atenção, a percepção, o pensamento, o raciocínio, entre muitos outros estão envolvidos quer nos estímulos, quer na elaboração da resposta, sendo tal designado pelo modelo E-R (Estímulo – Resposta). Este ramo da psicologia também diferencia os processos básicos como a atenção e a percepção dos processos de maior complexidade como a linguagem, o raciocínio, entre outros (Caldeira & Ferreira, 2007).

“Os processos de aquisição da informação permitem a criação de uma representação interna da estimulação sensorial de forma a ser armazenada na memória.” (p.2). Esta representação teria como base, processos cognitivos como a atenção, a percepção, a memória, entre outros (Pinto, 2001).

#### Atenção

O Homem está constantemente rodeado de vários e diversificados estímulos, estes por sua vez, podem ser exteriores e interiores, ou seja, podem ser provenientes do meio que rodeia o indivíduo ou do seu próprio organismo, isto significa, que os estímulos podem ser extrínsecos e/ou intrínsecos ao ser humano. Sendo a atenção um recurso limitado, o termo “prestar atenção” significa que o indivíduo terá de seleccionar um ou mais estímulos, relativamente a todos os outros que o rodeiam (Pinto, 2001).

As teorias que estudam este processo cognitivo enfatizam a importância da estrutura e da arquitetura dos sistemas e modelos do processamento das informações, mas também ressaltam a importância do desempenho das tarefas, destacando-se a capacidade global dos recursos já existentes no cérebro (Caldeira & Ferreira, 2007).

Segundo a teoria dos recursos de Norman e Bobrows (1975), o desempenho é garantido pela qualidade dos sinais e pela informação existente na memória, sendo que o desempenho será influenciado pela quantidade de recursos que podem ser utilizados. De acordo com Hockey (1980), a diminuição da atenção originará um aumento do tempo gasto numa determinada tarefa, num período de tempo maior. O meio em que o indivíduo está inserido, como o número de tarefas, a frequência de estímulos, os padrões e a complexidade, irão condicionar o tempo de resposta e reação do indivíduo face às mudanças e/ou alterações provenientes do meio (Caldeira & Ferreira, 2007).

Seguindo esta linha de pensamento, este fenómeno cognitivo - a atenção – relaciona-se com diversos processos como a seleção de estímulos e um esforço por parte do indivíduo, de não prestar atenção a informações irrelevantes, que irão interferir na concentração da informação útil. Existem vários fatores que poderão ser atrativos ou não, a um determinado indivíduo, sendo estes o número de estímulos, a familiaridade, a similaridade, a novidade, o imprevisto e a complexidade (Pinto, 2001).

Segundo Cardoso *et al.* (1989) a percepção e a atenção são dois processos fundamentais para observar e por isso relacionam-se entre si. Desta forma, a atenção é um ajustamento preparatório e contínuo que facilita a percepção. Apesar da abundância dos estímulos que rodeia o indivíduo este inconscientemente selecciona apenas alguns.

#### Percepção

De acordo com Abrunhosa e Leitão (2011), a “percepção é o processo de organização e interpretação da informação sensorial que nos permite identificar objectos e acontecimentos.” (p. 4754).

A percepção é um processo ao qual recorre-se para poder-se interpretar e organizar a informação que os estímulos enviados pelo meio ambiente nos fornecem. Basicamente, este processo inicia-se quando o indivíduo está em constante

interação com o meio que o envolve. Perante isto, são enviados estímulos sensoriais que desencadeiam um processo sensorial, fazendo com que a informação dos estímulos se propague até o Sistema Nervoso Central. Desta forma, é através dos processos perceptivos, que se desencadeia a percepção que nos dá uma ideia do mundo e da realidade que rodeia o sujeito. Com isto, o estudo da percepção é o estudo da forma como se processa a integração das sensações no encéfalo obtendo assim uma ideia do que é o objeto (Caldeira & Ferreira, 2007).

Este processo cognitivo envolve a interpretação das informações sensoriais recebidas, isto é, a sensação fornece um estímulo, e por sua vez, cabe à percepção identificar, reconhecer, produzir uma sensação em que se irá associar a uma experiência que já tenhamos vivenciado, sendo esta a principal diferença entre sentir e perceber (Monteiro & Ferreira, 2013).

A percepção visual está relacionada com a percepção de formas, de cores, de luz, de movimentos, de relações espaciais, sendo esta a mais desenvolvida do ser humano. A percepção visual não regista as imagens como uma máquina fotográfica, mas é através desta que obtemos um mundo tridimensional estável e com significado. Por sua vez, a percepção auditiva reflete-se no ato de perceber sons através dos ouvidos. Cada som que ouvimos evoca lembranças que nos trazem percepções diferentes da realidade apresentada (Hochberg, 1966).

## Memória

A memória consiste numa função biológica e psicológica, indispensável ao ser humano. Esta constitui um processo cognitivo de aquisição, codificação, conservação e recuperação da informação (Abrunhosa & Leitão, 2011).

No âmbito de uma melhor compreensão acerca da memória humana, têm sido adotadas distintas perspetivas. Neste conjunto de teorias, as perspetivas mais frequentes são a estrutural e a processual. Segunda a primeira, a memória é constituída por vários sistemas, que seriam responsáveis pelo armazenamento e pela retenção da informação quer da memória a curto prazo, quer da memória a longo prazo. Na segunda perspetiva, a informação introduzia-se na memória (aquisição), permanecendo durante um certo tempo (retenção) e por fim seria recordada (recuperação) (Pinto, 2001).

De acordo com o Modelo de Atkinson-Shiffrin, existem três sistemas de armazenamento de informação, sendo estes a memória sensorial, a memória a curto prazo e a memória a longo prazo (Caldeira & Ferreira, 2007).

A memória sensorial engloba todo o registo da informação sensorial, estando esta relacionada com os órgãos sensoriais, ou seja, pelos cinco sentidos como a visão, a audição, o olfato, o tato e o paladar. A eficácia do processo de memorização só ocorrerá na presença de estímulos extrínsecos e/ou intrínsecos ao indivíduo. A duração deste sistema de processamento da informação é muito breve, com capacidade ilimitada de receção. O processo cognitivo da atenção está interligado com uma eficiente memorização, por conseguinte, se o indivíduo não “prestar atenção” aos estímulos desejados, acontecerá uma falha neste processo, o que consequentemente, originará um desaparecimento ou uma diminuição da memória sensorial. A memória sensorial visual levará a uma maior percepção do movimento e, por sua vez, a memória sensorial auditiva é importante para percebermos as palavras e as frases (Pires & Brandão, 2010).

A memória a curto prazo ou memória de trabalho concerne a informação disponível que o indivíduo pode utilizar num determinado momento, constituindo uma unidade de processamento ativo e útil, funcionando como centro da consciência. É responsável pela retenção de material significativo nomeadamente, da consciência, do presente e da percepção. Tem como principal objetivo selecionar, codificar e enviar a informação nova para a memória a longo prazo, para que posteriormente, haja a recuperação desta informação com o intuito de uma utilização futura. Esta memória apenas abrange um período entre alguns segundos a um minuto, caso seja repetida. A capacidade de memorização é maior se a informação estiver organizada (Pinto, 2001).

A memória a longo prazo armazena toda a informação que o ser humano possui relativamente a si e ao mundo que o rodeia. Esta é a interpretação e relação complexa entre o material significativo e as memórias pré-existentes. Estes conhecimentos são armazenados durante longos períodos de tempo, sendo esta recuperada e utilizada pela memória a curto prazo. Todavia, este processo de recuperação da informação é extremamente complexo, o que leva o indivíduo a utilizar estratégias visando facilitar este sistema. A memória a longo prazo subdivide-se em três processos: a codificação/transformação das informações do meio em representações mentais; o armazenamento da informação codificada; e por fim, a recuperação da informação armazenada (Pires & Brandão, 2010).

A recuperação da informação deve ser feita sem esforço/dificuldades. Todavia dada a sua complexidade, poderá haver uma perda ou um esquecimento de memória. Este constitui a incapacidade que o indivíduo tem de relembrar ou reproduzir as aprendizagens passadas, sendo este natural e positivo, eliminando as informações desnecessárias para aumentar a retenção de novas informações. Caso contrário, a sobrecarga de informação retida durante toda a vida do indivíduo, poderia provocar perturbações graves a nível mental (Pires & Brandão, 2010).

Em síntese, o processamento da informação no ser humano abrange, as três fases mencionadas anteriormente, em que estas diferem-se quanto à natureza, à capacidade de retenção e ao período de permanência. O conhecimento atual do indivíduo influencia o modo como a informação adquirida é organizada, para a retenção e recordação desta futuramente. (Pinto, 2001).

### 3.1 Relação entre os três processos cognitivos e a representação mental

Perante os três processos apresentados anteriormente pode-se concluir que na imagética estes são utilizados pois, sendo a imagética a realização de uma representação mental dos objetos, na ausência dos mesmos, este é um processo onde existe a interação do mundo externo com o mundo interno. Esta interação seria de afiguração, onde a imagem possui semelhanças, seja a nível espacial ou estrutural, com aquilo que é a imagem real, não sendo deste modo, uma relação apenas simbólica e semântica, como é defendido por Pylyshyn e refutado por Kosslyn. Por sua vez, como a atenção, percepção e memória diferem de indivíduo para indivíduo, não se pode afirmar que a interpretação (representação mental) do estímulo seja realizada da mesma forma, para todos os indivíduos (Battilani, 2013).

A relação existente entre os dois mundos, vai ao encontro da hipótese em que, se afirma que a imagética e a percepção poderão partilhar as mesmas bases neurais, estando a percepção “externa” do objeto relacionada com a percepção interna, como defende Kosslyn. Por sua vez, o sujeito necessita de prestar atenção aos estímulos externos para poder percecioná-los e, posteriormente, armazenar esta informação na sua memória. Com isto, a memória é fundamental, uma vez que, a imagética só é possível com a presença de informação já pré-existente que possuímos desses mesmos objetos. A representação mental só será eficaz se o processo de memorização ocorrer sem dificuldades ou falhas. Visto que, a imagética tem como base as representações e os estímulos, a memória, a atenção e a percepção contribuem de forma direta, nas representações mentais realizadas pelo indivíduo (Alves, 2012).

## 4. FATORES QUE INFLUENCIAM A REPRESENTAÇÃO MENTAL

Sendo a imagética influenciada pelo mundo externo, são muitos os fatores que influenciam a capacidade de realizar uma representação mental. Dentro deste os que mais se destacam são a idade, os déficits (em especial os déficits associados aos processos cognitivos), a inteligência, os tipos de estímulos que são transmitidos aos sujeitos, o género do sujeito e também a cultura no qual estes estão inseridos (Raposo, Costa & Carvalho, 2001).

### Idade

A idade constitui um fator condicionante no processo da imagética, uma vez que, que este fator correlaciona-se com o desenvolvimento dos processos cognitivos, ou seja, com a evolução e/ou regressão das funções mentais que o sujeito desempenha (Papalia, Feldman & Martorell, 2013).

Estudos demonstram que as capacidades intelectuais atingem o seu auge por volta dos 30 anos, mantendo-se estável entre os 50/60 anos, e por sua vez, estas aptidões irão diminuir ou regredir depois dos 70 anos de idade. O ser humano ao longo da sua vida, passa por três fases: a fase de crescimento/desenvolvimento, a fase reprodutiva, e por fim, a fase de envelhecimento. Esta última fase é condicionada pelo estilo de vida que o indivíduo teve durante a infância, a adolescência e a idade adulta (Cancela, 2007).

Segundo Fontaine (2000), o envelhecimento perceptivo diferencia-se nas diferentes modalidades sensoriais, uma vez que, se constatou que “o envelhecimento afeta de forma mais significativa (...) a audição e a visão, sendo que isto acarreta consequências importantes, e por vezes graves, a nível psicológico e social. Por outro lado, os défices sensoriais de natureza auditiva e visual parecem causas importantes de declínio geral no funcionamento das atividades intelectuais” (p.4), sendo que, estes declínios podem desencadear certas patologias neurológicas, tais como a agnosia auditiva e visual, entre outras (Cancela, 2007).

A idade avançada associa-se a uma elevada morte neuronal, o que consequentemente, fará com que os indivíduos idosos tenham uma dificuldade acrescida na realização de operações mentais básicas (atenção e percepção), influenciando processo da imagética. Segundo Spar e La Rue, citado por Firmino (2006), a população sénior demonstra uma maior dificuldade nos aspetos perceptivos, mnésicos e cognitivos, entre outras, comparativamente à população mais jovem. Relativamente às habilidades visuo-espaciais, os idosos continuam a conseguir reconhecer os lugares, identificar objetos geométricos comuns e caras familiares. Todavia, tal não se verifica quando o “material” não lhes é familiar, isto é, desconhecido (Cancela, 2007).

Comparativamente ao processo da atenção quer os jovens quer os idosos continuam a ter a mesma capacidade de manterem a atenção num determinado acontecimento. O que os distingue é o facto de os idosos possuírem maiores dificuldades na filtração da informação, proveniente dos estímulos e na repartição desta função cognitiva em tarefas específicas. Por fim, quanto à memória, esta poderá continuar estável ou ocorrer um declínio ligeiro a moderado (Cancela, 2007).

Estas alterações cognitivas irão refletir uma mudança na imagética (representação mental), e como referido anteriormente, a idade será um fator condicionante dada a diminuição das funções mentais e da alteração anatómica do cérebro (Cancela, 2007).



## Défices

*Déficit* constitui a diminuição ou incapacidade de uma função neurológica, como a perda da fala, da linguagem, da visão, perda da destreza, perda da identidade, entre outros. São várias as patologias na qual os pacientes, por doença, lesão ou incapacidade de desenvolvimento, se podem ver parcial ou totalmente privados. Ou seja, *déficit* é a palavra utilizada para referir qualquer perturbação numa função do ser humano e do seu organismo. Tomou-se como exemplos afasia, agnosia, amnésia. Freud designou agnosia às desordens de perceção e reconhecimento, ou seja, a perda da capacidade de reconhecer objetos, sons e pessoas (Sacks, 1985).

Os défices a nível da atenção, da perceção, da memória, nos sentidos, entre outros, constituirão fatores que influenciam a imagética, uma vez que, este mecanismo utiliza como já referido ao longo do trabalho, processos cognitivos como a atenção, a perceção e a memória. Se nestas funções cognitivas houver uma diminuição ou incapacidade das mesmas, posteriormente haverá consequências na imagética – representação mental dos objetos, aumentando desta forma o tempo de reação que o indivíduo leva a desempenhar esta tarefa (Sacks, 1985).

### *Défices na atenção*

O Distúrbio/Transtorno de Défice de Atenção (DDA) é uma perturbação mental que se caracteriza pela facilidade de distração com quimeras frequentes (imaginação “viajante”). Este transtorno acarreta dificuldades de organização da informação mental, esquecimento, fadiga, entre muitas outras consequências. O Défice de Atenção e Hiperatividade (TDAH) é um transtorno neurológico onde se observa diversificadas dificuldades significativas de atenção, de controle na impulsividade e de hiperatividade. De acordo com a American Psychiatric Association, o TDAH é caracterizado pelo comportamento de falta de atenção, impulsividade, entre outros, que podem levar a problemas a nível emocional, social e desempenho mental do indivíduo (American Psychiatric Association, 1996),

Em síntese, concluímos que um défice de atenção com ou sem hiperatividade irá provocar uma alteração no funcionamento dito normal dos processos mentais, como o caso do processamento de informação e posteriormente a imagética, uma vez que, a atenção é um processo cognitivo que se encontra diretamente ligado aos processos de memorização. Na presença de um défice na atenção, o indivíduo não conseguirá absorver e se concentrar apenas nos estímulos úteis, e desta forma, aumentar o seu tempo de reação no processo da imagética (Barkley, 2002).

### *Défices na memória*

Como já foi referido ao longo do trabalho, uma diminuição ou dificuldade no processo cognitivo da memória poderá condicionar a imagética. A amnésia constitui um fator e caracteriza-se pela perda de memória total ou parcial. A amnésia inclui vários tipos como a amnésia global transitória, amnésia psicogénica e a síndrome de Wernicke-korsakoff. A doença de Alzheimer também pode condicionar a representação mental que caracteriza a imagética (Adams, Victor & Ropper, 1998).

### *Défices na visão e na audição*

A agnosia relaciona-se com a incapacidade de reconhecimento e identificação de objetos, contudo as funções sensoriais mantem-se inatas (visão, audição, etc). Este défice, caracteriza-se pela falha ou alteração do ato perceptivo, e não propriamente, por alteração dos órgãos sensoriais. Isto significa que, esta incapacidade/perda não está associada a alguma mudança quer nas sensações, quer na capacidade de compreender objetos extrínsecos, mas sim, no fator de desequilíbrio entre as sensações e a perceção, daí a agnosia constituir um fator que influencia o processo de imagética pela falha na função básica mental – perceção (Adams, Victor & Ropper, 1998).

## A cegueira e a imagética

Segundo um estudo acerca do conteúdo visual em sonhos de cegos, realizado por (Bértolo & Paiva, 2001), que teve como principal objetivo o estabelecimento de correlações “entre parâmetros espectrais do EEG de sono e as variáveis dos relatos oníricos, particularmente e os conteúdos visuais, e analisar as diferenças entre as fases REM (sono paradoxal) e NREM (sono lento) em sonhos de cegos” (p.23).

De acordo com Berger (1961) e outros autores, inicialmente pensava-se que as pessoas cegas não possuíam conteúdo visual nos seus sonhos, devido ao facto de não ter sido possível o registo dos movimentos oculares destes sujeitos. Paradoxalmente a esta teoria, estudos recentes comprovam o contrário, afirmando que as pessoas cegas possuem movimentos oculares durante esta fase do sono-REM (rapid eye movement), elevando à formação de novas perspetivas sobre os indivíduos cegos possuírem imagética visual. Segundo autores como Lavie (1998), os cegos congénitos nos seus sonhos não possuíam “descrições de cenas ou paisagens mas antes sons, sensações táteis ou experiências emocionais” (p.24). Posteriormente Vecchi (1998) verificou que os cegos congénitos possuem capacidade para produzir imagens visuais (Bértolo & Paiva, 2001).

O estudo seguiu uma metodologia específica com oito participantes, sendo que quatro deles eram cegos congênitos e os outros possuíam cegueira adquirida. A seleção foi feita de forma, a que os sujeitos tivessem características semelhantes tanto a nível de saúde, idade, hábitos de sono regulares, habilitações académicas e facilidade de comunicação (Bértolo & Paiva, 2001).

Com base nos resultados deste estudo, constatou-se que os sujeitos descreviam os conteúdos visuais durante o sonho, e verificou-se que, na maioria dos casos tal ocorria durante a fase do sono REM, verificando-se assim a existência da imagética. Dado isto, pode-se concluir que possivelmente os cegos poderiam produzir representações mentais com imagens, ativando assim o córtex visual associando-se à capacidade do seu discurso. Os resultados comprovaram que os relatos dos sujeitos apresentavam semelhanças com pessoas sem problemas ou qualquer tipo de deficiência visual. O estudo também revelou que a teoria de Lavie (1998), não se verificava, uma vez que, tanto os sujeitos com cegueira congénita como os com cegueira adquirida, demonstraram possuir conteúdos visuais como paisagens ou cenas (Bértolo & Paiva, 2001).

Em suma, este estudo contribuiu para a constatação da possibilidade de que as pessoas que sofrem de cegueira a qualquer nível, possam produzir imagens mentais, isto é, a imagética que pode ter etimologia genética (Bértolo & Paiva, 2001).

## Inteligência

Segundo (Costa & Melo, 2008) o termo inteligência refere-se ao “conjunto de todas as funções que têm por objeto o conhecimento, (...) desenvolvimento mental normal ou acima da média; (...) pessoa de grandes dotes intelectuais” (p.1035).

A inteligência está diretamente dependente do desenvolvimento do córtex pré-frontal do indivíduo e, por sua vez, esta relaciona-se com as capacidades de memorização, de resolução de problemas, de comunicação, de compreensão, entre outras faculdades mentais. De acordo com Gardner (2001), a inteligência era um potencial de processamento de informação e posteriormente de resolução de problemas, tendo por base um contexto cultural onde o indivíduo estaria inserido. Na Teoria das Inteligências Múltiplas, este autor ressaltou a ideia de que, cada organismo possui diversas formas de inteligência e diferenciados graus, isto significa, que as elevadas capacidades/superdotação relacionam-se de forma direta com os vários tipos/formas de inteligência do indivíduo. Contudo, este elevado nível de inteligência poderá não se verificar em todos os tipos de inteligência, condicionando assim, o desempenho do indivíduo (Santos & Peripolli, 2011).

Gardner (1993, 1998) defende que existem oito tipos de inteligência: linguística, lógico-matemática, espacial, musical, corporal-cinestésica, interpessoal, intrapessoal e naturalista. É importante salientar que, não existem dois seres humanos iguais ao nível do perfil de inteligência, uma vez que, fatores como a cultura, a genética, o tempo cronológico e as condições de vida irão de certa forma influenciar na inteligência de cada indivíduo. (Papalia, Feldman & Martorell, 2013).

Numa outra perspectiva Renzulli (1986), propôs duas categorias de inteligência, a nível académico e a nível produtivo-criativo. A primeira categoria, que inclui as áreas como linguística e lógico-matemática, tende a ser mais valorizada pela sociedade sendo mais fácil de ser avaliada pelos testes de QI (quociente de inteligência), entre outros testes. Estes tendem a valorizar capacidades como o processamento de informação (aquisição, armazenamento e recuperação de informação – processo cognitivo da memória), pensamento, aprendizagem dedutiva, etc. A segunda categoria visa priorizar as habilidades a nível da criatividade e da imaginação, da invenção na resolução de problemas (Santos & Peripolli, 2011).

Em suma, é importante salvaguardar que existe uma correlação entre os processos cognitivos e a inteligência do ser humano. As diversas formas de inteligência ou habilidades/superdotação do indivíduo a nível linguístico, lógico-matemático, ou até mesmo, produtivo-criativo, influenciarão o desempenho de alguns processos cognitivos como a memória e outros, no processo global da imagética (Santos & Peripolli, 2011).

## Tipo de estímulo

A imagética é um fenómeno que ocorre no dia-a-dia de todos os indivíduos. A leitura de um livro é um exemplo de estímulo e tarefa realizada no dia-a-dia dos indivíduos, que desencadeia a construção de uma representação mental, pois muitos leitores descrevem que através de um pequeno texto podem representar na sua cabeça o desenrolar de uma situação e objetos (Marques, 2013).

Até o surgimento dos estudos realizados por Paivio, a imagética e as experiências associadas a esta eram apenas concentradas na vividez das imagens mentais e nas suas diferenças perante os indivíduos. Foi só a partir dos estudos de Paivio e dos seus colaboradores que se começou a ter em atenção o tipo de estímulos que eram impostos aos sujeitos, durante as experiências. Perante as bases teóricas apresentadas por este autor e muitos outros autores cujos descobrimentos possuem grande importância na área da imagética, foram realizados diversos estudos que se

baseavam na influência que o tipo de estímulo poderia ter na capacidade da realização de uma representação mental, no indivíduo (Marques, 2013)

Um dos estudos mais recentes, foi na base de uma experiência onde usava uma amostra de 104 alunos do 1º ano da licenciatura em Psicologia, da Faculdade de Psicologia e de Ciências da Educação da Universidade de Lisboa. Para este mesmo estudo, foram avaliados processos como a imagética, onde o objetivo do estudo era avaliar se perante os 250 substantivos (estímulos) os indivíduos possuíam o mesmo grau de dificuldade em construir uma representação mental destes. Os sujeitos utilizados na experiência tinham que avaliar o grau de facilidade que possuíam, numa escala de 7 pontos, ao representar o estímulo na sua mente. Analisados os resultados, conseguiu-se concluir que os sujeitos apresentavam um grau de facilidade superior quando lhes era pedido para imaginarem um objeto, do que quando lhes era pedido para imaginarem uma emoção. Por exemplo, quando pedido para imaginarem água, em média os sujeitos davam uma classificação de 6,23, na escala de facilidade, enquanto que, perante a palavra ansiedade os sujeitos davam uma classificação de 2,63 na escala de facilidade. Ou seja, para estes era mais fácil representar um objeto do que uma emoção, demonstrando assim que o tipo de estímulo apresentado pode influenciar o tempo e a facilidade/dificuldade do indivíduo perante a realização de uma representação mental (Marques, 2013).

## Género

São poucos os estudos que referem as diferenças entre géneros em relação à capacidade de realizar uma representação mental, ou seja, em relação à imagética. No entanto, existem outras vertentes da imagética, em que é possível fazer uma comparação entre géneros. Segundo em estudo que teve como intuito, compreender as diferenças entre os homens e mulheres em relação ao processo de rotação mental, foi implementado um programa, Les Logiciels Rééduc, a 45 homens e 45 mulheres, ao todo 90 universitários do curso de psicologia, com uma idade média de 22 anos 6 meses. Posto isto, foram feitas comparações ao nível da memória visual, atenção continuada, atenção dividida, memória figurativa, cálculo e rotação mental. Para testar a rotação mental dos indivíduos, estes teriam de estar atentos ao estímulo apresentado, envolvido numa moldura e posteriormente, esse estímulo desaparecia. O objetivo era verificar a capacidade do indivíduo, em prever a posição em que o estímulo tinha ficado e depois selecionar a posição correta desse mesmo estímulo, entre 6 posições (Covre, Piza, Lukasova & Macedo, 2002).

Este estudo teve por base os pressupostos e as experiências de Shepard e Metzler (1971), fundamentado na hipótese da equivalência funcional mas também com base noutros autores, tais como Parson, Wraga, entre outros, que não vão ao encontro das ideias apresentadas por Shepard e Metzler. No entanto, em relação ao processo de rotação mental, é possível compreender que os sujeitos transformam os componentes de um objeto de acordo com a rotação em questão, formando assim uma nova imagem, em que a resposta emitida irá depender da distinção ou da similaridade entre os dois objetos. Contudo, é necessário o indivíduo utilizar um referencial específico espacial para proceder a rotação dos objetos, mentalmente (Covre et al, 2002).

Foi permitido então, verificar se eram adotadas diferenças estratégias ou se haveria alguma distinção entre géneros, no que diz respeito às diferenças das capacidades mentais. Como resultado, observou-se uma média de 58,33% nos acertos para a rotação mental do sexo masculino e 38,02% para o sexo feminino, verificando deste modo, que ao comparar homens e mulheres, os homens tinham um melhor desempenho em identificar a posição final de objetos tridimensionais, do que as mulheres. É provável que esta diferença se constata, devido ao facto de ambos os géneros, desempenharem atividades distintas na nossa sociedade. Também foi possível comprovar que não existem diferenças significativas em relação à idade dos sujeitos, sendo a proporção de acerto consideravelmente equivalente tanto nos sujeitos mais novos como também nos sujeitos mais velhos (Covre et al, 2002).

## Cultura

A cultura constitui um fator que condiciona a imagética, uma vez que, este processo de representação mental relaciona-se diretamente com a familiaridade do objeto/imagem, dependendo do contexto cultural em que o indivíduo está inserido. Toma-se como exemplo, se perguntarmos a uma criança africana, habitante de uma área rural, para imaginar um computador, ela não vai conseguir representá-lo na sua forma original, pois não tem qualquer tipo de relação com esse objeto (Braga, 2010).

A percepção que o indivíduo absorve dos estímulos provenientes do meio, correlaciona-se diretamente com a variabilidade cultural, ou seja, a cultura será um fator que irá influenciar a representação mental que o sujeito elabora perante o objeto. A identidade cultural do indivíduo como as crenças, os costumes, os valores ético-morais e o comportamento, isto são, os padrões-culturais constituem o basilar da significação do mundo que o rodeia – o seu conhecimento (Braga, 2010).

Em suma, tendo em conta a interação do indivíduo com o meio que o engloba poder-se-á afirmar que, o indivíduo está condicionado pelo conhecimento que tem deste, onde por sua vez, a sua imagética será influenciada por este mesmo conhecimento, sendo então, a cultura um dos fatores que atinge a imagética (Braga, 2010).

## 5. CONCLUSÃO

Perante as ideias de Kosslyn sobre a imagética, este afirmava que no processo da construção de uma representação mental, esta dependia dos ficheiros proposicionais e ficheiros de imagem do qual o indivíduo possuía armazenada na sua memória a longo prazo, consegue-se concluir que a memória é o processo cognitivo que mais importância tem na obtenção de uma representação mental. Contudo, não é de desvalorizar o papel que os outros processos cognitivos, como a atenção e a percepção têm na imagética, pois se o indivíduo não perceber e não estiver atento aos estímulos externos este não irá conseguir armazenar de forma correta a informação e, por sua vez, terá dificuldades na realização de uma representação mental (Alves, 2012).

Tendo em conta a interação entre o mundo externo e o mundo interno, são muitos os fatores que afetam diretamente a imagética. A idade é um fator que atinge a imagética, uma vez que, está relacionada e dependente de alguns dos processos cognitivos, visto que estes sofrem uma evolução e/ou regressão, daí haverá o surgimento de défices nas várias funções mentais, condicionando assim o sujeito (Cancela, 2007).

Por outro lado, a cultura e o tipo de estímulo que é transmitido ao sujeito afetam a imagética pois, o indivíduo está condicionado pelo meio que o engloba. Com isto, tendo em conta que o meio não é homogêneo para todos os sujeitos, estes não irão responder da mesma forma perante um estímulo idêntico, sendo assim a imagética é influenciada pelo contexto cultural, onde o indivíduo está inserido. Contudo, segundo alguns estudos realizados, o tipo de estímulo possui também grande importância pois, através destes conclui-se que perante a representação mental de uma emoção, os sujeitos possuem mais dificuldade em realizá-la, do que em realizar uma representação mental de um objeto (Marques, 2013).

Em suma, a imagética é de extrema importância para a vida do indivíduo e também para a área da psicologia cognitiva, porque combina o desenvolvimento cognitivo dos processos básicos no desenvolvimento do ser humano, sendo este processo realizado durante toda a sua vida no seu dia-à-dia, daí o interesse por parte do ramo da psicologia em estudar este fenómeno (Chaves, 2011).

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# PREDITORES DA QUALIDADE DE VIDA EM ESTUDANTES DO ENSINO SECUNDÁRIO

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## RESUMO

A promoção da qualidade de vida tem constituído uma das preocupações fundamentais da Organização Mundial de Saúde. Investigações nacionais e internacionais sugerem a necessidade de conhecer a população para desenhar e executar programas de intervenção. Este estudo pretende averiguar os preditores da qualidade de vida em estudantes do ensino secundário. É um design quantitativo, transversal e preditivo, com uma amostra de 411 estudantes do ensino secundário, portugueses, com idades compreendidas entre 15 e 21 anos. Os instrumentos de recolha de dados são o WHOQOL-Bref e a escala de BEP-Adolescentes. O modelo obtido, indica que as variáveis “domínio do meio ambiente”, “domínio físico”, “aceitação de si” e “área de residência” ( $R^2=0,52$ ) contribuem positiva e significativamente para a predição da qualidade de vida. Conclui-se que os resultados desta investigação podem subsidiar políticas públicas no desenho, desenvolvimento e implementação, a partir do contexto escolar, de programas psicossocioeducativos que visem a otimização da qualidade de vida dos estudantes.

Palavras-chave: Qualidade de Vida, Bem-Estar Psicológico, Adolescentes.

## ABSTRACT

Quality life promotion has been one of the main concerns of the World Health Organization. National and international researches suggest the need to understand the population to design and develop intervention programs. This study aims to identify quality life predictors in high school students. It has a quantitative, transversal and predictive design with 411 participants from high school, Portuguese, with ages ranging between 15 and 21 years old. Data was retrieved through WHOQOL-Bref and the teens-BEP scale. The model obtained showed that the variable “environment domain”, “physical domain”, “self-acceptance”, “residence area”, ( $R^2=0,52$ ) contribute positively and significantly to life quality prediction. We conclude that this research results may help public policies, develop and implement psychoeducational programs that improve student’s quality of life.

Keywords: Teens, Psychological Well-being, Life Quality.

## 1. INTRODUÇÃO

A qualidade de vida (QV) tem sido referenciada nas sociedades democráticas pelos meios de comunicação social sempre que ocorrem situações de desemprego, precariedade habitacional, intempéries, etc., colocando em debate as políticas sociais e económicas, medidas de proteção e promoção da qualidade de vida para a infância e adolescência, enfatizando o papel dos políticos, dos profissionais de educação, saúde, serviço social e da família (Costa & Bigras, 2007). O interesse sobre esta temática não é recente. O seu surgimento está intimamente ligado à preocupação pelas condições de vida e bem-estar dos indivíduos (Pereira, Teixeira, & Santos, 2012; Pinto, 2004; Prebianchi, 2003).

Nas acepções da Organização Mundial de Saúde (OMS, 1993, p. 153), qualidade de vida consiste em:

“a perceção que o indivíduo tem do seu lugar na vida, no contexto da cultura e do sistema de valores nos quais vive, em relação com os objetivos, os desejos, as normas e as inquietudes. É um conceito muito amplo que pode ser influenciado de maneira complexa pela saúde física do indivíduo, estado psicológico e nível de independência, relações sociais e relações com os elementos essenciais do meio”.

Logo, a QV abarca múltiplas dimensões da vida quotidiana e percepções dos indivíduos relativamente à posição/avaliação às vivências no contexto social, cultural e ambiental. Abrange, ainda, aspirações individuais, bem-estar subjectivo, sistemas de oportunidades, recursos, constrangimentos e problemas societários, assumindo, deste modo, uma abordagem dicotómica entre a objetiva e a subjectiva, que engloba as condições materiais e as não materiais, e ainda, sentimentos, realização pessoal, bem-estar psicológico e social (Fleck, Leal, Louzada, Xavier, Chachamovich, & Vieira, 1999; Jordan, 2011; Kluthcovsky & Takayanagui, 2007). Daí que, caracterizar a qualidade de vida (QV) é uma tarefa complexa, multifacetada e ambígua, diferindo segundo a cultura, a época, o indivíduo e/ou grupos. Por isso, hoje, o que é considerado como uma boa qualidade de vida, poderá não ser daqui a algum tempo (Leal, 2008) ou não ser necessariamente para outro indivíduo.

Por conseguinte, nos últimos anos, o estudo sobre a qualidade de vida tem despertado um crescente interesse na área da saúde e fora dela (Noriega, Quijada, Grubits, & Albuquerque, 2011; Pinto, 2007; Prebianchi, 2003; Rodrigues, Barroso, & Caetano, 2010). Contudo, na literatura existente, é possível denotar escassez de investigações sobre a qualidade de vida na adolescência.

De um modo geral, a adolescência consiste num estágio de transição durante o qual ocorrem múltiplas alterações físicas, cognitivas, emocionais e sociais, estando os indivíduos vulneráveis aos desafios que possam colocar em causa o seu bem-estar. Essas transformações no funcionamento psicológico podem conduzir a severos problemas comportamentais e emocionais durante a adolescência e até durante a idade adulta (Bizarro, 2001a; Fernandes, Vasconcelos-Raposo, Bertelli & Almeida, 2011; Sprinthall & Collins, 2003). Neste âmbito, Fernandes, Vasconcelos-Raposo, Bertelli e Almeida (2011, p. 156), apoiados em referenciais teóricos realçam que

“os adolescentes tendem a comportar-se incrementalmente com os seus pares e a estarem atentos a toda e qualquer característica pessoal que percecionam como distinta, pelo que invariavelmente, conotam o “ser diferente” com o “ser inferior”, o que pode afetar a sua autoestima, auto-conceito e ulteriormente, o seu bem-estar psicológico”.

À semelhança do constructo qualidade de vida o bem-estar psicológico (BEP) é multidimensional, abarca elementos cognitivos e emocionais (Sá, 2012), constituindo requisitos para a compreensão global do bem-estar humano em congruência com fatores ao nível individual e social (Ryff & Singer, 1996). Neste sentido, o bem-estar respeita ao nível em que cada indivíduo perceciona a satisfação da sua vida como um todo, sendo uma construção complexa da atividade humana.

Na década de 80 do século XX, o constructo bem-estar psicológico é proposto por Ryff (1989), configurando um novo modelo sustentado nas dimensões nucleares do funcionamento psicológico positivo, integrando o bem-estar no domínio da saúde mental positiva. Na sua perspetiva, o bem-estar subjectivo (BES) não contempla a motivação central na busca do prazer e por isso não fornece elementos suficientes de análise. Como contraponto, o seu modelo é fundamentado na interpretação do conceito aristotélico de *eudaimonia* (*eudaimonia* significa “*eu* – bem disposto; *daimon* – que tem um poder divino), que consiste na busca do bem supremo, de uma vida justa, boa e feliz, ou seja, permite os indivíduos reconhecerem as suas capacidades, talentos e viverem de acordo com o seu *daimon*, a fim de alcançarem a perfeição e a realização pessoal e, por fim, a sua felicidade e o seu bem-estar (Fernandes, Vasconcelos-Raposo, Bertelli, & Almeida, 2011; Novo, 2005; Siqueira & Padovam, 2008).

O modelo de Bem-estar-psicológico de Ryff (1989) difere do Bem-estar-subjectivo, por ser mais amplo, teoricamente mais sólido e com capacidade de incluir o bem-estar na promoção da saúde mental e momento do funcionamento psicológico positivo (Fernandes & Vasconcelos-Raposo, 2008; Novo, 2003), pois, para além de abranger a subjectividade, também inclui a satisfação de algumas necessidades (Kesebir & Diener, 2008).

Face à escassez de instrumentos para avaliarem o bem-estar psicológico na infância e juventude, Fernandes & Vasconcelos-Raposo (2008) adaptaram o modelo multidimensional, holístico e teórico-empírico proposto por Ryff (1989). Este instrumento comporta seis dimensões: autonomia – sentimento de autodeterminação e capacidade de autorregulação; domínio do meio – capacidade para gerir a própria vida e exigências extrínsecas ao indivíduo; crescimento pessoal – sentimento de desenvolvimento contínuo e abertura a novas experiências de vida necessárias à maximização do seu potencial; relações positivas com os outros – estabelecimento de relações positivas e altruístas para com os outros; objetivos na vida – definição de propósitos de vida como apoios desenvolvimentistas e atribuição de significação/importância à existência e autorrealização pessoal; e, aceitação de si – caracteriza-se pela percepção e aceitação dos múltiplos aspetos do indivíduo (quer sejam características boas ou más) e avaliação positiva do seu passado (Ryff, 1989). Este estudo revela que os alunos com mais idade apresentam níveis mais elevados de bem-estar psicológico global.

Tendo em conta que a adolescência é uma fase importante do ciclo vital, de transição para a vida adulta; que um dos contextos fulcrais na vida dos adolescentes é a escola; que praticamente são escassos estudos que tomem

em consideração as variáveis mediadoras na percepção da qualidade de vida dos adolescentes, este estudo pretende averiguar os preditores da qualidade de vida em estudantes do ensino secundário.

## 2. MÉTODO

### 2.1 Participantes

A amostra inclui 411 alunos do ensino secundário que frequentam o décimo ( $n = 232$ ; 56,4%), o décimo primeiro ( $n = 55$ ; 13,4%) e o décimo segundo ( $n = 124$ ; 30,2%) ano de escolaridade, oriundos de uma escola pública, localizada em meio urbano, sendo 222 rapazes (54%) e 189 raparigas (46%). Destes, 236 (57,4%) são residentes no Funchal e 175 (42,6%) provenientes de outras localidades. As idades variam entre os 15 e os 21 anos ( $M = 16,82$ ;  $DP = 1,42$ ), apresentando-se 272 (66,2) com menos de 18 anos e 139 (33,8%) com idade maior ou igual a 18 anos. Trezentos e trinta e três alunos (81%) completaram o 3.º ciclo do ensino básico no período regulamentar de três anos e 78 (19%) excederam o tempo previsto de três anos. Os critérios de inclusão foram ser estudantes do ensino secundário, participação voluntária, consentimento informado e ter autorização dos pais/encarregados de educação no caso dos menores de 18 anos.

### 2.2 Instrumentos

Utilizou-se um questionário de elaboração própria para recolha de dados sociodemográficos (género, idade, ano de escolaridade, área de residência), o *Questionário de Qualidade de Vida da OMS (WHOQOL-Breff)* e a *Escala de Bem-estar Psicológico para adolescentes (EBEP-adolescentes)* que nos permitiram averiguar os preditores da qualidade de vida dos adolescentes.

O *WHOQOL-Breff*, na versão portuguesa (Canavarro, Simões, Vaz Serra, Pereira, Rijo, Quartilho, Carona, 2007) integra vinte e seis questões distribuídas em quatro domínios da qualidade de vida: físico, psicológico, relações sociais e ambiente), a ser respondido numa escala de *Likert* de 5 pontos que variam entre 1 (nada) e 5 (muitíssimo) conforme a percepção do estudante. As pontuações das questões 3, 4 e 23 foram invertidas por terem sentido negativo. As três questões alusivas à vida sexual foram excluídas do presente estudo para evitar suscetibilidades nesta população estudantil, tal como corrobora Abdullah (2014). A escala revela fiabilidade razoável ( $\alpha$  entre 0,70 e 0,80) conforme *Alpha de Cronbach* obtido (Pestana & Gageiro, 2005) e proporciona informação respeitante às seguintes dimensões: domínio físico ( $\alpha = 0,74$ ); domínio psicológico ( $\alpha = 0,77$ ); e domínio do meio ambiente ( $\alpha = 0,77$ ) e domínio qualidade de vida global ( $\alpha = 0,70$ ).

A *Escala de Bem-estar Psicológico para adolescentes (EBEP-adolescentes)* (Ryff, 1986; Fernandes & Vasconcelos-Raposo, 2008) de 30 itens, pontuados numa escala de *Likert* de 5 pontos variam entre 1 (discordo plenamente) e 5 (concordo plenamente). O número de itens invertidos é de três, correspondendo aos itens 2, 5 e 19, respetivamente. A soma dos valores dos diferentes domínios dá origem ao *score* do bem-estar psicológico global. A escala apresenta valores de consistência interna aceitáveis nos domínios do bem-estar psicológico global ( $\alpha = 0,88$ ) autonomia ( $\alpha = 0,60$ ), crescimento pessoal ( $\alpha = 0,72$ ), relações positivas com os outros ( $\alpha = 0,66$ ), objetivos de vida ( $\alpha = 0,76$ ) e aceitação de si ( $\alpha = 0,79$ ). O domínio do ambiente ( $\alpha = 0,45$ ) foi excluído da análise por apresentar valor de *alpha de Cronbach* inadmissível (Pestana & Gageiro, 2005).

### 2.3 Procedimentos

Obtidas as provas psicológicas, as autorizações dos respetivos autores, bem como anuência da Direção Regional de Educação, entidade que tutela o ensino na Madeira, e do diretor do estabelecimento de ensino, passou-se à recolha de dados. O estudo transversal e preditivo foi realizado numa escola pública localizada no Funchal, ilha da Madeira.

Observados os pressupostos éticos propostos por Feldman (2001), os dados recolhidos introduzidos no software estatístico SPSS, versão 22.0 para Windows, e a análise estatística incidiu sobre a utilização da regressão linear múltipla (RLM).

## 3. RESULTADOS

Procedemos à aplicação do modelo de regressão linear múltipla, desenvolvido através do método *enter*, o qual permite integrar numa equação um grupo de variáveis mensuradas e hipoteticamente associadas à qualidade de vida, e desta forma determinar os fatores preditores.

Inicialmente incluímos as variáveis sociodemográficas, pelo que os processos seguintes foram executados no sentido de que a variância explicada pela inclusão de novos blocos de variáveis, fosse em adição ao fator inicial (o



método utilizado foi o *enter*). Seguidamente foram integrados os domínios do bem-estar psicológico e os domínios do WHOQOL-Bref. O domínio psicológico da qualidade de vida não foi incluído, por apresentar correlações altas com os domínios da escala do bem-estar psicológico, evitando deste modo sobreposição de variáveis (tabela 1).

Os resultados indicam que o género, idade, área de residência e número de anos no terceiro ciclo do ensino básico (modelo I) explica, apenas, 2,7% da variância ( $F(6,381) = 1,74, p = 0,111$ ), não predizendo significativamente, a perceção dos alunos sobre a qualidade de vida (QV). O modelo II que inclui os domínios do bem-estar psicológico – autonomia, crescimento pessoal, relações positivas com os outros, objetivos de vida e aceitação de si, determina 29,4% da variância da qualidade de vida ( $F(11,376) = 14,21, p < 0,001$ ), traduzindo-se na seguinte equação:

$$\text{Qualidade de Vida} = 22,48 + 0,416 \cdot \text{aceitação de si} - 0,145 \cdot \text{Idade}$$

**Tabela 1. Resumo dos modelos preditivos da Qualidade de Vida**

Parâmetros	Coeficientes Estandarizados ( $\beta$ )			R	R <sup>2</sup>	$\Delta R^2$	F
	Modelo I	Modelo II	Modelo III				
<b>I - Variáveis Sociodemográficas</b>				<b>0,163</b>	<b>0,027</b>	<b>0,011</b>	<b>1,74</b>
Constante	70,86	22,48	8,29				
Género	-0,072	-0,059	-0,018				
Idade	-0,106	-0,145*	-0,098				
Área de residência	0,040	0,025	0,083*				
Estar no 12.º ano	0,123	0,077	0,044				
Estar no 10.º ano	0,108	0,034	-0,025				
Concluir o 3.º ciclo em mais de três anos	-0,071	-0,006	0,036				
<b>II – Bem-estar psicológico</b>				<b>0,542</b>	<b>0,294</b>	<b>0,273</b>	<b>14,21**</b>
Autonomia		0,055	-0,062				
Crescimento pessoal		-0,050	-0,026				
Relações positivas com os outros		0,077	-0,011				
Objetivos na vida		0,100	0,033				
Aceitação de si		0,416**	0,203**				
<b>III – Qualidade de vida</b>				<b>0,721</b>	<b>0,520</b>	<b>0,503</b>	<b>31,11**</b>
Físico			0,298**				
Meio ambiente			0,391**				

Nota. R: coeficiente de correlação; R<sup>2</sup>: coeficiente de determinação;  $\Delta R^2$ : coeficiente de determinação ajustado; F: estatístico da regressão; n = 379; \* p < 0,050; \*\* p < 0,010

O modelo III, integra as variáveis sociodemográficas, as dimensões do bem-estar psicológico, os domínios físico e do meio ambiente do WHOQOL-Bref. O modelo estimado explica 52% (coeficiente de regressão  $R^2 = 0,520$ ) da variância, apenas com um decréscimo de 1,7% com relação ao  $R^2$  ajustado ( $\Delta R^2 = 0,503$ ), sendo que a sua equação traduz-se na seguinte forma:

$$\text{Qualidade de Vida} = 8,29 + 0,391 \cdot \text{domínio do meio ambiente} + 0,298 \cdot \text{domínio físico} + 0,203 \cdot \text{aceitação de si} + 0,083 \cdot \text{área de residência}$$

Foram verificados os pressupostos teóricos de aplicabilidade do modelo. Para determinar a adequação do modelo, foram observados os resíduos estandarizados dos diferentes casos (Field, 2011), sendo encontrados só 20 casos (5,27% da amostra n = 379) cujos resíduos saíram do intervalo [-2; +2], e 0,79% dos casos apresentam valores fora do intervalo [-2.58; +2.58] (apenas três casos), indicando que o modelo final representa adequadamente a amostra.

Não foram observados valores de *Cook's distance* superiores a 1, ou seja, os valores encontram-se dentro do intervalo [0,000; 0,041]. Os valores de influência (*Leverage*) não são superiores ao limite recomendado por Field (2011)  $(3(k+1)/n = 0,103)$ , onde o k é o número de preditores, 12, e n é o tamanho da amostra). Os valores de distância de Cook e os valores de influência encontram-se nos limites aceitáveis. Deste modo, podemos concluir que a amostra em estudo não apresenta casos extremos que possam influir no modelo (Field, 2011), e que o modelo cumpre os pressupostos de colinearidade múltipla não perfeita, de homocedasticidade, da independência dos erros e da normalidade dos erros sugerindo que pode ser generalizado à população.

## 4. DISCUSSÃO

Com o presente estudo procurámos averiguar os preditores da qualidade de vida em estudantes do ensino secundário, visando não só a colmatação da evidência empírica sobre o objeto de estudo, como também subsidiar, no futuro, políticas públicas no desenho, desenvolvimento e implementação, a partir do contexto escolar, de programas psicossocioeducativos que visem a otimização da qualidade de vida dos adolescentes.

Na literatura existente, não encontramos estudos que associem o bem-estar-psicológico e a qualidade de vida em adolescentes ou estudantes do ensino secundário. No entanto, tendo em consideração que a adolescência é um período por excelência de fortes mudanças, de descoberta e de conquista, da ilusão, de dúvida e por vezes de desilusão (Bizarro, 2001a; Carrasco, 2004; Moshman, 2005), de socialização e construção da identidade, de vulnerabilidade, podendo indiciar o surgimento de alterações no funcionamento psicológico (Bizarro, 2001a; Fernandes, Berteli & Almeida, 2011), desejámos com o presente estudo proporcionar uma nova abordagem e conceção que permita conhecer e compreender os fatores determinantes da variabilidade dos níveis de qualidade de vida dos estudantes/adolescentes. Apesar da natureza transversal do presente estudo, cremos que os dados reportados sustentem resultados surpreendentes.

Verificando o efeito das variáveis sociodemográficas - género, idade, área de residência e número de anos a frequentar o 3.º ciclo do ensino básico (modelo I), não se obteve determinantes significativos. Este resultado sugere que as variáveis sociodemográficas, por si só, não revelam expressão na qualidade de vida dos adolescentes participantes neste estudo ( $R^2 = 0,027$ ). Apesar da generalidade da literatura sobre este domínio de pesquisa considerar a importância das variáveis sociodemográficas, designadamente, o género (Gordia, Quadrado, Campos, & Vilela Júnior, 2009; Gordia, Silva, Quadrado & Campos, 2010), ensino público versus ensino privado (Simeão, Minatel, Vitta, Gatti, Conti, Marta & Saes, 2012), idade (Abdullah, 2014) e a área de residência (Izustu, Tsutsumi, Islam, Kato, Wakai & Kurita, 2009), na determinação da qualidade de vida dos adolescentes, consideramos importante acautelar que, associados a estes fatores sociodemográficos, podem existir outros fatores a influírem na diferenciação da qualidade de vida dos estudantes, designadamente, fatores socioeconómicos, culturais e/ou psicológicos.

A inclusão das variáveis integrantes do modelo de bem-estar psicológico denuncia que a variável sociodemográfica – idade e a dimensão psicológica - aceitação de si ( $R^2 = 0,294$ ) contribuem para a determinação da qualidade de vida dos adolescentes (modelo II). De acordo com este modelo a qualidade de vida tem tendência a diminuir com a idade, isto é, adolescentes mais jovens apresentam tendencialmente menor qualidade de vida, mas esta perceção é afetada positivamente pela respetiva aceitação de si. De facto, é concebível que a idade mais elevada influencie positivamente a perceção de qualidade de vida (Oliveira, 2006). Para tal concorre a perceção e aceitação das múltiplas características do indivíduo, quer sejam boas ou más, bem como aceitação positiva do passado (Fernandes & Vasconcelos-Raposo, 2008; Ryff, 1989).

Quando a análise foi ajustada pelo domínio físico e domínio do meio ambiente e demais variáveis independentes (modelo III) ( $R^2 = 0,52$ ), foi interessante verificar que o melhor preditor da qualidade de vida é o domínio do meio ambiente. Este parâmetro envolve a segurança, ambiente físico saudável, possuir dinheiro para suprir as necessidades, acesso às informações necessárias no quotidiano, oportunidade para realizar atividades de lazer, estar satisfeito com as condições do lugar onde vive, estar satisfeito com o acesso aos serviços de saúde e com os transportes que utiliza (Canavarro, Simões, Vaz Serra, Pereira, Rijo, Quartilho, Carona, 2007). Outro estudo verificou que adolescentes de ambos os géneros, residentes em bairros de lata urbanos no Bangladesh, apresentaram *scores* significativamente mais baixos no domínio do meio ambiente do que os adolescentes que não vivem em bairros de lata (Izustu, Tsutsumi, Kato, Wakai & Kurita, 2006). No modelo obtido, também se destaca o domínio físico que abarca avaliação das dores físicas, da necessidade de cuidados médicos, da energia para a vida diária, da mobilidade por si próprio, da satisfação com o sono, da capacidade para desempenhar as atividades do dia-a-dia e com a capacidade de trabalhar (Canavarro, Simões, Vaz Serra, Pereira, Rijo, Quartilho, Carona, 2007). Para este modelo concorre, também, a aceitação de si. Esta variável é caracterizada pela perceção e aceitação dos múltiplos aspetos do indivíduo, quer sejam relacionados com características boas ou más, e avaliação positiva do seu passado (Fava & Tomba, 2009; Fernandes & Vasconcelos-Raposo, 2008; Novo, 2005; Ryff, 1989; 2013; Ryan & Deci, 2001; Ryff & Keyes, 1995; Ryff & Singer, 2006; Siqueira & Padovam, 2008). Assim, os estudantes que aludem maior qualidade de vida tendem a perceberem-se mais competentes ao nível do domínio do meio ambiente, fisicamente saudáveis, sendo estas competências promotoras da adaptação às múltiplas exigências e desafios inerentes a este estágio desenvolvimental em que ocorrem mudanças fisiológicas, cognitivas, que criam por si uma mudança psicológica substancial. Estas mudanças refletem-se no funcionamento diário nos diferentes contextos - histórico, familiar, escolar, social e geográfico onde os estudantes estão inseridos.

Um aspeto interessante foi o modelo III ter revelado que a área geográfica onde o estudante reside, conjugada com as variáveis psicológicas em estudo, também contribui significativamente para a diferenciação da qualidade de vida dos estudantes do ensino secundário. De facto, é concebível que um indivíduo residente em meio rural, próximo da natureza, identifique e vivencie imensas oportunidades e ótimas experiências diárias, em contextos significativos incomparáveis com a vida em meio urbano. Esta relação necessita ser clarificada porque este estudo não teve em conta

outras variáveis psicológicas e sociodemográficas fundamentais para a compreensão do fenómeno, como a satisfação com a escola, o suporte social, a autoeficácia, o agregado familiar, o tipo de habitação, a adição às tecnologias, a prática desportiva, o estatuto socioeconómico e cultural do agregado familiar de proveniência dos estudantes.

É de notar que a natureza transversal deste estudo também requer a realização de futuras pesquisas noutros contextos ou de natureza longitudinal, de modo a elucidar sobre as representações dos adolescentes sobre a sua qualidade de vida. Contudo, permitiu descortinar algumas variáveis determinantes da qualidade de vida dos estudantes do ensino secundário que podem ser utilizadas em programas de intervenção, interdisciplinares e psicossocioeducativos, destinados à promoção, ao desenvolvimento e ao funcionamento positivo do estudante.

Em conclusão, este estudo mostrou que as variáveis - domínio do meio ambiente, domínio físico, aceitação de si e área de residência (habitar fora do Funchal), podem ser incluídas num modelo preditivo que permite estimar com precisão a qualidade de vida dos estudantes. A utilização deste tipo de modelos na política social educativa poderá resultar numa abordagem mais elaborada tendo por quadro de referência as diversas realidades sociais que se consubstanciam os diferentes fatores de realização de vida do estudante.

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## PARALLEL SESSION V

# AGRICULTURAL DATA DISAGGREGATION AT A LOCAL LEVEL: AN APPROACH USING ENTROPY AND SUPERVISED CLASSIFICATIONS

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## ABSTRACT

In Portugal, studies show that the changes in the Common Agricultural Policy (CAP) have led to several consequences in land uses and in the environment. This calls for disaggregated agricultural data with precise geographical references. In order to tackle such problems data disaggregation processes are needed and a series of studies are being carried out at international level. However, these approaches didn't take the utmost advantage of remote sensing methodologies or considered the combination of these methodologies with point information from the Land Use/Cover Area frame Statistical survey (LUCAS survey). Techniques such as supervised classifications, in which land use maps are automatically built, using as basis their spectral signatures, are important tools. Therefore, the objective of this article is to provide an approach to disaggregate agricultural data at local level, taking the utmost value of the existent up-to-date satellite imagery. It has two steps: in a first step, a supervised classification is developed using satellite imagery and the LUCAS survey; in a second step an entropy approach is applied to guaranty consistence among the different sources of information and with the aggregate. The results were compared with other approaches and showed to be satisfactory, and may be improved further.

Keywords: Supervised Classification, LANDSAT 8, Agricultural Data, Entropy.

JEL Classification: Q15, Q18, Q19.

## 1. INTRODUCTION

Agricultural production statistics are fundamental to agricultural policy research and a better understanding of agricultural systems (You and Wood, 2016) and it is also a critical requirement for projecting agro-ecosystem dynamics. The analysis of the Common Agricultural Policy (CAP) impacts (Britz *et al.*, 2008) and the definition of local strategies calls for information disaggregated at a local level.

In Portugal, as in other countries, the Agricultural Census is implemented every 10 years and between these years there isn't any information available at municipality or parish levels. Agrarian regions, such as the Algarve, lack this detailed information, for permanent crops for which several municipalities tend to be oriented (Xavier and Freitas, 2014).

Several studies were carried out by You and Wood (2006), You *et al.* (2009), You *et al.* (2014), Chakir (2009), Kempen *et al.* (2005), Xavier *et al.* (2015) for obtaining disaggregated data using the combination of spatial datasets, econometric models, statistical analyses, entropy estimators and techniques such as the Highest Posterior Density (HPD). However, none of these studies took the utmost advantage of recent and free satellite imagery.

Remote sensing and Geographical Information Systems (GIS) have provided relevant tools for advanced ecosystem analysis, since the remotely sensed data facilitates the analysis of the earth-system's function, and changes over time (Gadiga *et al.*, 2013). Recent satellite imagery, with several spectral bands, offers a great potential for analyzing land use and may be used in several activities. Some of this information is made available freely and include the LANDSAT satellites of the National Aeronautics and Space Administration (NASA) or more recently SENTINEL 2A in the framework of the COPERNICUS program of the European Space Agency (ESA).

Research suggests that, for the analysis of agricultural activities, remote sensing may have a considerable importance (see, for instance, Rosendo, 2005), since it may provide information regarding the types of land use by techniques such as supervised classifications, which allow using as basis spectral signatures of land uses, to create automatically maps (Congedo, 2015). Although these techniques have been successfully applied in small scale applications like river basins, their application at a European level is resource demanding or difficult (Kempen *et al.*, 2005; Tan *et al.*, 2014).

Also, there is available information from the Land Use/Cover Area frame Statistical survey (LUCAS survey), which is a point survey carried out by the field surveyors, every 3 years since 2006 to identify changes in land use and cover in the European Union. For the European Union in 2012, a total of around 271,000 points were visited by surveyors (EUROSTAT, 2013).

An approach which can take the utmost advantage from the information and the best use of free satellite imagery, LUCAS survey, combining these with mathematical programming techniques for improving and allowing consistency, is needed. Therefore, the objective of this article is to present and test a methodological approach which combines supervised classifications of satellite imagery and entropy methods to solve the problem of disaggregated agricultural data regarding permanent crops at a local level for the Algarve Region in southern Portugal.

The remainder of the paper is presented as follows: in section two the study area and the available information are presented; in section three the methodological approach is described; in section four the empirical implementation is explained; and in section five the results and discussion are presented. Finally, section six presents the main conclusions of this work.

## 2. THE STUDY AREA AND THE AVAILABLE INFORMATION

The Algarve region in the south of Portugal with an area of 4996.8 km<sup>2</sup> was selected for implementing our study. It was composed in 2010 by 16 municipalities and 84 parishes, which were reduced for 67 few years later (figure 1). In this region, there are several biophysical contrasts among the littoral and the inland with lesser fertile areas and higher slopes. The land uses are also marked by sharply bent contrasts between the coast and inland, noting a predominance of forest areas within the areas that are less favorable biophysical conditions. The dominant climate has Mediterranean characteristics, although it reveals differences between inland and coastal areas due to the influence of geographical factors.

Figure 1- The study area location



Regarding agriculture, the average area of farms is about 7 hectares (Xavier *et al.*, 2015) Previous studies carried

out by Xavier and Freitas (2014) showed that in the Algarve region there are municipalities that have an orientation tendency to permanent crops, and in many there is a guideline for fresh fruit and citrus in some municipalities. Thus, the citrus industry occupies an important place within the regional strategic activities (Valente *et al.*, 2013).

There are several sources of information, for analyzing the permanent crops' area, with several levels of detail. The agricultural census is conducted every 10 years and it has information for the agrarian region, municipalities and parishes (INE, 2011). All the other publications, with a shorter time frame have only information at the regional level. The Agricultural Statistics are available annually and provide information on the main crops for the region. The Farm Structure Survey is conducted generally with a 3 years' time frame (it has an irregular periodicity according to INE, 2014)

### 2.1. The LUCAS survey

The aim of LUCAS (Land Use/Cover Area frame Statistical survey) is to collect land cover/land use, agro-environmental and soil data by field observation of referenced points (EUROSTAT 2013). It tends to have a time frame of around 3 years. The observations are collected using field form and by taking several photographs. The LUCAS survey is co-ordinated by the Statistical Office of the European Commission (Eurostat) and executed by several the European countries. LUCAS covers the territory of all EU Member States and all kinds of land uses, and is based on a two-stage sampling design. (Kempen *et al.*, 2005). In 2012 a total around 271,000 points are visited by the field surveyors and in the Algarve region more than 400 survey units were identified (figure 2).

Figure 2- The LUCAS survey samples for the Algarve Region



(Source: EUROSTAT)

### 2.2. The Available satellite imagery

There are several sources of free satellite imagery with moderate resolution for the scientific community. From them, we must highlight the following: the LANDSAT data and the SENTINEL 2 data.

LANDSAT is a set of multispectral satellites developed since the 1970's by National Aeronautics and Space Administration (NASA) (Congedo, 2015). It's a joint effort of the U.S. Geological Survey (USGS) and NASA (USGS, 2015).

Several satellites were launched through time following this initiative. Initially Landsat 1, Landsat 2, Landsat 3, and Landsat 4 followed in 1972, 1975, 1978, and 1982, respectively. Landsat 5 launched in 1984, was operational until January 2013 and allowed obtaining multispectral images with 30 resolution. Landsat 7 successfully launched in 1999 carries the Enhanced Thematic Mapper Plus (ETM+), with 30-meter visible, near-IR, and SWIR bands; a 60-meter thermal band; and a 15-meter panchromatic band. On May 31, 2003, the Scan Line Corrector (SLC) had failed, and part of the image's data are missing. Landsat 8, launched as the Landsat Data Landsat 8 is a continuity Mission on February 11, 2013, contains the push-broom Operational Land Imager (OLI) and the Thermal Infrared Sensor (TIRS). OLI collects data with a spatial resolution of 30 meters in the visible, near-IR, and SWIR wavelength regions, and a 15-meter panchromatic band (USGS, 2015).

Today, the Landsat 7 and Landsat 8 satellites orbit the Earth at an altitude of 705 kilometers in a sun synchronous orbit. Each satellite makes a complete orbit every 99 minutes, completes about 14 full orbits each day, and crosses every point on Earth once every 16 days (USGS, 2015).



The SENTINEL 2 is a multispectral satellite developed by the European Space Agency (ESA) in the frame of Copernicus program, which acquires 13 spectral bands with the spatial resolution of 10m, 20m and 60m (Congedo, 2015). The SENTINEL 2A was launched on 23 June 2015 and Sentinel-2B will follow in the second half of 2016 (ESA, W.D.).

### 3. THE METHODOLOGICAL APPROACH

The methodological approach considered several sources of information, which include the LUCAS survey, satellite imagery and it combines several techniques: classified supervisions of satellite images, cluster analysis and minimization of the cross entropy.

This approach allows taking the utmost advantage of the LUCAS Survey in a different way of previous studies, such as Chakir (2009) and Kempen *et al.* (2005), which use these samples combined with other co-variables to derive a previous approach of land uses.

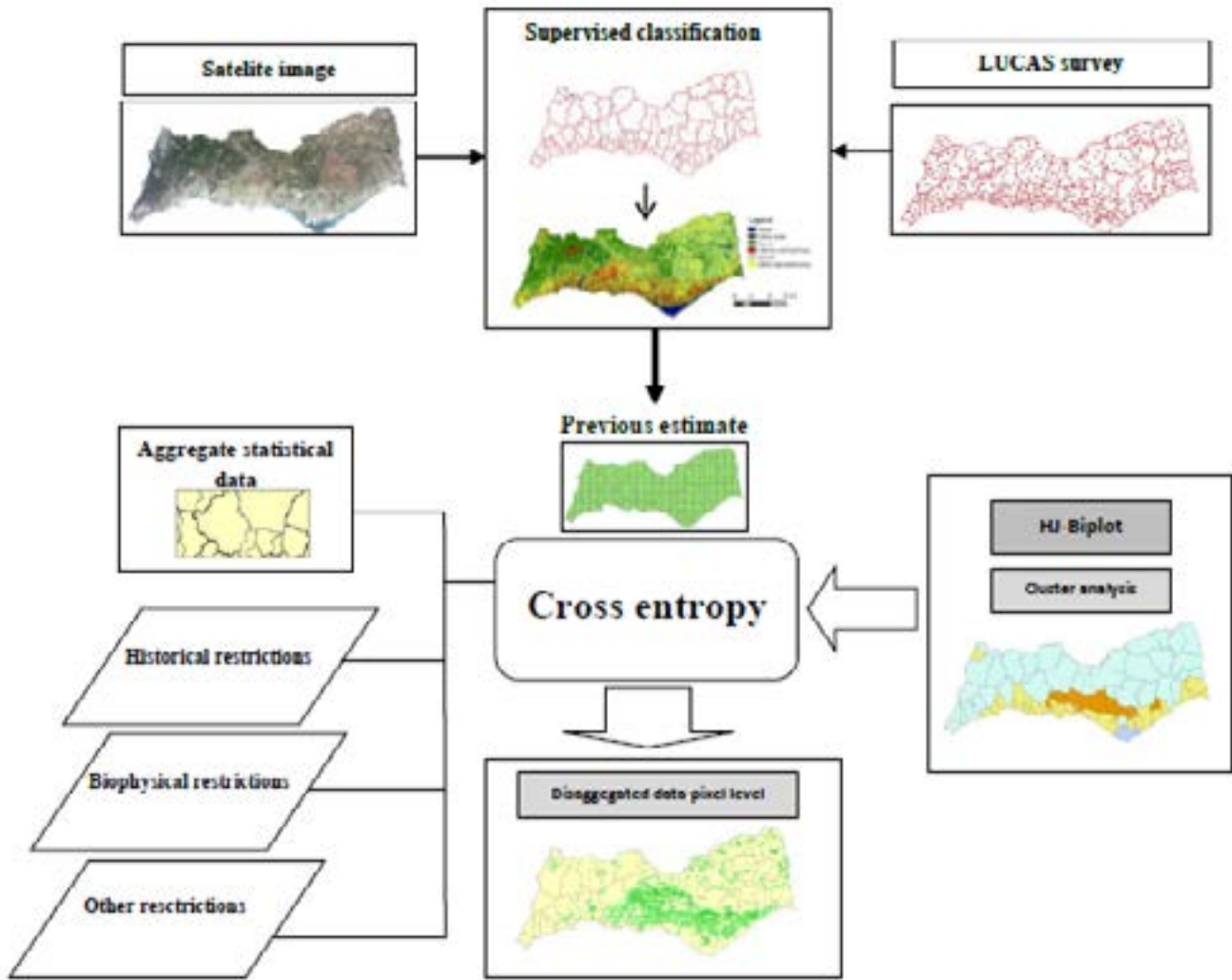
The LUCAS survey point data allows using a set of samples that may work as “training fields” (also known as training areas or regions of interest) in a “supervised classification” of up-to-date satellite image information. A supervised classification is an image processing technique that allows for the identification of materials in an image, according to their spectral signatures. Recent research shows a variety of studies which propose tools or use supervised classification techniques (e.g. Congedo, 2015; Graciani *et al.*, 2003; Martins, 2012; Jeon *et al.*, 2004). Therefore, there are several kinds of classification algorithms, but the general purpose is to produce a thematic map of the land cover (Congedo, 2015).

Moreover, the results of this classification may be further improved by using an entropy approach which guaranties consistence with the aggregate and allows respecting several historical, biophysical and policy restrictions. This entropy process may also have better results when applied to homogenous units which may be defined by means of a cluster analysis.

Therefore, the proposed approach is inspired in Xavier *et al.* (2015) and is divided in several steps (figure 3):

1. In a first step a supervised classification of satellite images for identifying the distribution of permanent crops is made. For developing this classification there are tools available freely, recently developed using QGIS, which allow an immediate and easy development of a supervised classification and the implementation of various classification algorithms: the Semi-Automatic Classification Plugin (SCP) of QGIS developed by Luca Congedo (Congedo, 2015). In this sense, the Geographic Information Systems (GIS), particularly SIGs free as Quantum GIS (QGIS) can make a contribution. The development of this step implies:
  - a) To collect all the available information and to select carefully the satellite image to be processed attending its quality and low cloud cover;
  - b) To define the “training fields” using the LUCAS survey samples as references, but also, if possible, to add new ones using as basis the empirical knowledge of the analyst;
  - c) To define the spectral signatures and to implement the supervised classification algorithm which is able to provide better results.
2. In a second step an entropy approach is applied to guaranty consistence among the different sources of information and with the aggregate. For better improve this model it is recommended to use homogenous areas for the implementation of the entropy models. Therefore, it's divided in two phases of implementation:
  - a) Implementation of a HJ-Biplot and a cluster analysis considering the main land uses which is able to divide the territory (in this case the several parishes) in relatively more homogenous areas. For information regarding the land uses, the most up-to-date land use cartography may be used, if they have a good spatial resolution, or the territory may be divided in different clusters considering the agro-ecological conditions, including biophysical data with a good resolution.
  - b) Implementation of a cross entropy minimization process for disaggregating data with respect of the previous estimate, and assuring consistency with the aggregate, with the biophysical and historical restrictions regarding farms' land uses (Xavier *et al.*, 2015).

Figure 3- The methodological approach



### 3.1. The supervised classification: the classification algorithms

The classification algorithm classifies the whole image by comparing the spectral characteristics of each pixel to the spectral characteristics of reference land cover classes. Tools such as the SCP tool allows implementing the Minimum Distance algorithm, the Maximum Likelihood algorithm and the Spectral Angle Mapping (Congedo, 2015).

The Minimum Distance algorithm calculates the Euclidean distance  $(x, y)$  between spectral signatures of image pixels and training spectral signatures, according to the following equation (Congedo, 2015):

$$d(x, y) = \sqrt{\sum_{i=1}^n (x_i - y_i)^2} \quad (1)$$

where:  $x$  is the spectral signature vector of an image pixel,  $y$  is the spectral signature vector of a training area and  $n$  is the number of image bands. Therefore, the distance is calculated for every pixel in the image, assigning the class of the spectral signature that is closer, according to the following discriminant function (Congedo, 2015):

$$x \in C_k \iff d(x, y_k) < d(x, y_j) \quad \forall k \neq j \quad (2)$$

where  $C_k$  is the land cover class  $k$ ;  $y_k$  is the spectral signature of class  $k$  and  $y_j$  is the spectral signature of class  $j$ .

The Maximum Likelihood algorithm calculates the probability distributions for the classes, related to Bayes' theorem, estimating if a pixel belongs to a land cover class and the probability distributions for the classes are assumed the of form of multivariate normal models (Richards & Jia, 2006 cited by Congedo, 2015). The discriminant function

is calculated for every pixel as (Congedo, 2015):

$$gk(x) = \ln p(C_k) - \frac{1}{2} \ln \left| \sum_k \right| - \frac{1}{2} (x - y_k)^T \sum_k^{-1} (x - y_k) \tag{3}$$

where:  $C_k$  is the land cover class  $k$ ;  $x$  is the spectral signature vector of an image pixel;  $p(C_k)$  is the probability that the correct class is  $C_k$ ;  $\left| \sum_k \right|$  is the determinant of the covariance matrix of the data in class  $C_k$ ;  $\sum_k^{-1}$  is the inverse of the covariance matrix;  $y_k$  is the spectral signature vector of class  $k$ . Note that in order to use this algorithm, a sufficient number of pixels is required for each training area allowing for the calculation of the covariance matrix (Congedo, 2015). Therefore:

$$x \in Ck \iff gk(x) > gj(x) \forall k \neq j \tag{4}$$

The Spectral Angle Mapping calculates the spectral angle between spectral signatures of image pixels and training spectral signatures. The spectral angle  $\theta$  is defined as (Congedo, 2015):

$$\theta(x, y) = \cos^{-1} \left( \frac{\sum_{i=1}^n x_i y_i}{\left( \sum_{i=1}^n x_i^2 \right)^{\frac{1}{2}} \times \left( \sum_{i=1}^n y_i^2 \right)^{\frac{1}{2}}} \right) \tag{5}$$

Where  $x$  is the spectral signature vector of an image pixel;  $y$  is the spectral signature vector of a training area;  $n$  is the number of image bands. Therefore a pixel belongs to the class having the lowest angle, that is:

$$x \in Ck \iff \theta(x, yk) < \theta(x, yj) \forall k \neq j \tag{6}$$

### 3.2. The cluster analysis

For getting better results in the entropy process, it's recommended to apply it to more homogenous areas. Xavier *et al.* (2015) applied a cluster analysis which, then may be applied to the resulting HJ-Biplot coordinates.

Cluster analysis is an exploratory technique of multivariate analysis, which allows grouping variables in homogeneous groups (Marôco, 2014). It includes different algorithms and methods for grouping objects of similar characteristics in categories. It aims at sorting different objects into groups in a way that the degree of association between two objects is maximal (STASOFT, 2013). The joining or tree clustering method uses the dissimilarities (similarities) or distances between objects when forming the clusters. (STASOFT, 2013).

The HJ-Biplot is based on singular value decomposition (SVD) of the data matrix such that (Castela and Villardón, 2010; Xavier and Freitas, 2014):

$$X_{(n \times p)} = U_{(n \times r)} \Lambda_{(r \times r)} V'_{(r \times p)} \quad \text{with} \quad U'U = VV' = I_r \tag{7}$$

where  $U_{(n \times r)}$  is the matrix of eigenvectors of  $XX'$ ;  $V_{(p \times r)}$  is the matrix of eigenvectors of  $X'X$ ;  $\Lambda_{(r \times r)}$  is a diagonal matrix of  $\lambda_1 \lambda_2 \lambda_3 \dots \lambda_r$  corresponding to the  $r$  eigenvalues of  $XX'$  or  $X'X$ .

The elements of  $X_{(n \times p)}$  are given by:

$$X_{ij} = \sum_{k=1}^r \sqrt{\lambda_k u_k v_{jk}} \quad i=1,2,\dots,n \quad j=1,2,\dots,p \quad (8)$$

### 3.3. The minimum cross entropy

Jaynes (1957) proposed the maximum entropy principle in statistical inference (You *et al.*, 2009). The unique feature of the entropy approach is to overcome two empirical problems that hamper traditional econometrics: multicollinearity and ill-posed problems (You *et al.*, 2009). Good (1963) proposed the cross-entropy (CE) approach, which can be defined as a minimization problem where the cross entropy is minimized subject to applicable constraints and the prior knowledge  $q$  (You *et al.*, 2009; Chakir, 2009). Golan *et al.* (1996) developed the generalized cross entropy (GCE) to take into account for the presence of unknown disturbances and measurement errors. This approach was previously used with success by several authors in agricultural data data disaggregation: You and Wood (2006), You *et al.* (2009), Chakir (2009), Martins *et al.* (2011), Xavier *et al.* (2010, 2011), Tan *et al.* (2014), Xavier *et al.* (2015).

The proposed model, is based on a GCE (Chakir, 2009) with the inclusion of error (Xavier *et al.*, 2015):

$$Min H(x_k^i / R_k^i) = \sum_i \sum_k x_k^i \cdot \log(x_k^i / R_k^i) + \sum_k \sum_n e_{kn} \cdot \log(e_{kn}) \quad (9)$$

$$\sum_{i=1}^K x_k^i = 1 \text{ and } x_k^i \in [0,1] \quad (10)$$

$$\sum_i x_k^i \cdot ST^i + \sum_k \sum_{kn} e_{kn} \cdot \log(e_{kn}) = STAT_k \forall i \text{ and } k \quad (11)$$

$$x_k^i \cdot ST^i \leq LAND_k^i \forall i \text{ and } k \quad (12)$$

$$x_k^i \cdot ST^i \leq B_k^i \forall i \text{ and } k \quad (13)$$

$$HM_k^i \leq x_k^i \leq HMX_k^i \forall i \text{ and } k \quad (14)$$

$$\sum_{n=1}^N e_{kn} = 1 \text{ and } e_{kn}(t) \in [0,1] \quad (15)$$

Where  $x_k^i$  are the probabilities of each crop  $k$ , to be estimated in area  $i$ ;  $R_k^i$  are the probabilities of each crop  $k$ , in area  $i$  resulting from previous estimates;  $ST^i$  is the area weight of each disaggregated unit;  $STAT_k$  are the regional statistics for crop or occupation  $k$ ;  $LAND_k^i$  is the land use available for that crop  $k$  in disaggregated unit  $i$  which can be expressed as a share;  $B_k^i$  are the biophysical limits  $B$ ;  $HM_k^i$  are the minimum historical limits and  $HMX_k^i$  are the maximum historical limits for each disaggregated unit .  $e_{kn}$  refers to an error term reparameterized, such

that,  $e_k = \sum_n \zeta_n \cdot e_{kn}$  where  $\{\zeta_1, \dots, \zeta_N\}$  with  $N \geq 2$  points is the support vector associated to the probabilities

$\{e_{k1}, \dots, e_{kN}\}$ , according to the formalism of Golan *et al.* (1996)

The equation (9) is the objective function, which seeks to minimize the cross entropy of the estimated probability distribution ( $x_k^i$ ) and the previous estimate ( $R_k^i$ ) and the errors distribution ( $e_{kn}$ ). The equation (10) refers to the fact the  $x_k^i$  must have the characteristics of a probability distribution, this. And the equation (11) states that the disaggregated shares  $x_k^i$ , must be compatible with the aggregate at the regional level (Xavier *et al.*, 2015).

Equations (12) and (13) regard the fact that this information must respect the limits of the available land cover reinterpreted from the land use cartography in the first case; and in the second case they insure that the biophysical limits are respected. Equation (14) relates to historical limits that must be respected. Finally, equation (15) regards the fact that the error respects the respect the properties of a probability distribution (Golan *et al.*, 1996).

After having calculated the shares, one simply needs to redistribute the regional data by using the following equation:

$$\hat{S}_k^i = x_k^i \cdot SA^i \quad (16)$$

In which  $\hat{S}_k^i$  is the estimated area for crop or land use k for unit i and  $SA$  is the area of unit i. If we want less detail, to convert the results to the pixel level, in the cases that the disaggregated units don't correspond to the pixel level, the following calculus is made:

$$\hat{S}_k^{pi} = \sum_{i \in pi} \hat{S}_k^i \quad (17)$$

Where  $\hat{S}_k^{pi}$  is the estimated area for crop or land use k for pixel pi.

### 3.4. Validation

The several statistical measures to compare the estimated and calculated data are detailed now for better comprehension. The measures used for validation are divided in two groups: 1) Deviation measures; 2) General statistical measures: R,  $R^2$  and the efficiency indicator (EF).

The first group is described next. The Prescription Absolute Deviation (PAD) measures the estimation deviations from real statistics data from the 2009 National Agricultural Census (e.g. Xavier *et al.*, 2010, 2014; 2015; Martins *et al.*, 2011; Fragoso *et al.* 2008).

$$PAD_k^i = \left| \frac{S_k^i - \hat{S}_k^i}{S_k^i} \right| \quad (18)$$

The  $WPAD^i$  was calculated considering the absolute deviation at the disaggregated level, considering the total deviation for the disaggregated parishes and the weight of land uses:

$$WPAD_k^i = P_k^i \left| \frac{S_k^i - \hat{S}_k^i}{S_k^i} \right| \quad \text{and} \quad WPAD^i = \sum_{k=1}^k WPAD_k^i \quad (19)$$

The  $WPAD_k^i$  expresses the true importance of the percentage deviation in each crop class regarding the observed values (PAD) weighted by its true importance at disaggregated level i. The  $WPAD^i$  corresponds to the sum of  $WPAD_k^i$  values by crop k, which allows assessing the real total deviation at the unit i level (Xavier *et al.*, 2010, 2014;

Xavier *et al.*, 2015; Martins *et al.*, 2011, Fragoso *et al.* 2008). Finally, at the aggregate level, WPAD is obtained by:

$$WPAD = \sum_{i=1}^I \frac{S_k^i}{S} \cdot WPAD^i \tag{20}$$

The WPAD corresponds to the weighted sum of the  $WPAD^i$  by each unit  $i$  regarding the total value or.

Regarding the second group of validation measures, the correlation coefficient was another validation measure used (comparing the  $S_k^i$  and  $\hat{S}_k^i$ ) and the  $R^2$  was calculated and it will represent the the “strength” of the relationship (STASOFT, 2013). This is an indicator used in this type of studies, sometimes as the only main validation measure (You and Wood, 2006; You *et al.*, 2009). The Modeling efficiency (EF) indicator is other complementary normalized measure of evaluating model performance proposed by You *et al.* (2009) and it’s presented as follows:

$$EF = 1 - \frac{\sum (S_k^i - \hat{S}_k^i)^2}{\sum (S_k^i - \bar{S}_k^i)^2} \tag{21}$$

where  $S_k^i$  is the observed value and  $\hat{S}_k^i$  the model result,  $\bar{S}_k^i$  is the average of the  $S_k^i$  values.

#### 4. EMPIRICAL IMPLEMENTATION

In the implementation of the methodological approach we use groups of the main types of permanent crops for which there is a need of obtaining disaggregated information, as follows: fresh fruits (FRTFRES), citrus (CITR), nuts fruits (FTRCRIJ), olive trees (OLIV), vineyards (VIN) and other permanent crops (OCP).

The training fields for the supervised classification were defined using the 2012 LUCAS survey as well as available knowledge, namely, regarding the uses of one particular municipality. The total number of training fields considered was 140. The resulting training fields are presented in the following figure. Note that several ones due to their size are not well visible in the figure.

Figure 4- The training fields identified



The LANDSAT 8 image used to disaggregate the 2009 data is from 29 June 2013. The reason for using this image relates to low cloud cover, quality of the image and further possibility of “pan-sharpening”. Also, there are not the limitations and possible errors of the Landsat 7 data (USGS, W.D.) since the Scan Line Corrector (SLC), which compensates for the forward motion failed permanently. The LANDSAT 8 image used was obtained from the NASA system by using the EarthExplorer: <http://earthexplorer.usgs.gov>.

The different homogenous groups of municipalities used, were defined by Xavier *et al.* (2015) using the Biplot

coordinates to apply a hierarchal cluster analysis method. They used the Euclidean distances as a dissimilarity index (Rajaraman *et al.*, 2010) and for the linkage method the Ward's method were used. The following figure presents the several groups of municipalities identified:

Figure 5- The groups of municipalities



(source: Xavier *et al.*, 2015)

The biophysical restrictions that may be considered in the entropy data disaggregation model result from the soil capacity information, slope, which allowed the definition of suitability areas for each one of the crops or occupation considered, while the historical limits regard to a general analysis of the crops' evolution using the national agricultural census tendencies. We also assume that as in reality the official entities and technicians can easily understand and identify the parishes with a null value of a certain variable.

The data disaggregation entropy model was used to disaggregate variables to the pixel level, having obtained a total of 6832 disaggregated units.

For the error definition in the entropy data disaggregation model, one followed previous studies, namely Chakir (2009), Martins *et al.* (2011), Fragoso *et al.* (2008) and Xavier *et al.* (2015). So, it was used as reference the three sigma rule. Regarding the error limits, one chooses the limits which provided better results. Therefore, the error considered was the following one  $v = \{-0.5, 0.05\}$  for the disaggregation process at pixel level regarding Group 1 while in all the others it was  $v = \{-1.0, 1\}$ .

The technical implementation of the approach was made using QGIS and the Semi-Automatic Classification Plugin (SCP) developed by Luca Congedo (Congedo, 2015) and the entropy models using the General Algebraic Modeling System (GAMS).

## 5. RESULTS AND DISCUSSION

The classified supervision method was implemented and the following map was obtained, as presented in the figure 6. Note that it includes all permanent crops and land uses, including the ones that are out the farms' area.

The major contrasts in the Region can be observed, namely between the more forested areas in the Algarve's inland and the areas with different uses in the littoral area. The distribution of the vineyards reveals problems mainly due to the very low number of "training fields" for the class that were used.

Therefore, the classification used has to be improved further and other groups of classes of land use may be an option, namely regarding forest areas. Validation may be simply made with the SCP module and a more careful implementation may be done. Nevertheless, it provided a general previous estimate, being the other classes that are not integrated in the permanent crops types grouped as others.

Figure 6- The supervised classification results

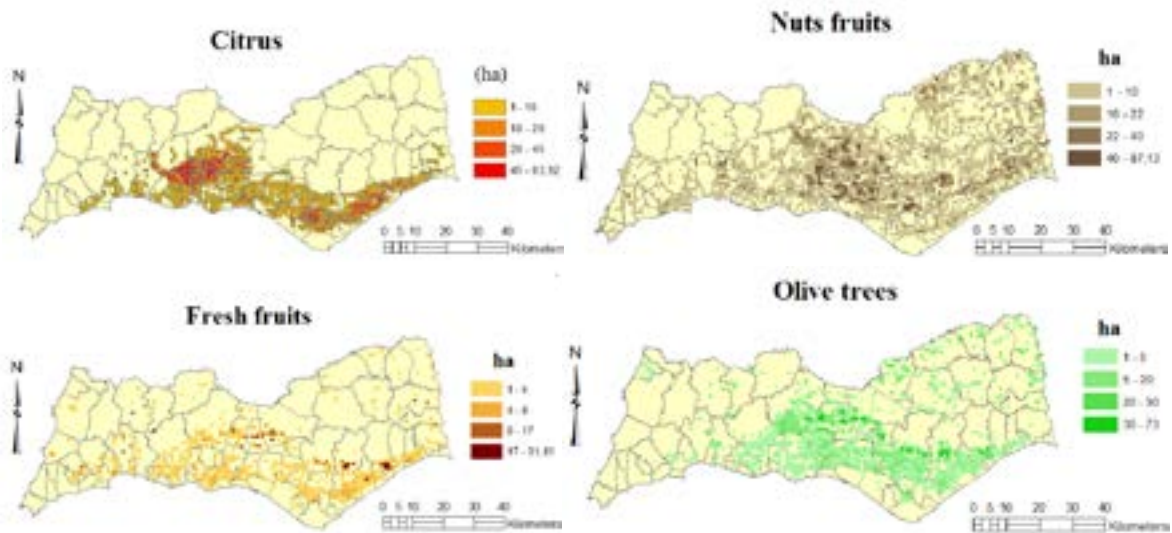


(source: model results)

The data disaggregation process was implemented in each group of parishes considered and the model for permanent crops was constructed for each group of municipalities, which were then unified in a regional map. These results include the initial shares, the areas per disaggregated unit and the aggregation of the areas per pixel. Note that the residual results or the areas lower than 1 hectare per pixel or disaggregated area are omitted, since one main requirement of farms that are in the National Agricultural Census is that they have at least 1 hectare and also that areas with least than one hectare per Km<sup>2</sup> are more residual areas without significance for a general analysis.

The following maps (figure 7) present examples of the area results per disaggregated unit. These results allow us identifying some of the major contrasts regarding the distribution of the permanent crops in the Algarve Region. For instance, regarding citrus and fresh fruits the results are more near the littoral, revealing a distribution conditioned by biophysical factors.

Figure 7- The distribution of several examples of permanent crops at the unit level

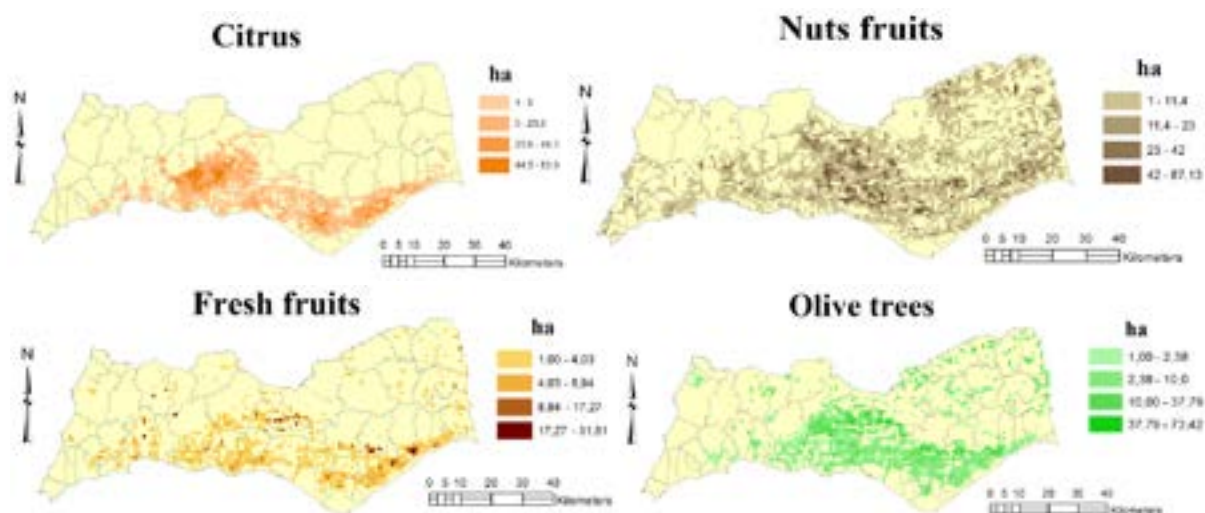


(source: model results)

Figure 8 presents the results aggregated at the pixel level. Similar tendencies were obtained regarding the different permanent crops, since this is only a simple aggregation/ simplification.



Figure 8– The distribution of several examples of permanent crops at pixel level



(source: model results)

Validation of the disaggregation model results was made at parish level considering the PAD, WPAD<sup>i</sup> and WPAD, which allow analysing the deviations in relation to the real shares. Additionally it was used the  $R$ ,  $R^2$  and the efficiency indicator (EF) proposed by You *et al.* (2009). All the validation measures obtained for these results were also compared with Xavier *et al.* (2015), which implemented disaggregation procedures at local level.

Regarding the deviation measures, a WPAD of 37.1% was obtained for the Algarve Region when considering the validation at parish level, which is near of the 38% of WPAD obtained by Xavier *et al.* (2015). It results greatly form the several biophysical and historical restrictions, which allow improving the results obtained.

The synthesis PAD analysis is presented in table 1 for the several parishes in comparison with the results obtained by Xavier *et al.* (2015). The analysis of the median of the PAD for the current approach shows that the best results were obtained in the Other Permanent Crops (OCP) and in the Olive Trees (OLIV). All the other types of permanent crops reveal a PAD median higher than 40%. Finally, the WPAD<sup>i</sup> median is of 47.2%. On turn the average results (which are influenced by outliers) reveal the best values in the Other Permanent crops (OCP).

Comparing synthesis PAD results of the current approach with the ones obtained by Xavier *et al.* (2015), we are able to observe that, when analysing the median, the Nuts fruits (FTRCRIJ), Vineyards (VIN) and fresh fruits reveal worst results, while there is an improvement in the Citrus and Olive trees (OLIV). Therefore, the WPAD<sup>i</sup> median reveals slightly worse results with 1.1% difference. These validation results at parish level are conditioned by the resolution of the data used and of the restrictions namely the consistence and land use ones.

Table 1-The statistical deviation indicators (PAD) for the permanent crops-parishes

Current approach							
Perm. Crops.	FTRCRIJ	VIN	OLIV	CITR	FRTFRES	OCP	WPAD <sup>i</sup>
Median	43.1	59.4	32.7	57.1	69.1	0.0	47.2
Average	80.6	113.6	107.2	77.0	86.9	30.2	60.3
Max	1700.0	2420.0	3179.3	620.0	845.0	718.6	296.0
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Xavier <i>et al.</i> (2015)							
Perm. Crops.	FTRCRIJ	VIN	OLIV	CITR	FRTFRES	OCP	WPAD <sup>i</sup>
Median	32	51.8	33	76.4	57.9	0	46.1
Average	81.5	113.2	113.9	86.6	83.6	20	61.5
Max	1700	2420	3900	620	845	677.8	391.8
Min	0	0	0	0	0	0	0

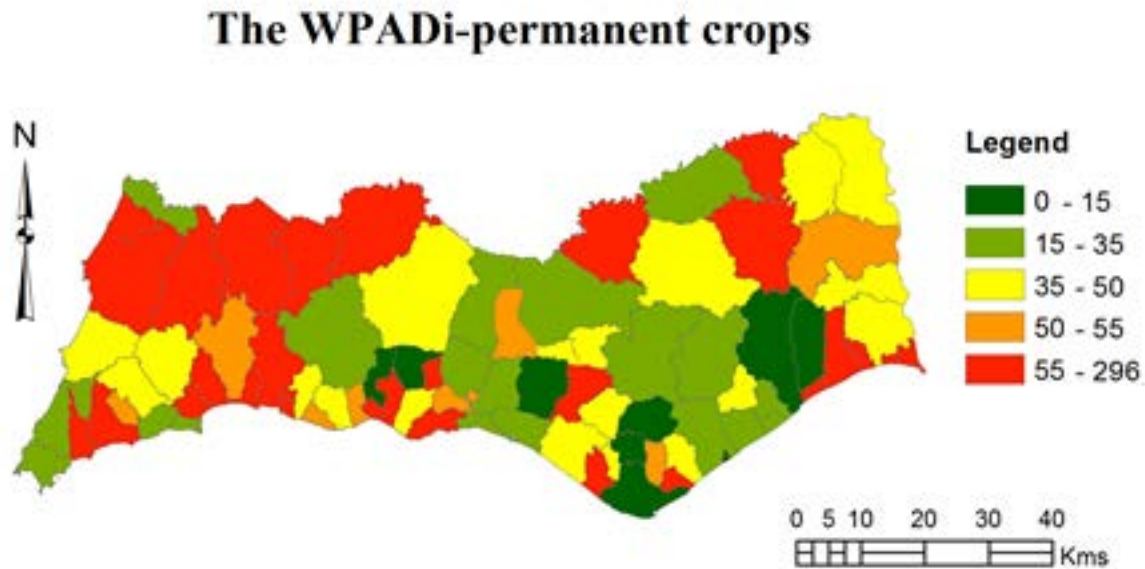
FRTFRES-Fresh fruits, CITR-citrus, FTRCRIJ -nuts fruits, OLIV-olive trees, VIN-vineyards, OCP- other permanent crops.

(source: model results)

In order to observe the spatial patterns of deviations the WPAD<sup>i</sup> is presented next (figure 9). Its analysis shows that the larger WPAD<sup>i</sup> are concentrated in several parishes of the interior, namely the ones located in the Monchique and Silves municipalities.

It's to highlight that a validation of the disaggregation process using the municipalities will reveal lower deviations. Preliminary results from the municipalities' aggregation reveal a WPAD of 21.63%.

Figure 9- The distribution of the WPAD<sup>i</sup>



(source: model results)

In spite of these measures, being used by Xavier *et al.* (2015), the authors who previous focused in these methodologies (You and Wood, 2006; You *et al.*, 2009) highlight the R, R<sup>2</sup> (You and Wood, 2006; You *et al.*, 2009) and the Efficiency indicator (EF) (You *et al.*, 2009).

The validation using the correlation coefficient R and R<sup>2</sup> are presented next (table 2). In the current approach very satisfactory results were obtained for the correlation coefficient and for R<sup>2</sup>. The worst results were obtained in Vineyards, where R<sup>2</sup> is only 0.254, which means that the explained variance is quite low. The results tend to be close to the ones obtained by Xavier *et al.* (2015), revealing improvements in the citrus (CITR).

Comparison with previous studies, of great relevance, namely, You and Wood (2006) and You *et al.* (2009) is presented next. You and Wood (2006) used this validation process in Brazil using all the country's municipalities (more than 4000) and obtained correlation coefficients between 0.4 and 0.65 and satisfactory P values. You *et al.* (2009) validated their model using 4 crops and obtained values of R<sup>2</sup> between 0.8 for one crop while the other presented values between 0.40 and 0.45. Therefore, this study presents higher values, which means that, when considering the size of the optimization problem the results are quite satisfactory in several crops.

Table 2 - The correlation coefficients and R<sup>2</sup>

Current approach						
Perm. Crops.	FTRCRIJ	VIN	OLIV	CITR	FRTFRES	OCP
Pearson	0.893	0.504	0.850	0.975	0.679	0.978
R <sup>2</sup>	0.798	0.254	0.723	0.951	0.461	0.957
Xavier <i>et al.</i> (2015)						
Perm. Crops.	FTRCRIJ	VIN	OLIV	CITR	FRTFRES	OCP
Pearson	0.899	0.623	0.851	0.950	0.725	0.984
R <sup>2</sup>	0.809	0.388	0.725	0.903	0.526	0.968

FRTFRES-Fresh fruits, CITR-citrus, FTRCRIJ -nuts fruits, OLIV-olive trees, VIN-vineyards, OCP- other permanent crops.

(source: model results)

Finally, the results were tested using the Efficiency Indicator (EF) proposed by You *et al.* (2009). You *et al.* (2009) obtained values of this indicator between 0.23 and 0.71. In this previous study only one crop presented this higher value of 0.71 while in the other 3 the authors obtained values from 0.23 to 0.44.

Therefore, in the current approach, using as basis the results obtained by You *et al.* (2009), there were obtained very good results (table 3) for the Nuts Fruits (FTRCRIJ), Olive crops (OLIV) and Other permanent crops (OCP). On the other hand the Vineyards (VIN) has a practically null EF value. This is explained by the very small number of “training fields” used in the classified supervision, which led to a bad previous estimate.

The results of the current approach tend also to be near the ones presented by Xavier *et al.* (2015) revealing improvements in the citrus (CITR) and strong decreases in the Vineyards (VIN) and fresh fruits (FRTFRESH).

**Table 3- Modeling efficiency (EF) indicator**

Perm. Crops.	FTRCRIJ	VIN	OLIV	CITR	FRTFRES	OCP
Current approach	0.774	0.035	0.664	0.921	0.396	0.956
Xavier <i>et al.</i> (2015)	0.796	0.223	0.665	0.848	0.477	0.967

FRTFRES-Fresh fruits, CITR-citrus, FTRCRIJ -nuts fruits, OLIV-olive trees, VIN-vineyards, OCP- other permanent crops.

(source: model results)

The proposed approach allows disaggregating agricultural data at a local level through a combination of minimum cross entropy methods and supervised classifications of satellite images, taking the utmost advantage of the LUCAS survey point data as training fields. However, there are several aspects to discuss.

Firstly, one aspect to be discussed regards the validity of the results. The model performed well regarding the EF, R and R<sup>2</sup>, overcoming several previous results which used entropy to disaggregate agricultural data (You and Wood, 2006; You *et al.*, 2009). However, it reveals lesser satisfactory results regarding the PAD, WPAD<sup>i</sup> and WPDAD, in spite the fact that You *et al.* (2014) who use the relative difference don't seem to obtain results better than those. Also, the resolution of the satellite image is limited, since the pixel resolution was of 30 meters and it's expected as verified by Xavier *et al.* (2015) that an validation of the data at municipality level will have better results as demonstrated before.

Therefore regarding the classified supervision there are several aspects to be discussed and that may result in an improvement of the methodology.

The classified supervision implemented didn't use Pan-sharpening or fusion techniques to increase the resolution and it may be an aspect to possibly consider. Pan-sharpening is the combination of the spectral information of multispectral bands, lower spatial resolution with panchromatic with higher resolution (Congedo, 2015). This method although not implemented may increase the resolution of the supervised classification, but also the variability and computational burden to be dealt with. This could be an aspect to be discussed with specialists and may be a line of approach, which is easy to apply using tools such as the SCP module from QGIS (Congedo, 2015).

Other issue to discuss regards the fact that the classification algorithm tested was the minimum distance, since it was the one that presented best general results. However, other algorithms (Congedo, 2015) may be tested with a larger number of training fields, since in the current approach, in spite of being used more than 100 “training fields”, in some cases such as in the vineyards (VIN), the number of training fields was quite low, which led to considerable error. Also, a more detailed validation of the prior, calculated by the supervised classification may be done. As noted by Congalton (1991) in order to adequately assess the accuracy of the remotely sensed classification, accurate ground, or reference data must be collected.

In this work, approaches using the Geographic Resources Analysis Support System (GRASS GIS) were not used, neither of the segmentation process that allows grouping similar pixels into unique segments (Monsen, 2015).

The satellite image used was from June 2013, the LUCAS Survey data from 2012, to disaggregate the 2009 agricultural census data, and it was used assuming that there is some stability of these crops across time and that the several bands of LANDSAT 8 would allow better resolution for analysis. However, it might be argued why not to test the model do the 2013 Agrarian Regions (which are 3) and using the more old LANDSAT 5 data from 2009 or even LANDSAT 7 data. Regarding the LANDSAT 7 data we consider that since for the time the manufacture of the Scan Line Corrector (SLC), which is permanent (USGS, W.D) would probability lead to some difficulties due to the fact there is a permanent error of the data. However, one research line not tested could be using the agrarian regions for validation of this methodology. In this case, the data would have to be disaggregated primarily from the Agrarian Region.

The methodology proposed implies the use of cluster analysis and further stratification and creation of homogeneous units, for one of which the disaggregation process will be implemented. However, these units considered, may not coincide with the ones for which there is available information (Xavier *et al.*, 2015). Assessment must be made and

analysis must be developed in order to better achieve the balance between the official entities' objectives and the methodologies requirements. This must be of critical importance and must be discussed clearly with the manager and stakeholders involved.

It must be argued as in cases such as these ones, the inclusion of expert knowledge may be of great value. In fact, one way of improving results and the methodology having some practical applicability would be to use experts' knowledge that could be based in a posterior allocation of the crops. This should be made carefully and trying not to interfere with the knowledge that they may have about the statics. Discussion should be made in how to achieve the best results and most efficient one in this part and how to develop detailed protocols in inserting this kind of information. Experiences of previous studies (e.g. You and Wood, 2006) could be of the utmost importance for achieving here the best and most respected results.

Discussion must be made on how to better develop a most detailed grid regarding the data to be disaggregated. Spatial distribution of the data must be in those cases more detailed at a grid more resolution, namely with few hectares. As stated by You *et al.* (2009) the spatial allocation model is addressing the scaling process for multi-scale analyses in rural development and analysis and the proposed model belongs to the downscaling approach (You *et al.*, 2009) which must have practical application.

## 6. CONCLUDING REMARKS

Our work represents an alternative modeling framework to disaggregate crop areas into pixels. The remote detection allows a good empirical study and up-to-date information of agricultural and rural areas. The current available satellite imagery freely in the NASA or ESA systems may provide information for implementing supervised classifications where the main land uses or crops are identified. The LUCAS survey has a good periodicity and may function as information for defining "training fields". This could be of great use for increasing productivity, reducing costs and for the development of a more integrated strategy. Also this presents an alternative approach for the ones at international level (Kempen *et al.*, 2005; Chakir, 2009) who combine the LUCAS survey data with biophysical and other related information to provide for crops' area estimates.

The entropy approach is a useful methodology for achieving consistency and combining the several sources of the data used, and assuring that the restrictions regarding the crops are respected. The restrictions considered at a historical level and at a biophysical one contributed to the improvement of the proposed methodology. It was proved that the inserted expert knowledge was of great value to the methodology and to the results.

Therefore, the approach proposed a good tool for solving the problem of lack of local data at a local level in the Algarve and it may function in a short periodical time since the satellite image and the LUCAS survey have a good time period. In the context of rural development such a tool, is needed can be used for an evaluation of the CAP reform in Europe, namely for evaluating the local effects of policies and for analysing possible strategies for improving the territories and their local dynamics. In fact, a more local knowledge is crucial for defining a good development of a policy.

However, the proposed methodology may be improved further in the future. To achieve more satisfactory results, investigation is been carried to improve the methodological approach's performance. Here we highlight the main lines of approaches regarding the specific methodology which focuses on the use of the satellite imagery and on the LUCAS survey data.

A first line of approach will be the implementation of the supervised classification using other algorithms and to other sets of satellite imagery data, namely SENTINEL 2A, but also to use other systems to implement the supervised classification methods which will serve as an information prior for posterior optimization and improvement.

Other line of approach will be testing the proposed methodology to other areas. This methodology may be a very good way of providing disaggregated data for the Alentejo Region, since it's an area with more homogenous conditions, in spite of its size being a possible considerable computational problem.

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# THERMAL COMFORT IN HOTELS: RELATION BETWEEN CUSTOMERS' OPINIONS AND EMPIRICAL DATA GATHERED IN 2015 SUMMER

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## RESUMO

As alterações climáticas (variabilidade climática) podem afetar o setor do turismo se as suas infraestruturas não forem resilientes. Por exemplo, às ondas de calor estão associadas situações de maior desconforto térmico, perda de rendimento e problemas no funcionamento dos sistemas de frio e de conforto ambiental interior, e aumento do valor da fatura energética. Períodos de baixa pluviosidade e empreendimentos não adaptados às AC, devido ao stress hídrico, podem ter o abastecimento de água condicionado e permitir uma degradação dos espaços verdes exteriores. Ocorrências destas afetam a qualidade do serviço e a satisfação dos clientes, sugerindo mudanças de destino.

Para se obter um maior conhecimento sobre o grau de conforto e eventuais vulnerabilidades, apresenta-se neste artigo os resultados da avaliação das opiniões manifestadas pelos turistas sobre o conforto, nomeadamente sobre o conforto térmico e os sistemas de climatização numa base de dados, para o período 2014 a 2015. Efetua-se também a análise sobre a relação entre essas opiniões e as medições de conforto térmico efetuadas no período de verão de 2015, no âmbito do projeto AdaPT AC:T (<http://adapt-act.lnec.pt/>).

Palavras-chave: Alterações Climáticas, Conforto, Adaptação, Eficiência Energética.

JEL Classificação: Z320.

## ABSTRACT

Climate change (climate variability) may affect the tourism sector if their infrastructures are not resilient. For example, heat waves periods are associated with situations of greater thermal discomfort, loss of technical performance and faults in air conditioning and refrigeration systems, and an increase in the energy bill. By other hand, periods of low rainfall and buildings not adapted to AC, due to water stress, may put the water supply at risk and contribute to degradation of outdoor green spaces. Such occurrences affect the quality of service and customers' satisfaction, suggesting new demands in terms of tourism destinations.

In order to pursuit a greater knowledge about the degree of perceived thermal comfort and possible vulnerabilities to achieve maximum satisfaction, this paper presents the results about the opinions expressed by tourists on such subjective dimension (comfort), particularly on thermal comfort and about the performance of the air conditioning systems, in two different sets of data, for the period 2014 to 2015. The authors also discuss the relationship between those opinions and measurements of thermal comfort in the period of summer 2015. This analysis has been developed

under the AdaPT AC:T research project (<http://adapt-act.lnec.pt/>).

Keywords: Climate Change, Comfort, Adaptation, Energy Efficiency.

JEL Classification: Z320.

## 1. INTRODUÇÃO

As alterações climáticas (AC) têm vindo a ser identificadas como uma das maiores ameaças ambientais, sociais e económicas que o planeta e a humanidade enfrentam na atualidade. Trata-se de um tema charneira, incontornavelmente interdisciplinar, complexo no entendimento das suas dinâmicas, sobretudo em termos prospetivos, e cujo impacto na indústria do turismo, mensurável até em termos de afetação da sua capacidade de crescimento, parece inegável. O Programa AdaPT, da responsabilidade da Agência Portuguesa do Ambiente, e suportado também com verbas provenientes do Fundo Português de Carbono e pelas EEA Grants, pretende apoiar estudos que apoiem as tomadas de decisão orientadas para medidas que minimizem as causas antropogénicas e que preparem a sociedade para lidar com os seus impactes biofísicos e socioeconómicos.

Já o projeto AdaPT AC:T, da responsabilidade de um consórcio de entidades públicas lideradas pelo LNEC (ver <http://adapt-act.lnec.pt/>), pretende desenvolver um método que permita a avaliação da vulnerabilidade de empreendimentos turísticos às AC e apoiar o desenvolvimento de planos de adaptação<sup>171</sup>. Este método baseia-se no desenvolvimento de indicadores de desempenho e de vulnerabilidade a determinar com base na informação dos hotéis. Estes indicadores são aferidos com base na prática do sector e nas melhores práticas disponíveis, atendendo à relação custo-benefício. A vulnerabilidade das infraestruturas e dos equipamentos turísticos afeta a rentabilidade da atividade devido ao aumento dos custos de exploração e/ou a uma diminuição da qualidade do serviço, podendo implicar uma avaliação da estadia menos positiva e, a prazo, a uma reorientação da procura para unidades hoteleiras mais resilientes. As AC podem traduzir-se, nomeadamente, em situações de incomodidade para os turistas; perda de rendimento e problemas no funcionamento de sistema de frio e de AVAC; aumento do valor das faturas de energia e de água e restrições no fornecimento de energia e de água podem comprometer severamente a qualidade do serviço prestado em hotéis não adaptados.

Há que ter presente que o turismo é um importante dinamizador da economia portuguesa, sendo responsável por cerca de 6,3% do PIB (Figura 1) e 6,0% de emprego direto, enquanto a nível mundial a média é de 2,9% e 3,4%, respetivamente. A procura de alojamento tem aumentado de forma acentuada nos anos mais recentes bem como o número de unidades de alojamento (INE, 2015). Os hotéis são responsáveis por cerca de 60% das dormidas (INE, 2015), das quais cerca de 30% são realizadas em hotéis da categoria 4 estrelas e 12% em hotéis da categoria 5 estrelas, evidenciando a importância que estas unidades e o seu desempenho têm na imagem do turismo nacional e na satisfação dos turistas.

De acordo com o inquérito de satisfação a turistas referente ao período de verão de 2014 (Turismo de Portugal, 2014), cerca de 60% dos turistas ficaram alojados em hotéis, apart-hotéis ou pousadas, manifestando um nível de satisfação elevado (86% ficaram muito satisfeitos) com as suas férias. A hospitalidade e a simpatia da população representam pontes fortes do produto turístico ‘made in Portugal’.

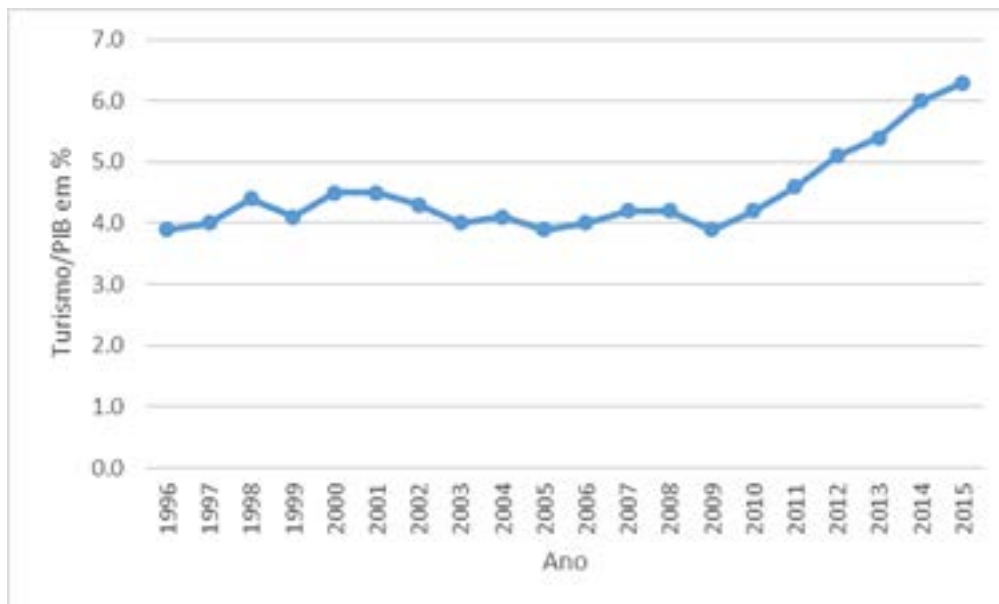
A avaliação da satisfação em unidades hoteleiras foi realizada por Salgado (2012) sobre diversas dimensões da satisfação, mas não envolveu a apreciação de aspetos relacionados com o ambiente interior e clima. Ora, e de forma muito central para o Projeto AdaPT AC:T (em curso no LNEC, cfr. Pinto, 2015), a questão que se deve formular consiste em saber qual o grau aceitável de dependência das fontes fósseis de energia e com que custos energéticos se produz essa satisfação nas unidades hoteleiras, quais os níveis de eficiência, que ganhos se podem obter com a racionalização dos processos e que resultados se obterão sob novas exigências e desafios, nomeadamente decorrentes de alterações climáticas esperadas.

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<sup>171</sup> Noutra comunicação apresentada a esta mesma Conferência (Machado *et al.*, 2016) foi exposto o racional de uma abordagem interdisciplinar que convoca as ciências sociais e as ciências da construção, muito especialmente a física das construções, para um exercício que pretende desenvolver um modelo integrado que funcione como uma ferramenta técnica para enfrentar as alterações climáticas, salvaguardando o bem-estar dos clientes, das populações e a viabilidade económica da atividade turística.

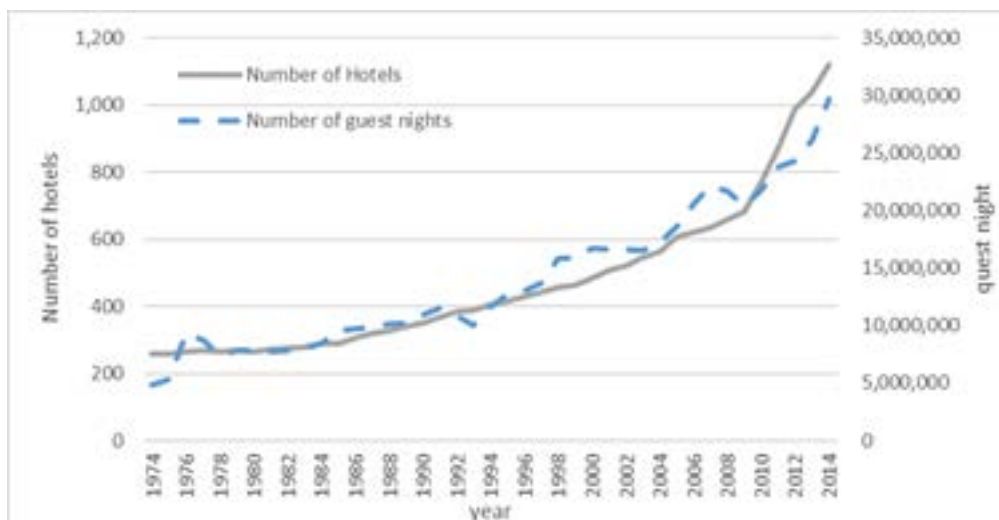


Figura 1 – Importância do turismo no PIB português



Fonte: INE, “Estatísticas do Turismo - 2014”, Lisboa, 2015. Elaboração própria

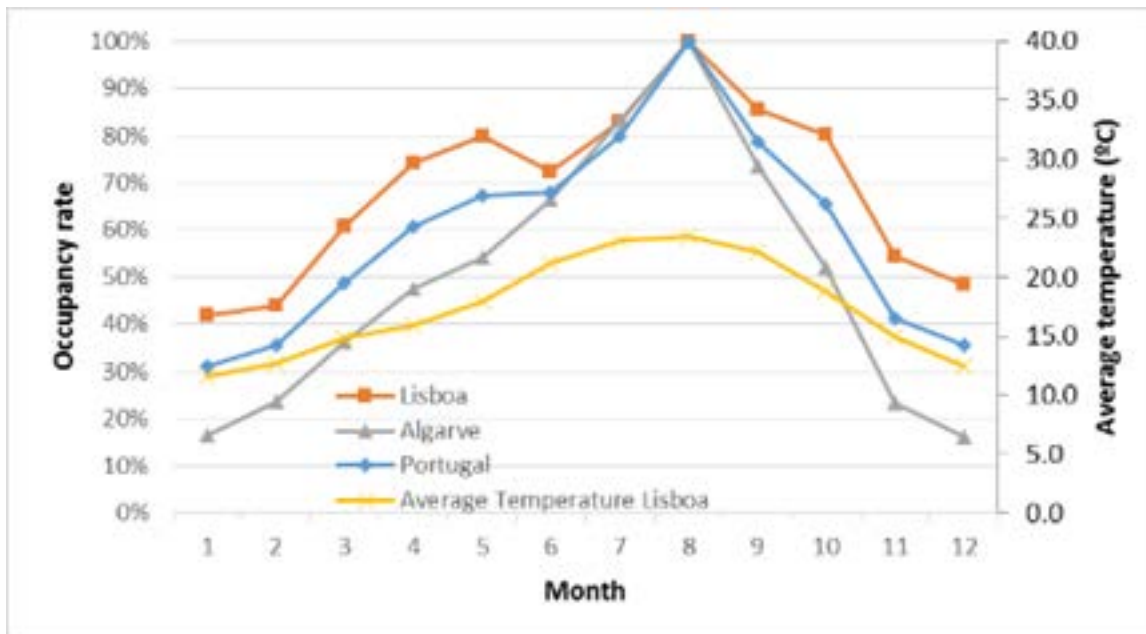
Figura 2 – Evolução das unidades de alojamento e do número de dormidas em hotéis



Fonte: INE, “Estatísticas do Turismo - 2014”, Lisboa, 2015. Elaboração própria

A legislação aplicável aos empreendimentos hoteleiros estabelece, presentemente, requisitos aplicáveis às diferentes categorias de estabelecimentos, impondo em hotéis de 4 e 5 estrelas, por exemplo, a exigência de climatização nas unidades de alojamento e das zonas comuns com sistemas de climatização ativos ou passivos que garantam conforto térmico (Pinto, 2015). Os hotéis, devido às exigências de qualidade e à diversidade de serviços prestados, são edifícios com elevada intensidade energética e hídrica, cerca de 10 vezes superior às habitações no consumo de energia e no consumo de água (Pinto *et al.*, 2015). Os consumos de energia nos hotéis estão diretamente relacionados com a taxa de ocupação e com o clima, em que a ocorrência simultânea de maiores taxas de ocupação nos hotéis com os períodos mais quentes (INE, 2015) aumenta a sua vulnerabilidade às alterações climáticas, nomeadamente aos períodos extremos de calor.

Figura 3 – Taxa de ocupação média de hotéis e temperatura média mensal (INE e IPMA)



Fontes: INE, Estatísticas do Turismo; Instituto Português do Mar e da Atmosfera. Elaboração própria

Tendo por base os valores dos consumos específicos de energia elétrica e de gás de hotéis de 4 e 5 estrelas do projeto AdaPT AC:T (n= 9 hotéis), foram estimados custos energéticos por dormida de €4,5 e custos de €1,5 associado ao consumo de água (valores que incluem todos os custos, por exemplo taxas e IVA), bem como emissões de CO<sub>2</sub> de 13 kg/dormida. Estes custos são cerca de 13% da receita por cama disponível, o que parece significativo.

As empresas de turismo, por questões de imagem corporativa e compromisso societal aderem a sistemas de certificação ambiental (por ex. ISO 14001, EMAS, Ecolabel, Green key, Nordic Swan). Todavia, há também uma racionalidade económica evidente, porque ao serem mais sustentáveis permite-lhes reduzir custos de exploração, transmitir uma imagem *ecofriendly* apreciada pelos clientes. Contudo, ainda apresentam uma preocupação limitada quanto ao impacto das alterações climáticas (Nilsen & Ellingsen, 2015). Geerts (2014), com base em questionários a hoteleiros de Londres, partilha esta visão e discute três objetivos da certificação ambiental em hotéis: i) promover a implementação de práticas sustentáveis; ii) aumentar a rentabilidade; iii) fornecer informação mais precisa aos turistas; e conclui que esses objetivos nem sempre são atingidos. Tal como Chan (2013) o fizera, entre alguns outros investigadores (por exemplo, Lyon & Montgomery, 2015) torna-se claro o alerta para os riscos de *'greenwash'*, ou seja, para a comunicação que induz crenças positivas nas pessoas sobre a responsabilidade das empresas relativamente às suas práticas e produtos amigos do ambiente sem que tal tenha efetiva correspondência com a realidade.

Por outro lado, e segundo a Organização Mundial do Turismo UNWTO (2008), a capacidade adaptativa dos diferentes atores sociais envolvidos no processo de produção e consumo do produto turístico não é exatamente igual (Figura 4), o que sugere estratégias de abordagem distintas – em vista de uma sensibilização para a mudança de procedimentos.

Figura 4 – Capacidade adaptativa relativa dos maiores subsectores do turismo

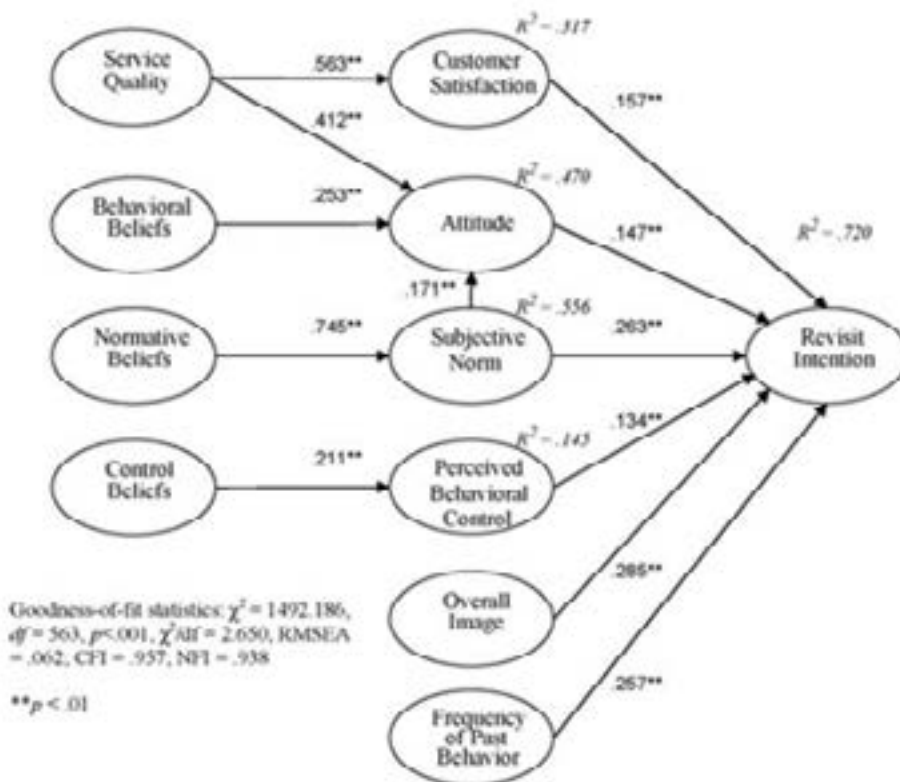


Fonte: Adaptation to Climate Change in the Tourism Sector, World Tourism Organization (UNWTO)

Não existe ainda um consenso estabilizado sobre a satisfação com hotéis verdes, dado que alguns estudos mostram uma relação positiva enquanto outros apresentam uma relação negativa. Gao & Matilla (2014) estudaram a satisfação dos turistas com os hotéis verdes, referindo que se o serviço não tiver falhas a satisfação dos consumidores de hotéis verdes é superior à dos hotéis não-verdes. A satisfação é maior nos hotéis verdes (face aos não-verdes) quando as preocupações ambientais têm por objetivo o público geral (e não apenas a organização). Contudo, concluem que o acolhimento e a competência (dimensões sócio organizacionais) são decisivos na mediação da relação entre a satisfação dos consumidores e o serviço prestado.

Sobre o conceito de qualidade do serviço também não existe um absoluto consenso (Han & Kim, 2010). Porém, existem dois aspetos que são identificados na literatura do marketing e comportamento dos consumidores: i) qualidade do serviço numa perspetiva geral que envolve a comparação face à excelência; ii) satisfação do consumidor pós-compra, e a apreciação da transação baseada nas expectativas. Para estudar a satisfação dos turistas e o seu retorno, os autores desenvolveram um modelo preditor identificado na Figura 5, suportado numa *path analysis*, permitindo obter uma variância explicada (de 72%) da variável ‘intenção de retornar’, suportada em correlações estatisticamente significativas com variáveis de um espectro alargado (organizacionais, psicológicas – crenças, atitudinais, comportamentais).

Figura 5 - Modelo para apreciar recompra de estadias em hotéis verdes



Fonte: Retirado de H. Han and Y. Kim (2010). “An investigation of green hotel customers’ decision formation: Developing an extended model of the theory of planned behavior,” *Int. J. Hosp. Manag.*, vol. 29, no. 4, pp. 659–668

Para apreciar o grau de expectativas dos turistas eco, Bastič & Gojčič (2012) identificaram quatro aspetos principais (ordenados da seguinte forma): i) comportamento eco do *staff* do hotel; ii) produtos e equipamentos naturais, amigos do ambiente e sem substâncias perigosas; iii) uso eficiente de energia e de água; iv) comida biológica. As expectativas dos turistas sobre o nível eco do hotel dependem do nível de rendimento do turista, nacionalidade e da certificação do hotel. Sobre a certificação eco da sustentabilidade dos hotéis, Tepulos & Córdoba (2005) haviam já identificado barreiras na transição eco para a sustentabilidade devido à dificuldade em incorporar, de forma quantificável e fiável, a dimensão socioeconómica nos esquemas de certificação. Com efeito, esta dimensão incorpora aspetos tangíveis e intangíveis que não são fáceis de captar – como a nossa própria experiência na execução do projeto AdaPT AC:T nos permite testemunhar.

Apesar do reconhecimento internacional das AC, Shani e Arad (2014) consideram que essa preocupação pode ser excessiva na indústria do turismo, invocando uma racionalidade nas políticas e práticas. Por outro lado, e segundo Morton *et al.* (2011), a indústria da construção reconhece as AC como importantes para a sua atividade, embora as práticas atuais (projeto, técnicas construtivas, materiais utilizados) sejam insuficientes para mitigar os seus efeitos, sendo necessário desenvolver novas abordagens. Contudo, quando questionados sobre medidas de adaptação, as iniciativas previstas pela indústria da construção são, essencialmente, estratégias de mitigação. Simplificadamente, e com um grau de generalização que necessita de correção com mais e melhor informação (que não se encontra facilmente disponível), o enfrentamento das AC é ainda hoje menos evidente na conceção (projeto) e execução (obra) e, por conseguinte, mais premente na reabilitação e adaptação do edificado.

O impacte das AC nos edifícios foi estudado, por exemplo, no projeto SIAM (Santos *et al.*, 2001) e no projeto AdaPT AC:T. Com a metodologia simplificada foram estimados acréscimos de consumos nos hotéis de 20% para a energia elétrica, 10% para a água e uma redução do consumo de gás para cenários RCP8.5<sup>172</sup> e no final do século (Pinto *et al.*, 2015). Fisk (2015) reviu alguns dos impactes que as AC podem ter no ambiente interior dos edifícios, projetando o aumento do número de mortes e internamentos hospitalares devido a asma, pneumonia e problemas cardiovasculares, recomendando as seguintes medidas de adaptação: o isolamento térmico de coberturas, revestimentos refletantes e uso de ar condicionado para evitar o sobreaquecimento. Sobre esta última medida, as primeiras análises de dados desenvolvidas no âmbito do nosso projeto AdaPT AC:T, suportadas nas auditorias energéticas efetuadas aos 9 hotéis, permitem concluir que a despesa energética e hídrica por guest representa, em média, 13% da receita por quarto disponível, sendo a parcela correspondente à produção de frio no verão de 2015 de 2%.

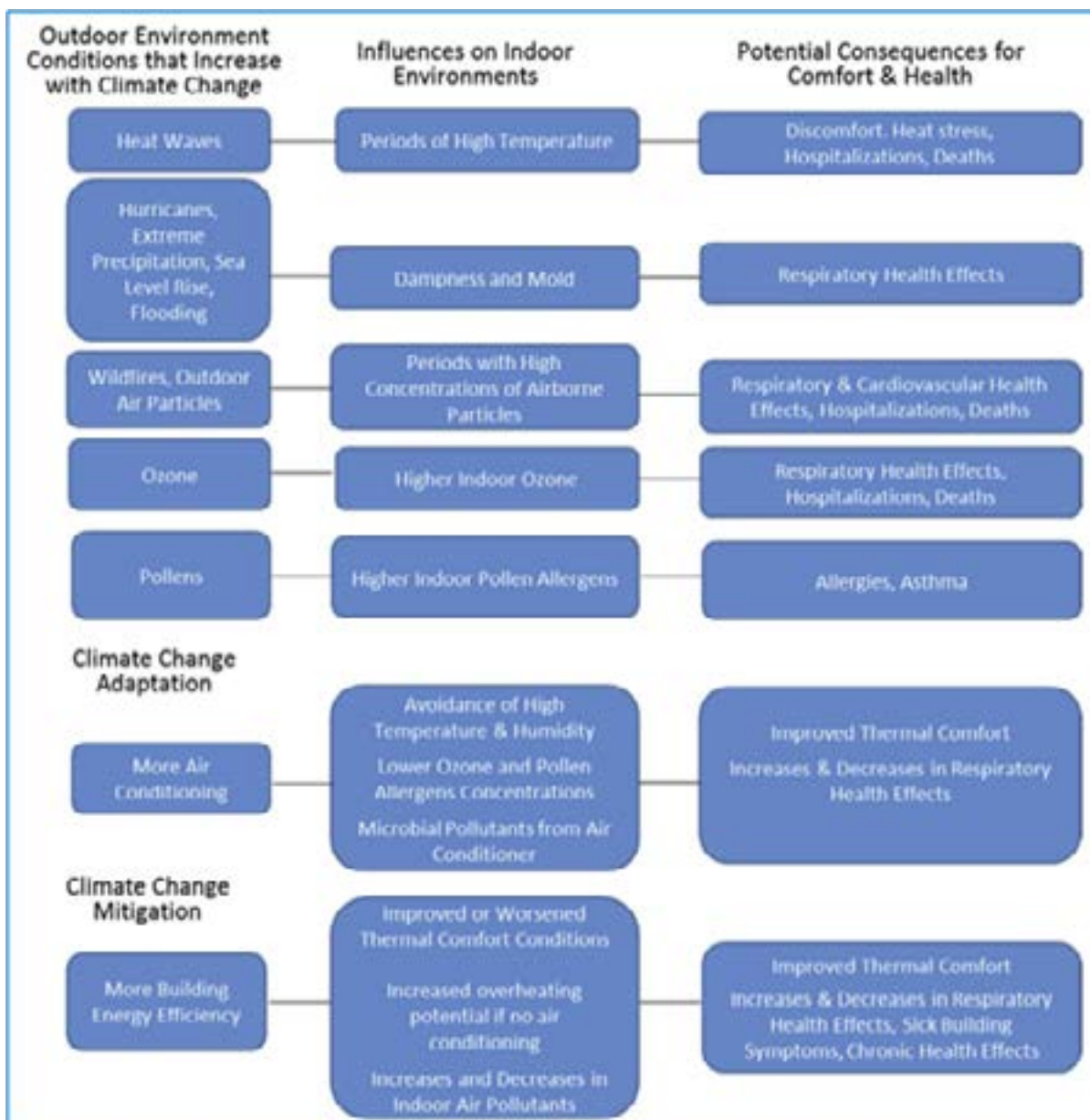
Num estudo realizado em Creta (Zografakis *et al.*, 2011), cerca de 40% dos gestores de hotéis manifestaram ter pouca informação sobre eficiência energética e energias renováveis. Contudo, 80% dos gestores manifestaram que a eficiência energética e as energias renováveis podem aumentar o lucro da sua unidade e 50% reconhecem que os turistas escolhem hotéis baseados na sua imagem ambiental, pelo que as preocupações ambientais e de eficiência energética e hídrica podem constituir estratégias de mitigação e de adaptação às AC e de sustentabilidade.

Esta necessidade de informação é o primeiro objetivo estratégico da adaptação às alterações climáticas no setor do turismo (Canaveira & Papudo, 2013), sendo que para reduzir a vulnerabilidade e aumentar a capacidade de resposta aplicável ao setor dos hotéis (2.º objetivo estratégico) se podem mencionar as seguintes ações:

- Monitorizar a implementação das medidas de adaptação;
- Promover o uso eficiente dos recursos naturais, através de:
  - Medidas que diminuam o consumo da água e salvaguardem os recursos hídricos subterrâneos;
  - Aproveitamento de águas residuais tratadas e de águas pluviais (eventualmente para rega e manutenção dos espaços exteriores e abastecimento de piscinas);
  - Utilização de espécies vegetais autóctones e adaptadas às condições edafo-climáticas;
  - Otimização na utilização dos recursos energéticos.
- Apostar na construção sustentável, I&D e eco-inovação, através de:
  - Valorização de projetos inovadores e integradores que sejam fator de diferenciação e sustentabilidade;
  - Utilização de materiais de construção adaptados ao agravamento dos riscos, por exemplo para as ondas de calor (com base em análise de custo-benefício);
  - Reabilitação de edificado existente em prejuízo de edificado novo.

<sup>172</sup> RCP (*representative concentration pathways*) 8.5 combina pressupostos de elevada população, baixa taxa de crescimento económico, com pequenas alterações tecnológicas na transformação de energia, conduzindo a longo prazo a elevadas concentrações de gases de efeito de estufa, corresponde ao cenário mais gravoso.

Figura 6 – Exemplos de como as alterações climáticas podem afetar o ambiente interior



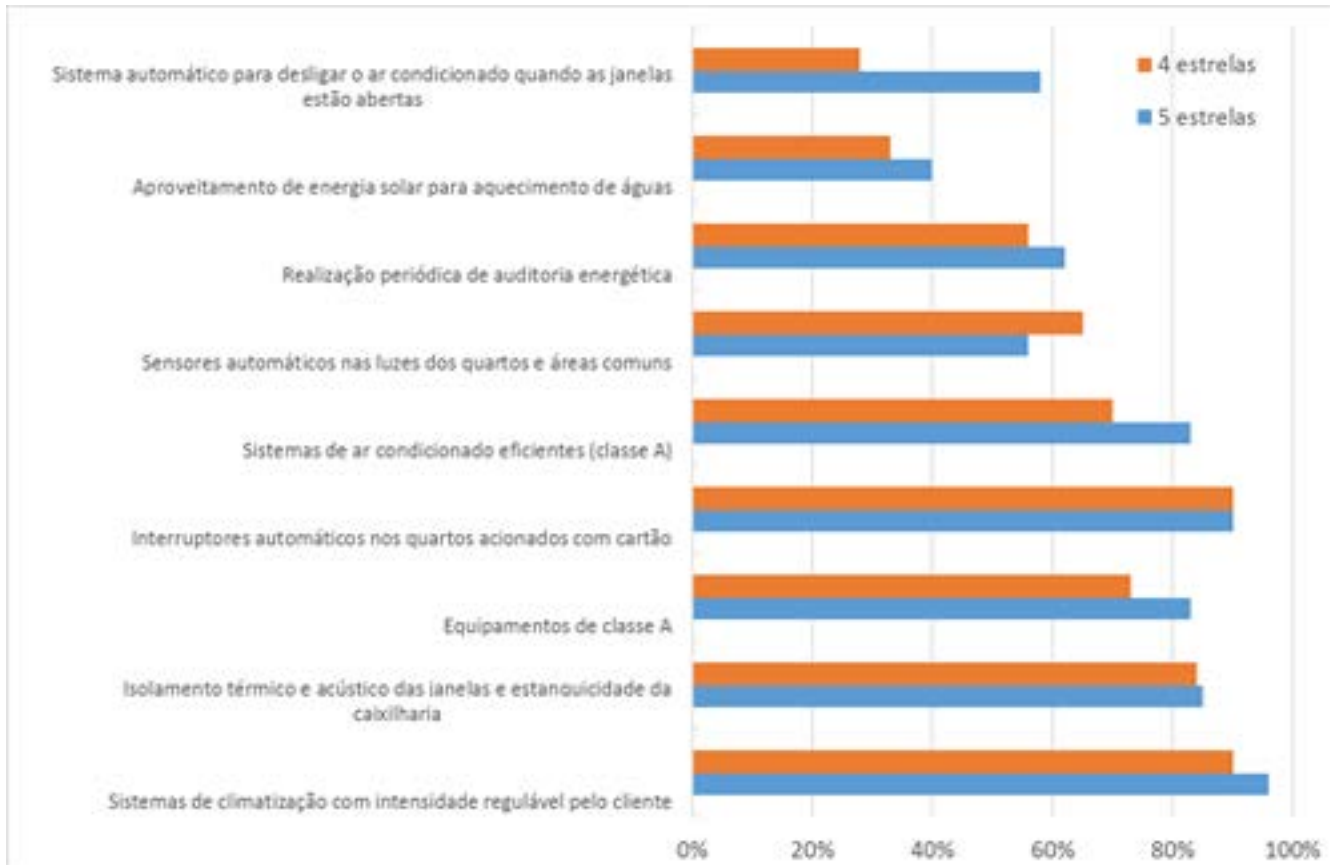
Fonte: Retirado de W. J. Fisk, “Review of some effects of climate change on indoor environmental quality and health and associated no-regrets mitigation measures,” *Build. Environ.*, vol. 86, pp. 70–80, 2015

Em Portugal, desde 2006 que é obrigatória a certificação energética de edifícios, sendo impostos requisitos nas obras novas, reabilitação e intervenções (desde janeiro de 2016) ao nível do desempenho da envolvente e dos sistemas energéticos (RECS-E, 2013), o que tem impulsionado (e impulsionará crescentemente) uma melhoria também ao nível da eficiência energética dos hotéis.

Face às preocupações ambientais do turismo e ao impacto económico dos consumos de energia e água, os hotéis de 4 e 5 estrelas têm implementado um conjunto de boas práticas ambientais, nomeadamente no domínio do uso eficiente de energia (Figura 7) e do uso eficiente de água (Figura 8).

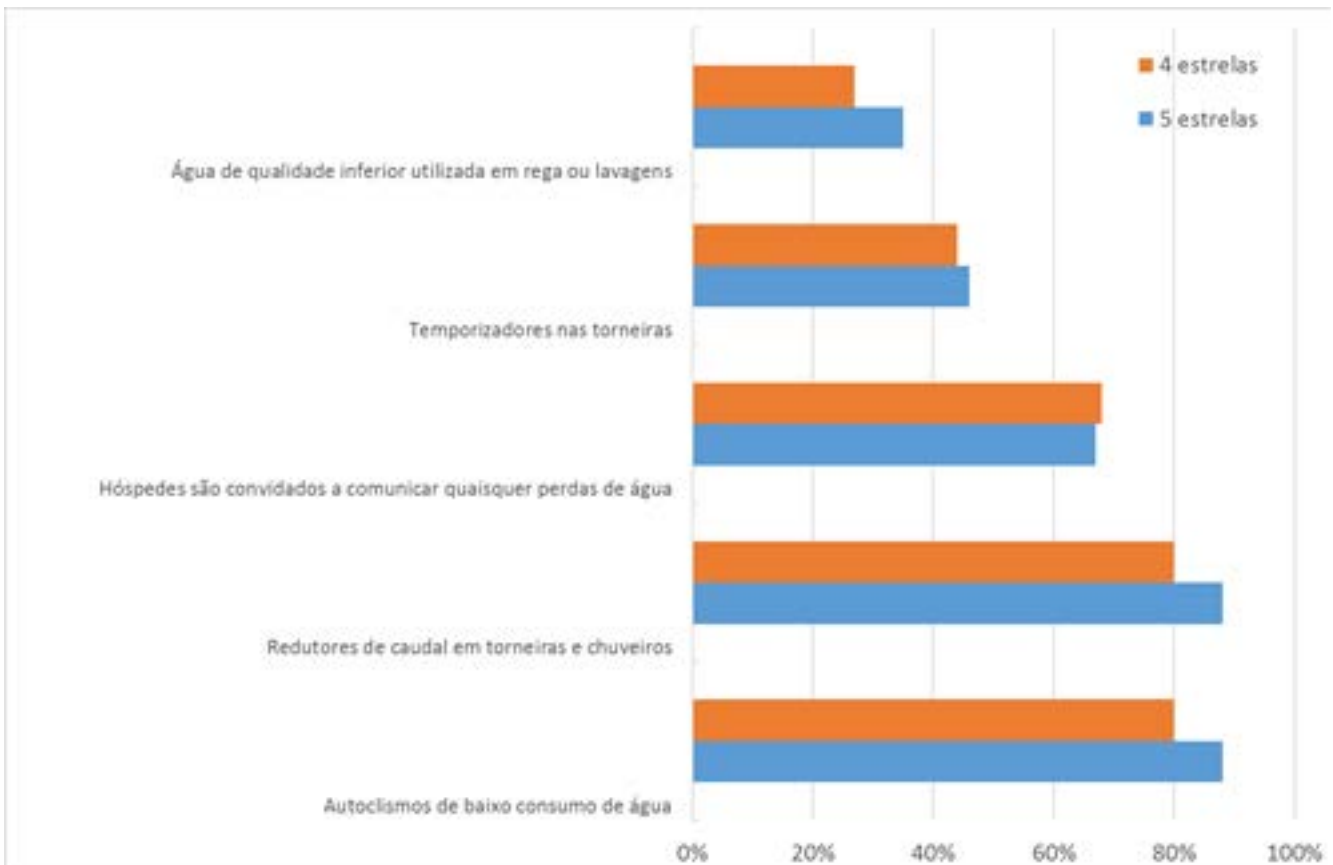
Como se mencionou anteriormente, na indústria turística o turista é o elemento que mais facilmente se adaptará a novas condições ambientais e climáticas; no limite, mudando de destino! Dificilmente aceitará que lhe sejam imputados sobrecustos por força de uma fatura energética em crescendo (para mitigar os efeitos das AC), porventura com o argumento que uma maior eficiência energética acarreta diminuição de custos, e dificilmente aceitará se sujeitará a padrões de conforto subjetivo mais austeros. Assim, as infraestruturas e as organizações têm que ser capazes de esgrimir outros argumentos e capacidades; o mesmo é dizer que a sua resiliência diante das AC tem que ser, pelo menos, equivalente ao desafio que essas alterações sugerem, de modo a manter, e se possível até aumentar, a qualidade do serviço para garantir competitividade sem aumento exponencial de custos.

**Figura 7 – Medidas de uso eficiente de energia nos hotéis de 4 e 5 estrelas**



Fontes: Turismo de Portugal, Relatório de Sustentabilidade de 2013. Elaboração própria

**Figura 8 – Medidas de uso eficiente de energia nos hotéis de 4 e 5 estrelas**



Fontes: Turismo de Portugal, Relatório de Sustentabilidade de 2013. Elaboração própria

No projeto AdaPT AC:T está em desenvolvimento um método que deverá permitir a avaliação da vulnerabilidade de empreendimentos turísticos às AC e apoiar o desenvolvimento de planos de adaptação, nomeadamente face aos períodos de calor (Figura 9). Para avaliar a vulnerabilidade dos empreendimentos turísticos às AC, no projeto AdaPT AC:T são adotadas abordagens simplificadas (Pinto *et al.*, 2015), bem como são adotadas estratégias detalhadas (Pinto *et al.*, 2016) que incluem uma auditoria e modelação detalhada do edifício e dos respetivos fenómenos de transmissão de calor e massa.

**Figura 9 – Proposta de metodologia simplificada para estimar impacto das AC**



Elaboração própria

## 2. . CONFORTO TÉRMICO

Como qualquer outra noção de conforto, resultante de sensações humanas onde intervém uma forte componente subjetiva, a noção de conforto térmico não é de fácil definição. No entanto, de um ponto de vista geral, a sensação de conforto térmico pode ser definida como “o estado de espírito que expressa satisfação relativamente ao ambiente térmico” (ASHRAE, 2015; Matias, 2010). Por outras palavras, convencionalmente, um indivíduo está confortável termicamente quando não sente nem calor nem frio.

Essa satisfação relativamente ao ambiente térmico depende, além dos fatores físicos que determinam as trocas de calor entre o corpo humano e o meio ambiente em que se encontra (balanço térmico), de outros fatores de carácter social, cultural e psicológico que se relacionam com as diferenças na perceção e na resposta a estímulos sensoriais, fruto de experiências passadas e da expectativa dos utentes dos espaços. O conforto é, assim, uma construção social.

Deve ser dada uma ênfase particular à primeira parte da definição acima referida relativa ao “estado de espírito”. A sensação de conforto térmico diz respeito a uma situação psicológica e não só a um estado fisiológico, sendo influenciado por diferenças individuais nos modos, na cultura pessoal e outros fatores pessoais, sociais e organizacionais, não sendo por isso de estranhar que o vaticínio de Fanger (1970), segundo o qual não existem métodos de avaliação do conforto térmico perfeitos, se mantenha atual. No entanto, há um conteúdo básico correspondente à satisfação estrita de condições fisiológicas que se reconhece imprescindível mas que, naturalmente, diverge com o quadro do clima local e da capacidade de adaptação pessoal e, por isso, não é suficiente para traduzir integralmente uma situação de conforto térmico. A condição básica para que tal aconteça é a de que o organismo se encontre em equilíbrio com o ambiente, isto é, que o balanço térmico das trocas de calor entre o corpo humano e o meio ambiente circundante seja nulo, mantendo a temperatura corporal a uma temperatura constante de  $37,0 \pm 0,8^{\circ}\text{C}$ , independentemente das variações das condições ambientes.

As trocas de calor que definem o balanço térmico são influenciadas por diversos parâmetros físicos, que se podem subdividir em parâmetros ambientais, nomeadamente as temperaturas do ar e média radiante, a humidade absoluta do ar e a velocidade do ar, e em parâmetros individuais. Os primeiros podem ser avaliados quantitativamente por medição com equipamentos específicos. Os segundos podem ser estimados em função da taxa de metabolismo e a resistência térmica conferida pelo vestuário e dependem, ainda, da atividade física exercida.

Tal como já foi referido, além destes parâmetros físicos, a percepção de conforto térmico depende também de outros fatores de carácter sociocultural e psicológico que abrangem diversas características, nomeadamente: sociodemográficas (género, idade, estatuto socioeconómico, entre outras); contextuais (design e tipo de edifício, clima ou estação do ano, bem como o condicionamento social); e cognitivas, designadamente, as atitudes, preferências e as expectativas dos indivíduos em relação ao ambiente térmico (Matias, 2010). São estes fatores psicossociais que permitem explicar que, por exemplo, um europeu possa estar confortável com 22-23°C e um africano considere temperaturas de conforto mais elevadas.

Face à subjetividade do tema, existem atualmente duas abordagens que procuram estimar e avaliar as condições de conforto térmico em ambientes interiores de edifícios. A primeira recorre a métodos analíticos que consideram apenas as trocas de calor entre o indivíduo e o ambiente circundante (fatores físicos), e pretendem com base nas medições dos parâmetros ambientais e individuais acima referidos caracterizar a sensação térmica global de um corpo num dado ambiente, através de índices térmicos. Em alternativa, a segunda abordagem considera que a obtenção das condições de conforto térmico resulta de um processo dinâmico, no qual o utilizador mantém uma interação física e psicológica com o ambiente, sendo imprescindível considerar a sua capacidade e necessidade de se adaptar, quer através da interação com o edifício e os seus sistemas (adaptação comportamental), quer devido aos seus hábitos sociais e culturais (adaptação psicológica) (Matias, 2010).

A adaptação psicológica envolve os efeitos de variáveis cognitivas e culturais e descreve a dimensão para a qual a habituação e a expectativa influenciam a percepção térmica e a reação a uma informação sensorial. A percepção térmica varia de indivíduo para indivíduo, sendo que a resposta sensorial a estímulos físicos depende mais da 'informação' que o indivíduo tem para cada situação particular do que propriamente da intensidade do estímulo.

Existem vários parâmetros de ordem psicológica que podem influenciar a percepção térmica de um dado espaço, destacando-se:

1. A expectativa relativamente a um dado ambiente térmico que pode ser definida 'como o ambiente deveria ser, em detrimento do que é realmente'. Este parâmetro tem uma grande influência sobre a percepção térmica e isso é visível quando são analisadas as expectativas térmicas de indivíduos localizados em espaços não climatizados por contraposição àqueles situados em espaços climatizados: enquanto os primeiros auguram variações na temperatura, ao longo do tempo e do espaço, os últimos conjeturam um ambiente térmico muito mais estável;
2. O tempo de exposição, isto é, a exposição a uma situação de desconforto pode não ser considerada totalmente insatisfatória, quando o indivíduo antecipe o curto período em que decorrerá essa exposição (por exemplo, a passagem mais ou menos fugaz por uma zona de transição);
3. A percepção de controlo - a percepção é uma perspetiva muito individual que nem sempre pode estar ajustada à realidade. Se um indivíduo considerar que tem controlo sobre as condições ambiente, esta torna-se a sua realidade, mesmo que não exista de facto possibilidade de controlo. A sensação de controlo pode minimizar a sua intolerância face a uma fonte de desconforto, aumentar a sua resistência a maiores variações de temperatura, isto é, pode sustentar a diminuição de uma resposta emocional negativa (Stoops, 2001).

Contrariamente à adaptação física, e como já foi por nós sublinhado, os efeitos da adaptação psicológica não podem ser avaliados de forma quantificável, tornando difícil a apreensão da importância relativa deste tipo de parâmetros.

Enquanto a utilização dos métodos analíticos exige geralmente estratégias de controlo ambiente estáveis, com limites de temperatura rígidos em geral difíceis de atingir sem recurso a sistemas de climatização (aquecimento e arrefecimento), o recurso ao constructo adaptação admite variações, dentro de limites mais alargados, das temperaturas interiores em função das condições exteriores, de modo a permitir e fomentar situações de adaptação, que podem resultar numa redução da energia, sem comprometer a sensação de conforto térmico (Guedes *et al.*, 2009).

No âmbito do projeto AdaPT AC:T, e durante a observação *in loco* (auditorias técnicas) foram medidas as condições ambiente no interior dos 9 hotéis no período de verão, de modo a avaliar as condições de conforto térmico proporcionadas aos respetivos utentes. Nesse sentido, mediram-se e registaram-se as condições higrotérmicas (temperatura e humidade relativa do ar) em contínuo, durante um período de cerca de duas semanas, em diversos espaços interiores do hotel, nomeadamente em zonas-de-estar dos clientes (quartos, lobby, piscinas, restaurantes) e em zonas-de-serviços (cozinhas, lavandarias e escritórios). As referidas medições efetuadas decorreram, em simultâneo, com a avaliação dos consumos de energia e padrões de utilização dos hotéis.

No Quadro 1 apresentam-se os valores médios das temperaturas registadas em diferentes espaços interiores dos vários hotéis analisados, bem como a temperatura média exterior observada nos referidos períodos de medição.



**Quadro 1 – Temperatura média do ar medida no decurso das auditorias técnicas. Projeto AdaPT AC:T.**

Hotel n.º	1	2	3	4	5	6	7	8	9
Localização	Lisboa	Lisboa	Algarve	Lisboa	Algarve	Algarve	Algarve	Lisboa	Algarve
Quartos	23,7	24,3	23,7	23,6	26,2	23,8	23,2	26,7	23,9
Lobby	25,8	25,9	nd	25,6	23,6	26,4	25,2	24,8	23,1
Restaurante	23,2	27,8	nd	25,6	24,5	26	25,3	24,2	24,4
Exterior	22,8	21,5	24,5	23,5	24,6	21,4	20,9	22,1	19,5

As recomendações de condições satisfatórias de conforto térmico aplicáveis a espaços interiores de edifícios podem ser expressas por vários indicadores, sendo o mais corrente a temperatura do ar.

No domínio regulamentar nacional, o atual Regulamento de Desempenho Energético dos Edifícios de Comércio e Serviços (RECS, 2013) que abrange os edifícios que compõem os empreendimentos turísticos em geral, indica para a determinação dos indicadores de eficiência energética temperaturas do ar para os espaços interiores compreendidas entre 20°C (inverno) e 25°C (verão). Outro documento nacional, o Regulamento Geral de Higiene e Segurança do Trabalho nos Estabelecimentos Comerciais, de Escritórios e Serviços (RGHSTCES, 1986), indica que a temperatura interior deve oscilar entre 18 e 22°C, salvo em determinadas condições climatéricas em que pode ir até aos 25°C.

Uma análise geral dos valores apresentados no quadro anterior, considerando a temperatura limite de conforto indicada nos regulamentos referidos (25°C), permite concluir que para os períodos analisados a maioria dos espaços avaliados proporcionavam situações de conforto térmico. Tendo em conta que não foi possível obter, em todos os hotéis, informação exata acerca da ocupação dos espaços analisados nos períodos de medição, temperaturas mais elevadas correspondentes a períodos de não ocupação dos espaços (nos quais não é essencial serem garantidas condições de conforto) poderão influenciar as temperaturas médias mais elevadas observadas. Nesse sentido, as temperaturas médias registadas acima da temperatura não indiciam necessariamente situações de desconforto. Além disso, considerando a linha adaptativa, para as temperaturas exteriores verificadas aquando das auditorias, temperaturas até cerca de 27°C podem ser consideradas admissíveis, garantindo condições de conforto.

### 3. . HOTÉIS E SISTEMAS ENERGÉTICOS

#### 3.1 Aspetos gerais da amostra de unidades hoteleiras estudadas

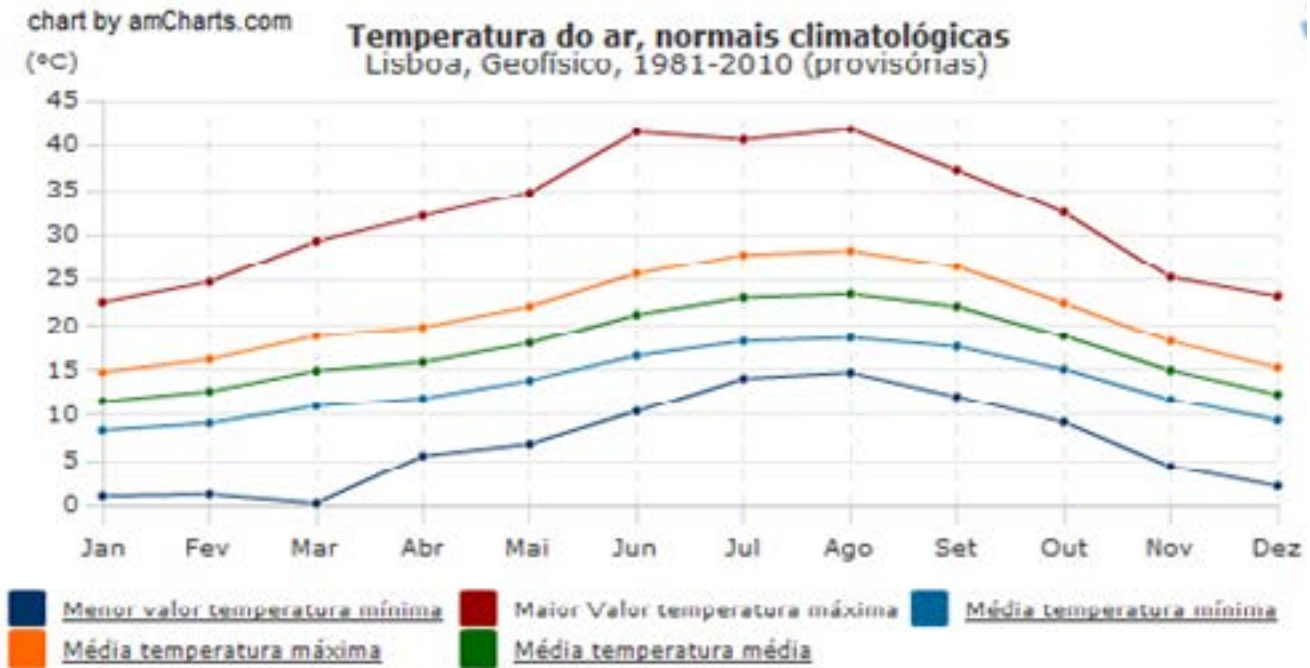
Os hotéis objeto de estudo situam-se em Lisboa e na costa algarvia, pertencendo em ambos os casos à zona climática I1/V3 (RECS-E, 2013), tendo as condições ambientais indicadas no Quadro 2 e Figura 10 e Figura 11. São edifícios que se situam na zona climática mais amena durante o inverno e na zona mais severa (temperatura mais elevada) no verão. Comparando os valores das temperaturas médias dos locais e os existentes nos períodos de auditoria, constata-se que com exceção dos hotéis 7 e 9, a temperatura média existente no período de auditoria e a média do local difere menos de 1°C.

**Quadro 2 – Condições exteriores nominais. Projeto AdaPT AC:T.**

Local	Lisboa	Vilamoura
Zona climática de inverno	I1	I1
Duração da estação de aquecimento (meses)	5.1	4.8
Temperatura média mensal (mês mais frio)	11.0 °C	12.1 °C
Graus dia de aquecimento base 18°C	970°C.dia	750°C.dia
Zona climática de verão	V3	V3
Temperatura média verão	22.3 °C	23.1 °C

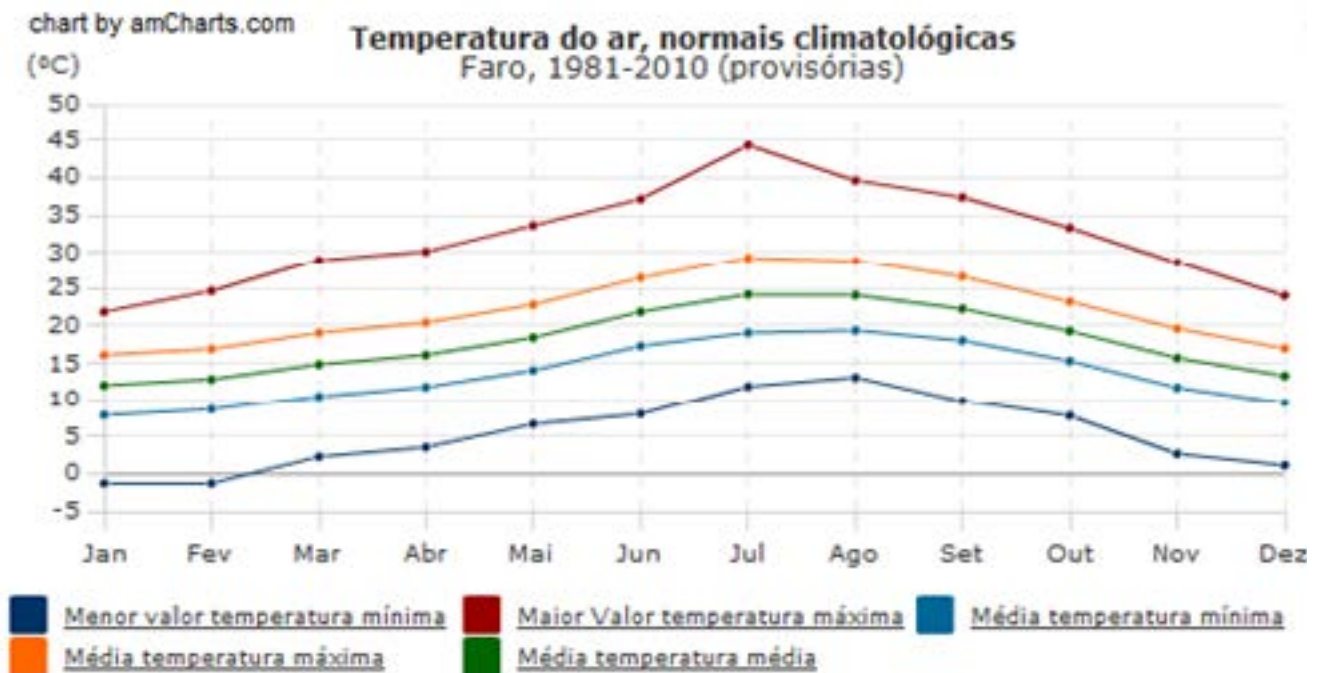
Fonte: (RECS, 2013)

Figura 10 – Normais climatológicas de Lisboa



Fonte: IPMA. Dados cedidos no âmbito do Projeto AdaPT AC:T

Figura 11 – Normais climatológicas de Faro



Fonte: IPMA. Dados cedidos no âmbito do Projeto AdaPT AC:T

O Quadro 3 resume as principais características dimensionais das unidades hoteleiras estudadas, sendo de registar que a área de quartos varia entre 20% e 54% da área de construção do hotel, devido aos diferentes serviços disponíveis, nomeadamente salas de eventos e SPA, pelo que os consumos de energia variam entre unidades, não apenas devido a diferenças de eficiência gestionária e dos sistemas energéticos, mas devido à diferente importância relativa do serviço alojamento em cada unidade hoteleira.

De uma forma geral, os hotéis são constituídos por vários pisos, sendo edifícios com baixo fator de forma<sup>173</sup>. Apenas nos hotéis 7, 8 e 9 existe um fator de forma superior a 0.2 porque, devido à sua arquitetura, têm quartos de

<sup>173</sup> Fator de forma de um edifício expressa a relação entre a superfície da envolvente exterior do edifício e o seu volume interior. Quanto menor o fator de forma mais compacto é o edifício e melhor comportamento térmico apresenta.

apenas um dos lados do corredor, apresentando, portanto, uma maior superfície de transmissão de calor para a mesma unidade de volume interior do edifício. Ainda que absolutamente distintos entre si, estas unidades hoteleiras partilham um conjunto de características físicas, decorrentes do nível de serviço hoteleiro prestado.

**Quadro 3 – Características dimensionais dos nove hotéis. Projeto AdaPT AC:T**

Hotel n.º	1	2	3	4	5	6	7	8	9
Localização	Lisboa	Lisboa	Algarve	Lisboa	Algarve	Algarve	Algarve	Lisboa	Algarve
m <sup>2</sup> construção/quarto	50.5	78.9	59.6	nd	67.1	160	113	59.1	98.8
Área média de quarto	25.7	20	25.0	nd	35	110	50	20.5	nd
Fator de Forma	0.11	0.15	0.19	nd	0.08	nd	0.24	0.24	0.27
Área quartos/total	33%	24%	54%	38%	21%	48%	20%	35%	25%
Área Restaurante/total	1.9%	2.9%	4.8%	nd	1.9%	0.4%	0.9%	2.4%	nd
Área Lobby, circulações climatizadas/total	21%	14%	11%	nd	16%	nd	13%	12.0%	nd
Piscina interior	Sim	Sim	Sim	Sim	Sim	Sim	Sim	Sim	Sim
Piscina exterior	Não	Sim	Sim	Não	Sim	Sim	Sim	Não	Sim
Jardim exterior	Não	Sim	Sim	Não	Sim	Sim	Sim	Sim	Sim
Sombreamento exterior	Forte	Normal	Sem	Forte	Sem	Normal	Sem	Sem	Sem

### 3.2 Qualidade térmica da envolvente

No decurso das auditorias foi efetuada a identificação visual dos elementos da envolvente dos edifícios. Em alguns casos foram facultados elementos de projeto que permitem efetuar uma caracterização mais detalhada. No Quadro 4 resumem-se as características gerais da qualidade térmica da envolvente dos edifícios. Em relação aos itens ‘isolamento’ e ‘proteção solar’, efetua-se também uma apreciação qualitativa das respetivas características que sinalizam os hotéis cujo desempenho está abaixo dos valores de referência (a laranja) e acima desses valores (a verde).

**Quadro 4 – Qualidade térmica da envolvente. Projeto AdaPT AC:T**

Hotel n.º	1	2	3	4	5	6	7	8	9
Localização	Lisboa	Lisboa	Algarve	Lisboa	Algarve	Algarve	Algarve	Lisboa	Algarve
Parede: Tipo	Simples, sem isolamento	Simples/ dupla sem isolamento	Dupla sem isolamento	Dupla com isolamento	Dupla com isolamento	Dupla sem isolamento	Dupla com isolamento	Dupla com isolamento	Dupla sem isolamento
Parede: Cor	Média	Clara	Média	Média	Escura	Clara/ Escura	Clara/ Escura	Clara	Escura
Cobertura: Tipo	Terraço/ Desvão, isolamento	Sem desvão	Terraço sem isolamento	Desvão com isolamento	Terraço com isolamento	Desvão sem isolamento	Desvão com isolamento	Terraço com isolamento	Terraço sem isolamento
Cobertura: Cor	Escura	Média	Escura	Média	Escura	Média	Escura	Média	Escura
Envidraçados: tipo	Alumínio, Vidro duplo/ simples, controlo solar	PVC, Vidro duplo, incolor	Alumínio, vidro simples/ duplo, incolor	Alumínio, vidro duplo, controlo solar	Alumínio, vidro duplo, controlo solar	Alumínio, vidro duplo, controlo solar	Alumínio, vidro duplo, controlo solar	Alumínio, vidro duplo, controlo solar	Alumínio, vidro duplo/ simples, incolor
Envidraçados: proteção solar	Interior, cor clara	Exterior e Interior de cor clara	Interior, cor clara	Interior, cor média	Exterior escura/ Interior clara	Exterior cor escura/ Interior cor clara	Exterior cor clara/ Interior cor média	Interior cor clara	Exterior cor escura, Interior cor média
Palas/varandas	Não	Não	Sim	Não	Sim	Sim	Sim	Não	Sim
Isolamento									
Proteção solar									

### 3.3 Sistemas energéticos

Todos os hotéis estão dotados de sistemas de climatização das zonas dos quartos e de uso dos clientes. Nos hotéis

objeto de estudo a climatização dos quartos é efetuada com ventiloconectores alimentados por água fria produzida de forma centralizada com um *chiller*, e por água quente produzida por caldeiras. Em dois hotéis (6 e 8) a climatização dos quartos é efetuada por sistemas de expansão direta do tipo *split/multi-split*. Nas zonas comuns a climatização é normalmente efetuada com unidades de tratamento de ar. Nos quartos a renovação do ar é normalmente assegurada por ventilação mecânica, pela admissão de ar nos ventiloconectores, que depois é misturado com o ar recirculado da climatização. As casas de banho estão dotadas de extração mecânica de ar.

No Quadro 5 são indicadas as características principais dos sistemas energéticos de climatização, os quais apresentam uma densidade de potência de arrefecimento suficiente para satisfazer as necessidades normais de climatização de 20-25°C.

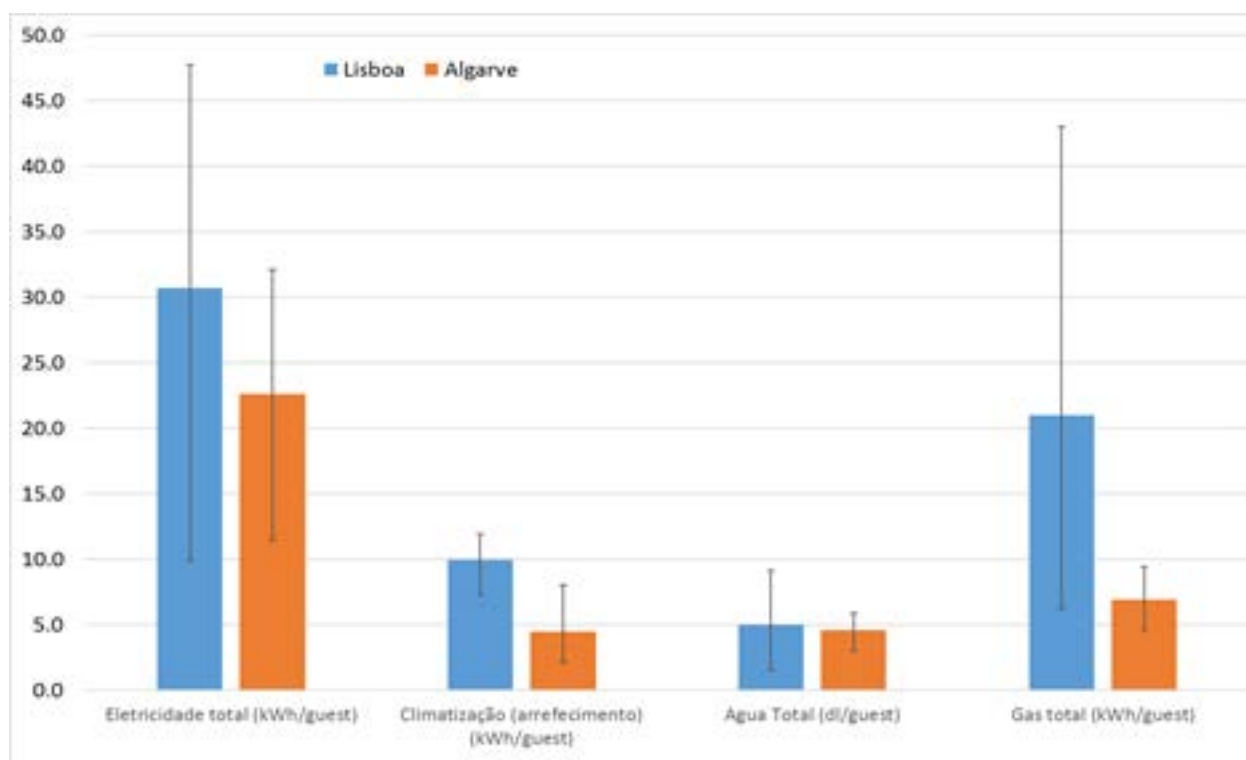
Quadro 5 – Sistemas energéticos. Climatização. Projeto AdaPT AC:T

Hotel n.º	1	2	3	4	5	6	7	8	9
Localização	Lisboa	Lisboa	Algarve	Lisboa	Algarve	Algarve	Algarve	Lisboa	Algarve
Arrefecimento: Tipo	<i>Chiller</i>	<i>Chiller</i>	<i>Chiller/Splits</i>	<i>Chiller</i>	<i>Chiller</i>	<i>Splits</i>	<i>Chiller</i>	<i>VRV/Splits</i>	<i>Chiller</i>
Arrefecimento Consumo médio diário (kWh/d)	1854	1885	nd	976	3850	nd	3080	nd	890
Arrefecimento: potência (W/m² área de quarto)		95	55	120	100	80	30	200	30
Renovação do ar dos quartos: Caudal (m³/h)	75	75	90	300	65	nd	130	60	60

### 3.4 Consumo de energia

Tendo por base os períodos de auditoria, na Figura 12 indicam-se os valores médios de consumo de energia e de água, sendo perceptível que a energia de arrefecimento correspondeu a cerca de 30% do consumo de energia elétrica durante a auditoria realizada. Da análise dos dados-base resulta que as diferenças entre os consumos de energia de hotéis de Lisboa e do Algarve se devem a consumos específicos de algumas unidades que afetam de forma significativa o valor médio de Lisboa, face aos valores médios dos hotéis do Algarve e não se devem a questões relacionadas com o clima ou o uso hotel de cidade vs hotel de praia. A estes consumos de energia correspondem custos de energia e de água de cerca de €6 por dormida, dos quais €4,5 se reportam ao consumo de energia elétrica, €1,0 ao consumo de gás e €1,5 ao consumo de água (Figura 13).

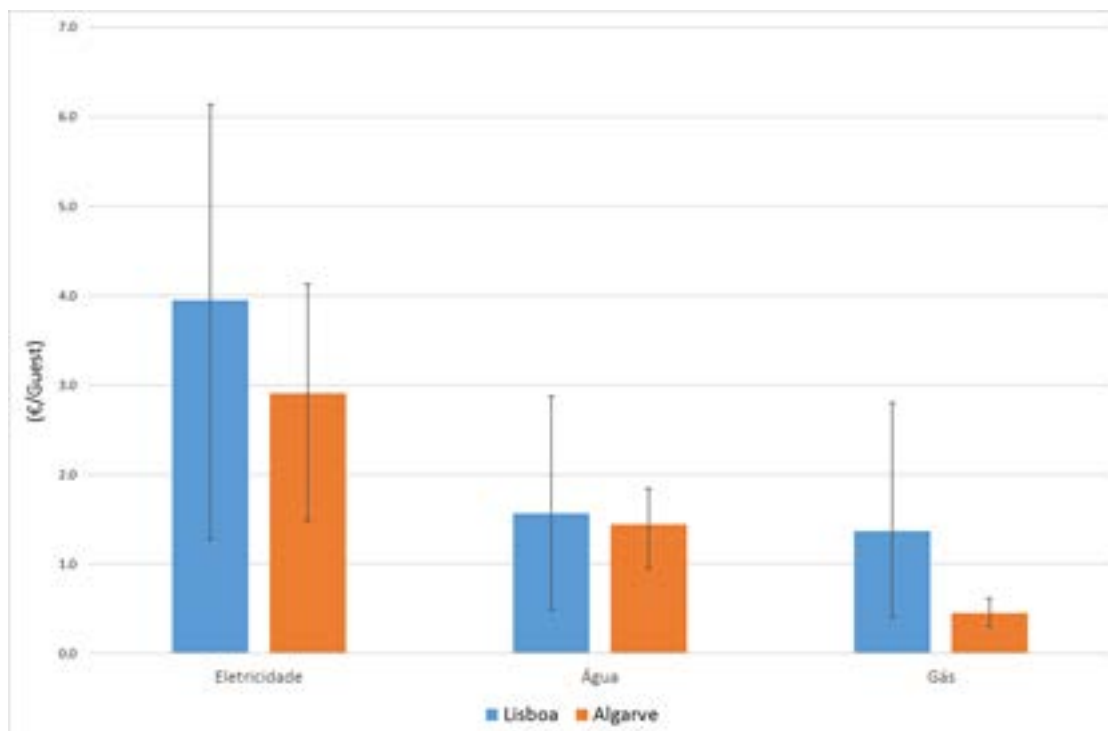
Figura 12 – Valor médio do consumo de energia e de água por dormida, durante a auditoria. Projeto AdaPT AC:T



O consumo destes recursos representa cerca de 13% da receita por quarto disponível (valor médio anual de 2015 de €53,6 em Lisboa e €41,2 no Algarve). Das auditorias resultou que a componente de arrefecimento teve um custo médio de €1,5 por dormida, pelo que face a clima mais quente é natural que aumente.

Da reflexão sobre todos os parâmetros identificados neste Capítulo 3 resulta a convicção que desde a fase de conceção do projeto arquitetónico dos edifícios e das suas envolventes até à fase dos projetos de especialidade, escolha dos equipamentos e posterior manuseamento, existe uma cadeia de decisões que pode contribuir muitíssimo para o aperfeiçoamento do comportamento energético total, cuja eficiência se mede pela criação do mais elevado padrão de conforto possível ao mais baixo custo e com o menor índice de desperdício (consumo desnecessário). A subjetivação do conforto é, porém, um facto incontornável e importa conhecer a avaliação que dele fizeram os hóspedes destes hotéis.

**Figura 13 – Valor médio dos custos de energia e de água por dormida, durante a auditoria. Projeto AdaPT AC:T**

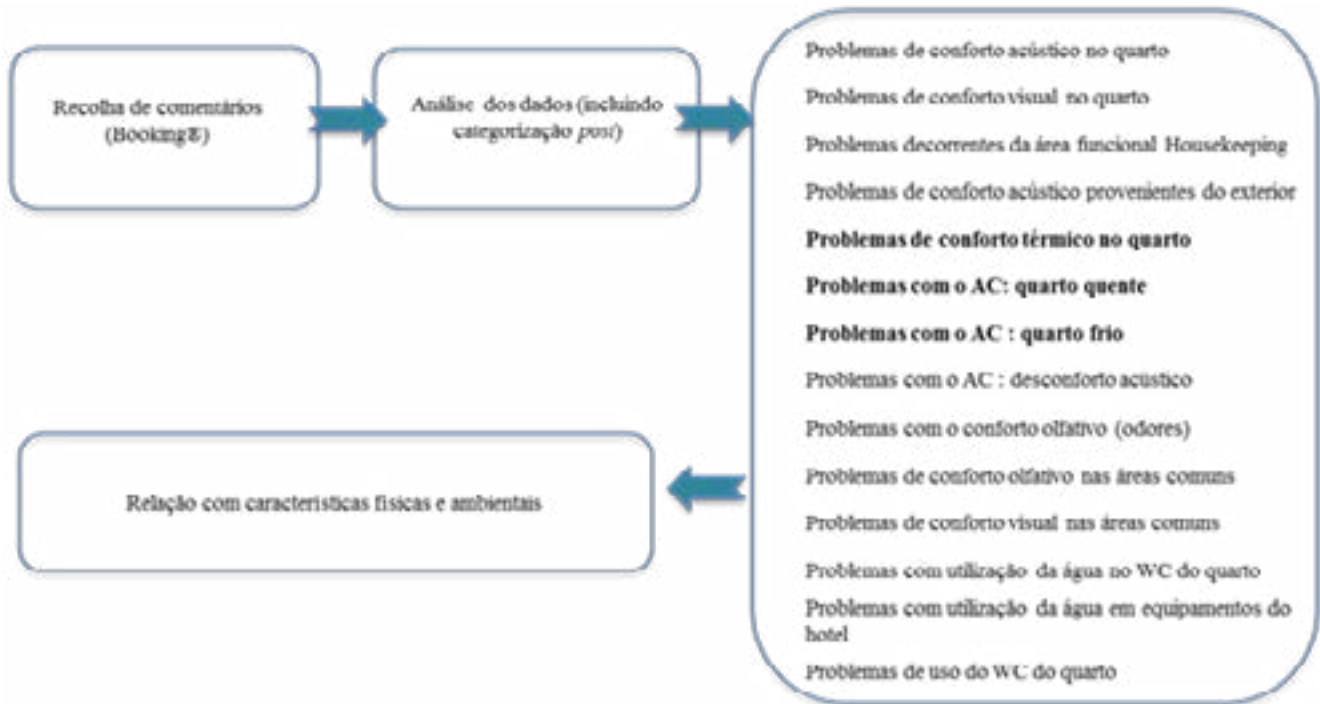


#### 4. AVALIAÇÃO DA PERCEÇÃO DE CONFORTO PELOS TURISTAS

Neste artigo é efetuada a análise da percepção de conforto manifestada pelos turistas na plataforma Booking® durante o ano de 2015<sup>174</sup>, procurando-se relacionar essa opinião com os resultados das medições e avaliações efetuadas durante a auditoria realizada aos hotéis no verão deste mesmo ano (Figura 14 e Figura 15).

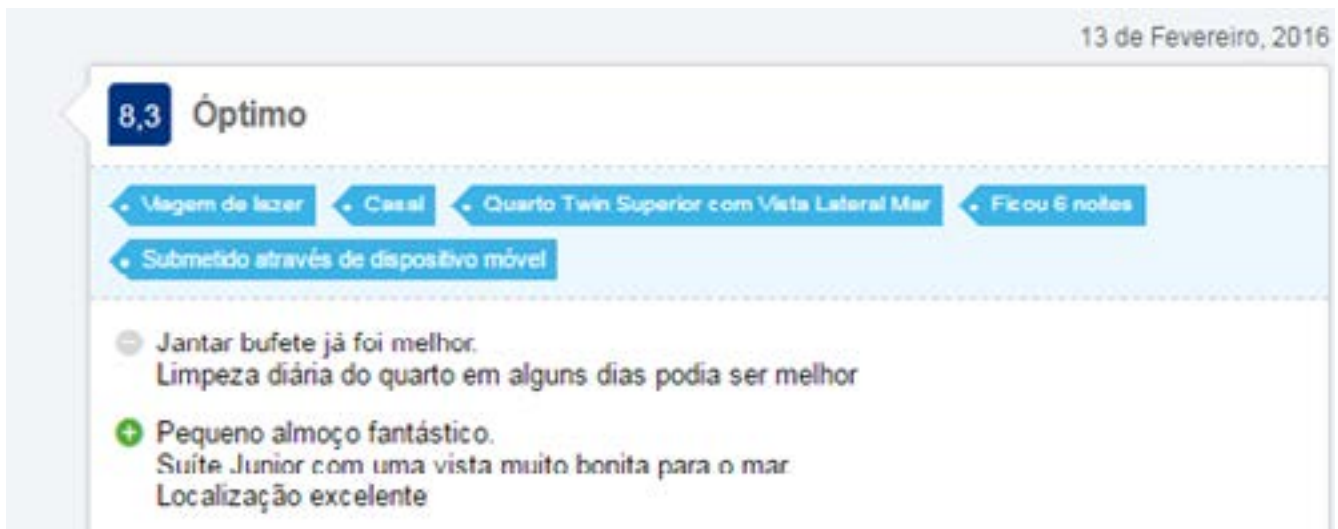
<sup>174</sup> Embora se disponha de uma série temporal mais alargada, para garantir uma congruência temporal com o trabalho das auditorias, optou-se por selecionar para este fim apenas os comentários formulados entre julho e outubro de 2015, sobre os quais se procedeu a uma análise de conteúdo temática simples.

Figura 14 – Metodologia para avaliação dos comentários dos hóspedes dos hotéis. Elaboração própria



Pareceu importante sinalizar a avaliação do ‘conforto’ efetuada pelos hóspedes para cada um dos hotéis estudados, e compreender essa pontuação média no contexto das outras dimensões avaliadas na plataforma Booking®. Os resultados podem ser observados no Quadro 6.

Figura 15 – Exemplo de um comentário escrito na plataforma Booking®. Projeto AdaPT AC:T



O conforto apresenta um índice de consensualidade (apreciado pelo coeficiente de variação) intermédio (7%), apenas superado pelo ‘wifi’, que é um dos serviços prestados pelos hotéis mais controverso. Em todos os 9 hotéis estudados, a classificação do ‘conforto’ é bastante elevada, evidenciando que estas unidades hoteleiras dão uma boa resposta às exigências dos seus clientes. Todavia, e com exceção do hotel nº 5, os valores obtidos neste item não são os mais elevados do conjunto dos 7 itens apreciados, mas na maioria dos hotéis a avaliação do ‘conforto’ superou a classificação geral (‘general rating’).

**Quadro 6 – Classificações obtidas pelos hotéis, por área funcional. Projeto AdaPT AC:T**

Hotel	1	2	3	4	5	6	7	8	9	coeficiente de variação
Clientela predominante	OUT+EUR	OUT+EUR	PT	EUR	PT	EUR	EUR	PT	PT	
WiFi	7,80	8,70	6,80	8,50	8,00	5,90	7,90	7,10	4,90	16%
Facilities	8,20	9,20	8,10	8,30	8,90	8,40	8,90	7,90	7,20	7%
Confort	8,20	9,20	8,20	8,60	9,10	8,70	9,00	8,10	7,30	7%
Location	8,40	8,10	9,30	8,40	8,30	8,00	8,20	7,50	8,50	5%
Housekeeping	8,30	9,40	8,50	9,00	8,70	9,00	9,10	8,40	7,90	5%
<b>General rating</b>	<b>8,06</b>	<b>8,93</b>	<b>8,50</b>	<b>8,46</b>	<b>8,59</b>	<b>8,40</b>	<b>8,62</b>	<b>7,89</b>	<b>7,66</b>	<b>4%</b>
Price performance ratio	7,70	8,40	8,20	8,10	8,10	7,70	7,80	7,40	7,20	5%
Staff	8,50	9,20	8,50	8,60	8,40	8,70	8,90	8,20	8,10	4%

Legenda: Clientela predominante: OUT+EUR = Outros estrangeiros e europeus; PT = Portugueses; EUR = Europeus ã portugueses

Há, porém, espaço e justificação para um exercício exegético destes dados. Na plataforma Booking® a dimensão ‘conforto’ é pré-categorizada e apenas aceita uma pontuação dentro da escala de 1 a 10. Tão-pouco é clarificado o conceito, assumindo-se que o respondente o entende no quadro da sua subjetivação sobre *como se sentiu durante a estadia*. O que pode significar uma *estadia confortável*? Será essa avaliação exclusivamente dependente do conforto térmico, ou acolherá aspetos do conforto visual, acústico, estético, olfativo, qualidade do ar, tátil, mecânico, remetendo para a apazibilidade (bem-estar, comodidade) como um todo? No atual estado-da-arte, a dificuldade em confinarmos a avaliação do conforto à questão térmica levou-nos a considerar, na análise de conteúdo dos comentários<sup>175</sup> - não só aspetos inerentes ao conforto térmico mas também outros que, sendo nomeados pela negativa, podem ter erodido a avaliação da dimensão ‘conforto’ (cfr. Quadro 7). No total, foram obtidos 396 comentários, a partir de um conjunto de 338 hóspedes que geraram 396 comentários (média de 1,2 comentários/hóspede)<sup>176</sup>.

**Quadro 7 – Range temático das áreas funcionais maintenance e housekeeping. Projeto AdaPT AC:T**

Cód.	Categoria	Descrição
<b>A</b>	Problemas de conforto acústico no quarto	Reflete as reclamações sobre a deficiente insonorização do quarto com exposição aos ruídos dos quartos adjacentes e das zonas comuns do hotel
<b>B</b>	Problemas de conforto visual no quarto	Reflete as reclamações sobre a deficiente iluminação no quarto, dificultando, por exemplo, a leitura ou a circulação no seu interior em segurança, e inclui ainda apreciações negativas sobre decoração e vetustez de mobiliário e outros equipamentos
<b>C</b>	Problemas decorrentes da área funcional <i>Housekeeping</i>	Reflete as reclamações sobre deficiente limpeza e/ou arrumo do quarto, tratamento de roupas, e descuido na limpeza de áreas comuns do hotel, incluindo equipamentos (piscina ou outros)
<b>D</b>	Problemas de conforto acústico provenientes do exterior	Reflete as reclamações sobre a afetação do ruído proveniente do exterior do hotel
<b>E</b>	Problemas de conforto térmico no quarto	Reflete as reclamações sobre falta de arejamento do quarto, impossibilidade de regulação da temperatura, limitações à abertura da janela, dependência excessiva do AC. Estas reclamações distinguem-se das seguintes (F e G) por não mencionam especificamente problemas com a temperatura do ar
<b>F</b>	Problemas com o AC: quarto quente	Reflete as reclamações sobre quarto se encontrar excessivamente quente
<b>G</b>	Problemas com o AC : quarto frio	Reflete as reclamações sobre quarto se encontrar excessivamente frio
<b>H</b>	Problemas com o AC : desconforto acústico	Reflete as reclamações sobre a incomodidade provocada pelo ruído do aparelho de ar condicionado

<sup>175</sup> Este exercício não dependeu da classificação atribuída pelo sujeito no item ‘conforto’, mas pode considerar-se complementar. Na realidade, é independente dessa classificação porque a plataforma Booking® disponibiliza apenas o *rating* global atribuído por cada hóspede e os comentários que efetuou (positivos ou negativos) mas não a pontuação atribuída por item. É complementar na medida em que permite identificar os aspetos concretos que foram mencionados, revelando substantivamente o que o hóspede mencionou sobre a sua estadia.

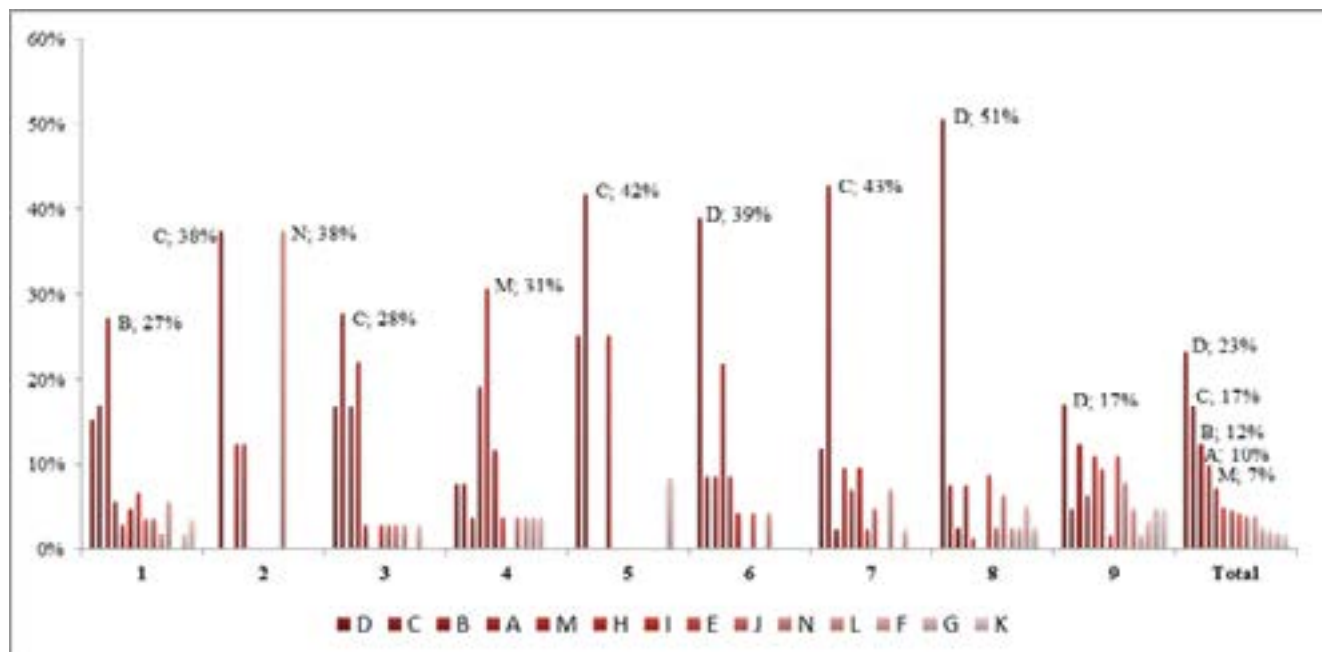
<sup>176</sup> Como se referiu, os comentários selecionados cingiram-se às questões do conforto na utilização e ao *housekeeping*. Todos os restantes comentários não foram selecionados para esta específica análise.

I	Problemas com o conforto olfativo (odores)	Reflete as reclamações sobre a existência de odores desagradáveis no quarto
J	Problemas de conforto olfativo nas áreas comuns	Reflete as reclamações sobre áreas mal arejadas, incluindo referências a cheiro a tabaco, comida, ou outros. Pode ainda referir-se às zonas húmidas (piscinas, spa, jacuzzi)
K	Problemas de conforto visual nas áreas comuns	Reflete as reclamações relacionadas com a deficiente iluminação das áreas comuns do hotel
L	Problemas com utilização da água no WC do quarto	Reflete as reclamações sobre fraca pressão da água, temperatura inadequada, no chuveiro ou noutros dispositivos do WC (lavatório)
M	Problemas com utilização da água em equipamentos do hotel	Reflete as reclamações sobre a temperatura da água da piscina, jacuzzi ou outros equipamentos, e pode incluir questões sobre a falta de qualidade (exceto limpeza)
N	Problemas de uso do WC do quarto	Reflete as reclamações sobre a WC do quarto, incluindo piso escorregadio, condensações, arejamento, exceto problemas com água

Os dados apurados (Figura 16) tornam evidente, para o conjunto dos hotéis, a importância dos problemas do conforto acústico provenientes do exterior (categoria D, 23%), logo seguidos dos problemas de insatisfação com a área funcional de *housekeeping* (categoria C, 17%). Mas a Figura 16 revela ainda a forte diversidade do perfil das reclamações centradas nos aspetos do conforto, podendo afirmar-se que não existem dois hotéis iguais do ponto de vista da apreciação dos respetivos hóspedes.

Uma 2ª iteração permitiu reduzir o espectro de questões, agregando subcategorias (Quadro 8). O desconforto acústico assume-se como um dos problemas mais salientes – o que sugere tratar-se de um efeito de serendipidade da investigação empírica e o desconforto térmico tem uma expressão quase residual, exceção para o hotel nº 9, onde representa 19% dos comentários negativos selecionados e está associado a um hotel com baixa potencia de arrefecimento disponível nos quartos e com baixo consumo de energia de arrefecimento medido no decurso da auditoria. Com efeito, diferentes tipos de problemas estão mais associados a alguns hotéis do que outros, com diferenças que se revelam estatisticamente significativas ( $c^2 = 152,712,798$ ;  $gl = 56$ ;  $p = 0,000$ ). Expectavelmente, comentários com vários problemas identificados estão mais associados a avaliações globais mais baixas ( $c^2 = 45,798$ ;  $gl = 21$ ;  $p = 0,001$ ).

**Figura 16 – Distribuição percentual dos tipos de problemas identificados nas áreas de *maintenance* e *housekeeping*, ordenados por ordem decrescente a partir da distribuição do conjunto dos hotéis. Projeto AdaPT AC:T.**





**Quadro 8 – Simplificação do *range* temático das áreas funcionais *maintenance* e *housekeeping*. Projeto AdaPT AC:T**

Cód.	Problema	Hotel	1	2	3	4	5	6	7	8	9	Total
<b>D+A+H</b>	DESCONFORTO ACÚSTICO		25%	13%	39%	38%	25%	65%*	31%	58%*	33%	38%
<b>C</b>	Problemas decorrentes da área funcional <i>housekeeping</i>		17%	38%	28%	8%	42%*	9%	43%*	8%	5%	17%
<b>B+K</b>	DESCONFORTO VISUAL		31%*	0%	17%	4%	0%	9%	2%	3%	17%	14%
<b>I+J</b>	DESCONFORTO OLFATIVO		10%	0%	6%	8%	0%	0%	2%	15%	9%	9%
<b>E+F+G</b>	DESCONFORTO TÉRMICO NO QUARTO		6%	0%	6%	4%	8%	4%	7%	10%	19%*	9%
<b>N+L</b>	PROBLEMAS COM WC DO QUARTO		8%	38%*	3%	8%	0%	4%	7%	5%	6%	7%
	<i>Outros problemas</i>		3%	13%	3%	31%	25%	9%	7%	1%	11%	7%
	total		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

## 5. DISCUSSÃO DE RESULTADOS

Defendemos que o método integrado adotado no projeto AdaPT AC:T, com o qual se pretende a avaliação da vulnerabilidade de empreendimentos turísticos às alterações climáticas e o apoio ao desenvolvimento de planos de adaptação, revela-se capaz de identificar as idiosincrasias morfológicas, ambientais e do desempenho energético dos hotéis, cuja relevância se considera muito forte. Esta relevância não decorre, em primeira mão, das AC como determinante para a ação que deverá conduzir à disponibilização de hotéis energeticamente mais eficientes. O primeiro determinante deve ser encontrado na própria racionalidade económica e ambiental que justifica a poupança de energia sem alteração significativa dos padrões de conforto experimentados pelos utilizadores das infraestruturas hoteleiras do País. O segundo determinante pode ser encontrado no domínio da competitividade desta indústria nacional, em face dos esforços que destinos concorrentes, em condições tão ou mais adversas economicamente e climaticamente, estarão a fazer.

A determinante relativa ao desafio das AC é, porém, algo emergente e pode ser encarada pela ótica da adaptação ou pela ótica da mitigação. Em rigor, e no plano da realidade e dos seus resultados, muitas estratégias são já hoje um *mix* entre adaptação e mitigação. Por outro lado, não pode ignorar-se que o turismo é um dos setores económicos com maior sensibilidade aos desafios climáticos, seja pelas consequências das alterações indesejadas, seja pelo próprio contributo do turismo para essas mesmas alterações.

A análise cruzada dos dados dos comentários dos hóspedes e dos perfis de desempenho energético destes hotéis, combinada com algumas das suas características morfológicas, permitiu concluir o seguinte:

- A capacidade discriminativa dos hóspedes é muito elevada, produzindo comentários que evidenciam a grande diversidade (estatisticamente significativa) de desempenhos dos hotéis onde se instalam, também em relação a áreas funcionais mais dependentes de tecnologia – como é o caso do conforto – ou muito dependentes do desempenho do pessoal – como é o caso do *housekeeping*<sup>177</sup>;
- Essa discriminação é congruente com algumas das características funcionais auditadas, particularmente em termos de desempenho energético;
- Essa congruência evidencia a elevada dependência dos hotéis face ao arrefecimento mecânico para fazer garantir os níveis de conforto térmico;
- Com efeito, algumas das características dos edifícios, nomeadamente da envolvente, também não favorecem o desempenho energético, contribuindo para avaliações e comentários menos positivos;
- A crescente dependência do fator energia para produzir conforto e bem-estar vê-se agravada por variações climatéricas que trazem novas exigências aos projetistas e às equipas de manutenção, e consequentemente aos gestores hoteleiros. As simulações (cenários climatológicos) para anos vindouros acentuam que para a produção de uma unidade de conforto a quantidade de energia de arrefecimento pode aumentar cerca de 25% no final do século e cenário de emissões RCP 8.5 (Pinto, 2016) deverá ser maior.

No que respeita aos problemas sinalizados com o desconforto acústico, que emergiu como efeito de serendipidade

<sup>177</sup> Na presente comunicação essas foram as únicas áreas funcionais exploradas. Todavia, o Projeto AdaPT AC:T permitiu uma recolha de comentários, positivos e negativos, alargados a outras áreas. Essa leitura mais alargada foi efetuada noutra comunicação, também submetida ao CIEO 2016 (Machado *et al.*, 2016).

no quadro do Projeto AdaPT AC:T, sobretudo quando este se refere ao exterior do hotel, a questão a sublinhar antecede a discussão sobre os métodos de construção, a qualidade dos materiais ou mesmo a conceção do projeto arquitetónico, para se colocar no domínio das questões urbanísticas e do ordenamento do território. O produto turístico é muito dependente das variáveis de contexto físico e social que em parte caracterizam esse mesmo produto e lhe conferem uma identidade.

Esta condicionante do ruído ambiente exterior, além de afetar o grau de satisfação dos turistas, condiciona uma medida de adaptação e de mitigação relacionada com o arrefecimento gratuito por ventilação natural pela abertura de janelas, o que tem reflexos na eficiência energética do hotel e releva a importância do ordenamento do território nas estratégias de mitigação e adaptação.

Assim, por via dos processos analíticos adotados no quadro do Projeto AdaPT AC:T, mas também por via das transformações que se adivinham como necessárias e urgentes, a adaptação e mitigação transformam-se, inexoravelmente, em desafios interdisciplinares que exigem lógicas de convergência disciplinar mais funcionais, exercícios prospetivos de banda larga não redutíveis ao cálculo de faturas energéticas, hídricas ou à simples lógica do remedeio. O sector do turismo necessita de uma resposta realista e urgente que mitigue as suas emissões e adapte o seu desempenho aos desafios da mudança climática e à descarbonização da economia e da economia circular.

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# HOUSING IN PORTUGAL (1992-2008) A MULTIDIMENSIONAL PERSPECTIVE ON THE BEHAVIOUR OF ECONOMIC AGENTS

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## ABSTRACT

Since the nation joined the European Union, the process that regulates housing policy in Portugal has been subject to specificities that are proper of the Portuguese situation. In a State, which has a considerable housing deficit, it was the quantifier elements that judged the various governments regarding this matter. Almost all of the housing production depended on mortgage loans in which soft loans played an important part, together with tax benefits. The negative effects produced by lease blocking were increasingly felt throughout the analyzed period of time. The changes in context due to the decrease of tax rates and the legislative alterations on soft loans conditioned the agents behavior and, necessarily, the rhythm of Portugal's housing market. Using the STATIS (Structuration of Tableaux A Trois Indices de la Statistique) methodology and through the analysis of the housing policy instruments, it was possible to identify the trajectories and changes in performance of the State, Owners and Households during the period between 1992 and 2008, as well as the most significant variables for understanding the problematic of housing in Portugal.

Keywords: Housing, Policy Instruments, STATIS.

JEL Classification: H89.

## 1. INTRODUCTION AND OBJECTIVES

After Portugal joined the European Union, and until the beginning of the mortgage crisis in 2008, there was a growing concern about the housing issue. This concern was focused in the framework of public policy, whose changes, adaptations and specific characteristics to the behaviour of the housing demand, given the residential deficit. It became, therefore, essential to recognize the institutional intervention of economic operators on the market, in particular from the state, the owners and households (Seixas *et al.*, 2010).

In the period 1992-2008, the Portuguese state played an active role in the housing sector, legislating and promoting the purchase of own housing. Indeed, from the early nineties, and up to 2008, there were added, to these housing policy guidelines, concerns more of social nature, having been created rehousing programs in urban areas, support for leasing with incentives particularly for young people and stimulus to the recovery of degraded properties. The purchase of homes by households, the house renting on the open market and that specifically of young people, propelled the state as a stimulating element of housing market and urban regeneration, theoretically through an equity-based redistribution of income for households (Newman *et al.*, 2000).

However, the problem of housing cannot be reduced only to a perspective of supply and demand. In fact, the specific characteristics of this problematic led to the creation of inefficiencies in the market, in particular by the inadequacy of market argument as a resolution mechanism for housing on lower income households. The strengthening of housing programs for the most insolvent populations had effects partially solving housing needs, but it was not enough (Santos, 2014). In the Portuguese case, the housing reality was mainly constructed by the acquisition of own housing, given the low expression of the rental market. Nonetheless, it provided a housing solution only to relatively solvent households. Consequently, the housing credit supply grew significantly, the interest rates had a significant downward trend and the accessibility of Portuguese households to credit increased (Mucha, 2002).

Therefore, the expansion of housing credit in the nineties and the beginning of the new century was a rational response of economic agents to favourable changes in financing conditions (Santos, 2014). On the other side, the development of a more dynamic rental market was another goal of housing policies in this period.

This research work is supported by socio-economic components and by an exploratory methodological approach. In fact, the socio-economic component refers to the relation between the formulation of public policies on housing and its implementation, which are measured by results. Regarding the methodological aspect, this research uses the STATIS method (Structuration of Tableaux À Trois Indices de la Statistique), first introduced by Escoufier (1973) and L'Hermier des Plantes (1976) and later developed by Lavit (1988).

Thus, we highlight six objectives:

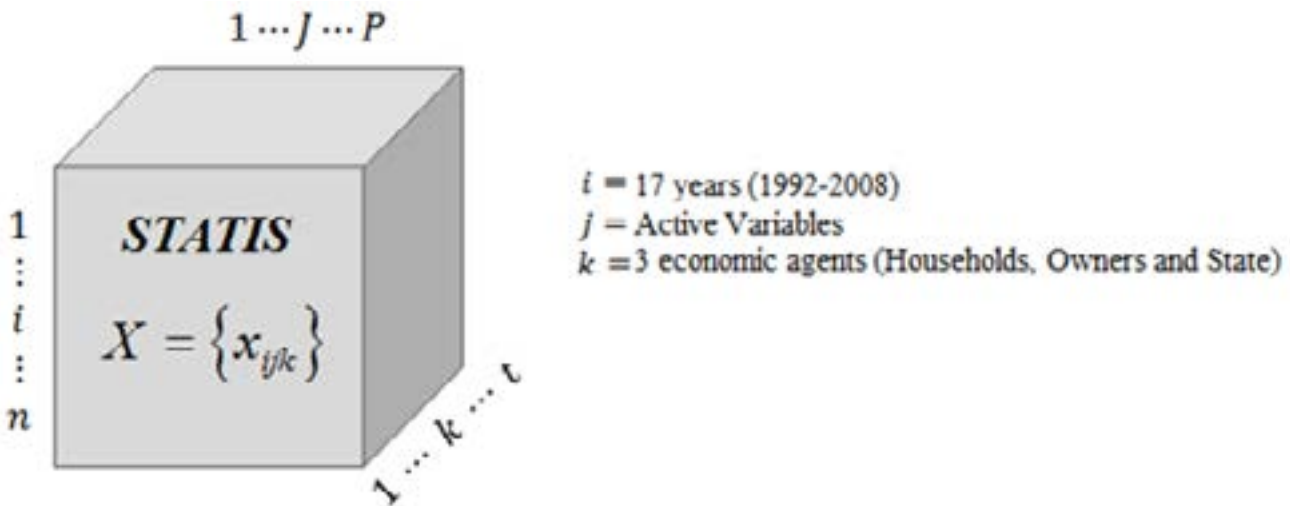
1. To identify the position of the three economic agents, in relation to the variables under study;
2. To analyze the relationship between the state, owners and households;
3. To characterize the behavior of the variables analyzed in the perspective of the three agents;
4. (Verify the state contribution, owners and households for the definition of housing policies);
5. Check the relationship between the variables and their contribution in identifying the similarities/dissimilarities between the state, owners and households;
6. To recognize the agents of economic which cause divergences and/or convergences in the housing sector.

## 2. THE METHODOLOGICAL PROCEDURE

The measuring of a variable over a set of individuals, which from a statistical viewpoint corresponds to the simplest situation, allows us to build a vector of observations with one entry or way: individuals. If, besides this, we consider a set with more than one variable, the information can be structured as a data matrix and we obtain two ways: individuals and variables. If, for each previous matrix we carry out a repetition of measurements, on different occasions, we will be before a three-dimension setting, or in other words, three ways: individuals, variables and occasions. Intending to the explanation of data, for the one entry or way, we normally modelise the distribution of data. For the two entries or ways, explicative models or models of covariance are built and, for the three ways we build models that are designated as three-way models. The main aim is to analyze multiple data tables where the observations are, for example, objects or individuals on which various measurements (variables) were carried out on different occasions. The term 'occasion' can refer to different moments in time or to different situations of measurements, in other words, to distinguish experimental situations. In these models the set of data is usually associated with a graphic representation, for a better recognition and illustration of the underlying trends of the phenomena under study.

The data accommodated in a tridimensional configuration is presented in figure 1.

Figure 1. Cube of three-way data



Source: own elaboration

Over the last decades, the methods of Multivariate Data Analysis (*MVA*) have proven their efficacy. In the 1970s and 1980s, Escoufier (1973), Bouroche (1975), L’Hermier des Plantes (1976), Robert & Escoufier (1976), Jaffrenou (1978), Foucart (1981) and Escoufier & Pagès (1985), amongst others, began developing their studies on methods for analysis of multidimensional tables, giving rise to one of the fundamental strands in this type of *MVA* techniques – the French school of analysis.

In this sense, the elected method for this research is *STATIS* (*Structuration de Tableaux À Trois Indices de la Statistique*) that was first introduced by Escoufier (1973) and L’Hermier des Plantes (1976) in Probability and Statistics Laboratory of the University of Montpellier II, and later developed by Lavit (1988). This method is not restricted to the analysis of a data frame such as the Principal Component Analysis (PCA), but allows the simultaneous operation of multiple frames of quantitative data. It is an exploratory method for analyzing multivariate data which aims to compare configurations of the same individuals, in different conditions to find a common structure, stable and representative of all tables. It comprises the following four fundamental steps:

1. Interstructure analysis, which accounts for a comprehensive comparison of data tables;
2. Compromise analysis, which describes the common structure of several data tables;
3. Analysis of the Intrastructure, which allows highlighting of the individuals responsible for similarities (or differences) between tables;
4. Finally, the trajectories that describe the evolutionary behavior of each individual or variable are traced from the Compromise of the image.

In short, the *STATIS* method allows us not only to capture the trajectories of individuals and variables over time or conditions, but also to identify the variables and individuals that contribute to stability.

The general principle of classification used for clustering in this research is based on the construction of a framework of similarities between the arrays of approximations. The segmentation used was Ward’s method (Ward, 1963) which considers the Euclidean distance. In the Ward’s method, the total variance is equal to the sum of the internal variance of class and inter-class variance. It is, therefore, necessary to find a uniformity within each class (thus minimizing the variation of inter-class variance), and heterogeneity between classes. Lastly, the group of subjects is performed in order to maximize the similarity within the groups and differences between groups.

To identify the significant active variables for each cluster it was used the test to the differences of the averages of the samples where the null hypothesis means that there is no difference between the mean of a sample and the population mean, and no difference between the means of two samples.

The data used in this research is of secondary databases provided by INE (National Statistical Institute of Portugal; 2009), IGAPHE (Institute of Management and Alienation of the Patrimony Housing of State; several years), INH (National Housing Institute; several years), Bank of Portugal (several years), IHRU (Institute for Housing and Urban Rehabilitation; 2010), IMOESTATÍSTICA (real estate private index; several years), Finance Ministry of Portugal (several years) and AECOPS (Association of Construction, Public Works and Services; several years) are presented in Table 1.

Table 1. Observations, Variables and Entities

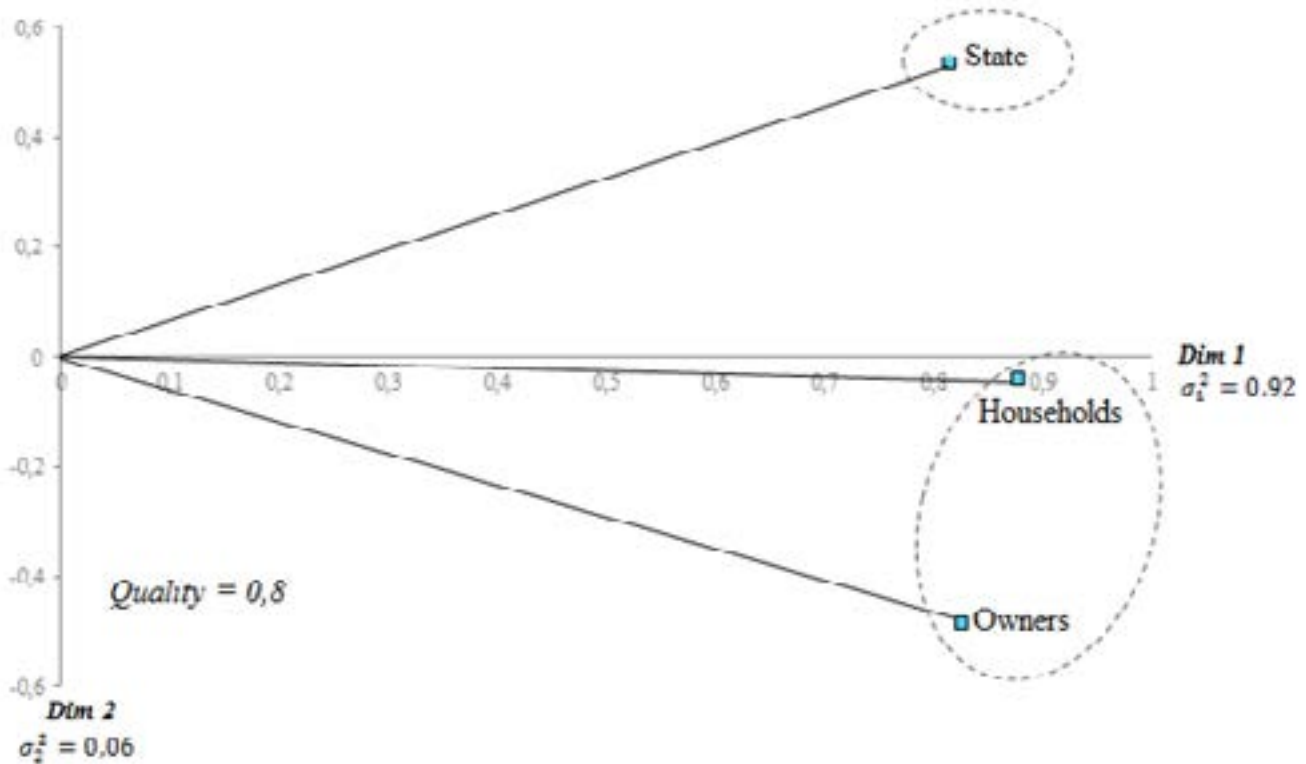
<b>i=OBSERVATIONS:</b>	Portugal for years (1992-2008)
<b>k=ENTITIES</b>	<b>j=VARIABLES</b>
<b>HOUSEHOLDS</b>	<b>(F1) General Credit Scheme (€ million):</b> monetary value of the credit agreements for housing without direct financial state support;
	<b>(F2) Subsidised Credit (€ million):</b> Monetary amount of interest on credit contracts for housing under the subsidized credit scheme with state support for the acquisition, construction and works in permanent housing;
	<b>(F3) Credit Subsidised for Young People (€ million):</b> idem, since the buyers had until age 30;
	<b>(F4) (F1 + F2 + F3) / GDP:</b> relative weight of the sum of these variables in GDP.
<b>OWNERS</b>	<b>(P1) REHABITA (€ thousands):</b> value resulting from the conclusion of agreements between the IGAPHE (IHRU) and the municipalities, the two bodies responsible for the financial coverage of the works of urban renewal to be undertaken; these collaboration agreements were also endorsed by INH (IHRU) or other credit institutions;
	<b>(P2) RECRIPH (€ thousands):</b> financial contribution for carrying out maintenance and improvement works on units by joint owners of old buildings, via administration of condominiums;
	<b>(P3) Real Estate Confidential Index:</b> Index that measures since 1988, the oldest series on the evolution of the value of residential real estate;
	<b>(P4) (P1 + P2) / GDP:</b> Group of the relative weight of these active variables in GDP.
<b>STATE</b>	<b>(E1) Subsidized General Interests (€ million):</b> State's incentive resulting of the differential between the interest rate indexed to EURIBOR (the reference rate of the interbank market) and the contracted rate on loans;
	<b>(E2) Controlled Cost Housing by cooperatives, municipalities and private companies (€ million):</b> it is the State's financial support in order to allow the rental or home ownership to low income household, promoted by Cooperatives , by local councils and private companies;
	<b>(E3) Incentive to rent for young people (€ million):</b> State financial support specific for young tenants (until 30 years old);
	<b>(E4) Special Re-housing Plan (established in 1993) (million €):</b> co-repayable via IGAPHE (IHRU), up to 50% of the cost of construction projects, and the municipalities could also use, for the remaining cost, long-term subsidized funding from INH (IHRU) or any credit institution;
	<b>(E5) RECRIA (€ million):</b> bonuses, via INH (IHRU), for the municipalities, landlords and tenants for conservation or improvement works;
	<b>(E6) (E1 + E2 + E3 + E4 + E5) / GDP:</b> on the combined weight of these variables in GDP at current currency values, which quantifies the economic activity by sector of activity, considering only the consumer goods and services.

Source: own elaboration

### 3. RESULTS

The comparison of the groups of variables in the space of the first two principal components for STATIS interstructure is displayed in Figure 2. From this analysis, we can explore the stability of the set of observations.

Figure 2. The interstructure: A global comparison of the sets of data on the three economic agents



Source: own elaboration

The distances between the entities reflect similarities/differences in the stability of 3 economic agents over the period 1992-2008

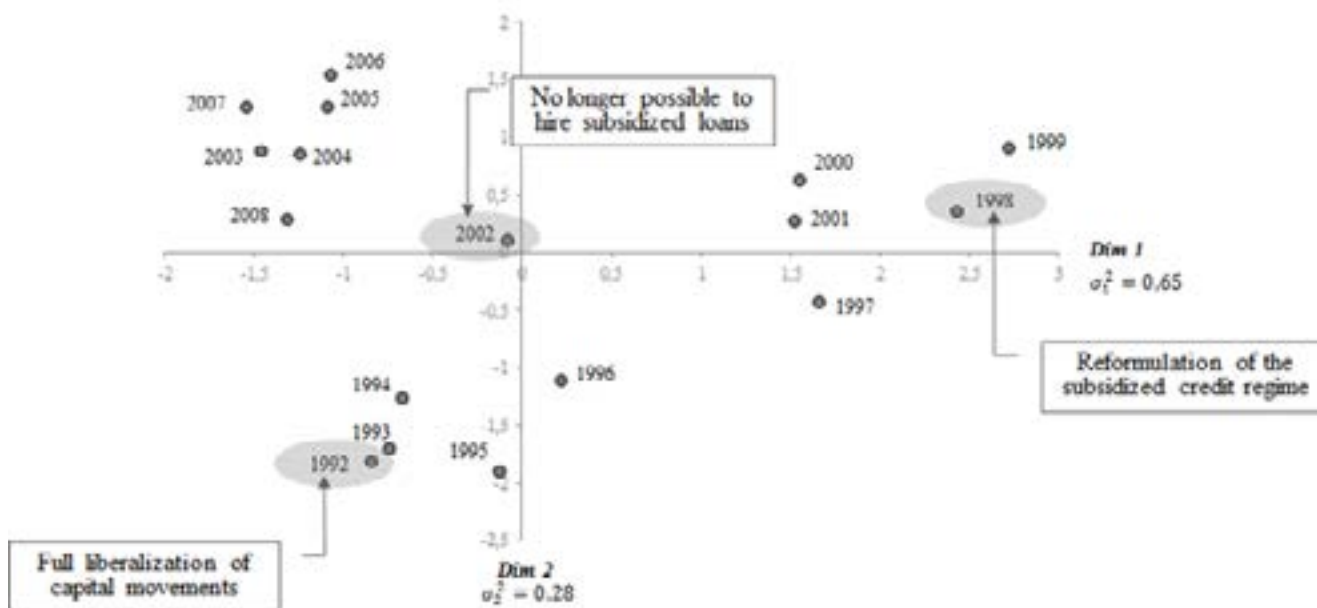
The coordinates of this factorial structure, with a quality of representation 80%, are associated with the first dimension which retains 92% of the total information.

In the STATIS results, the configuration of the interstructure denotes stability, for all three entities are associated with the first dimension, and this method, by its nature, is well interpretable over the first dimension.

In the STATIS method, the computation of the compromise matrix, where each row represents an observation of (Portugal per year), and each column is a component. The compromise matrix is a scalar product matrix, and, therefore, its eigendecomposition amounts to a PCA. In Figure 3 the Euclidian image coordinates in compromise space is presented along axes 1-2. From this analysis, we can explore the structure of the set of observations from the STATIS point of view.



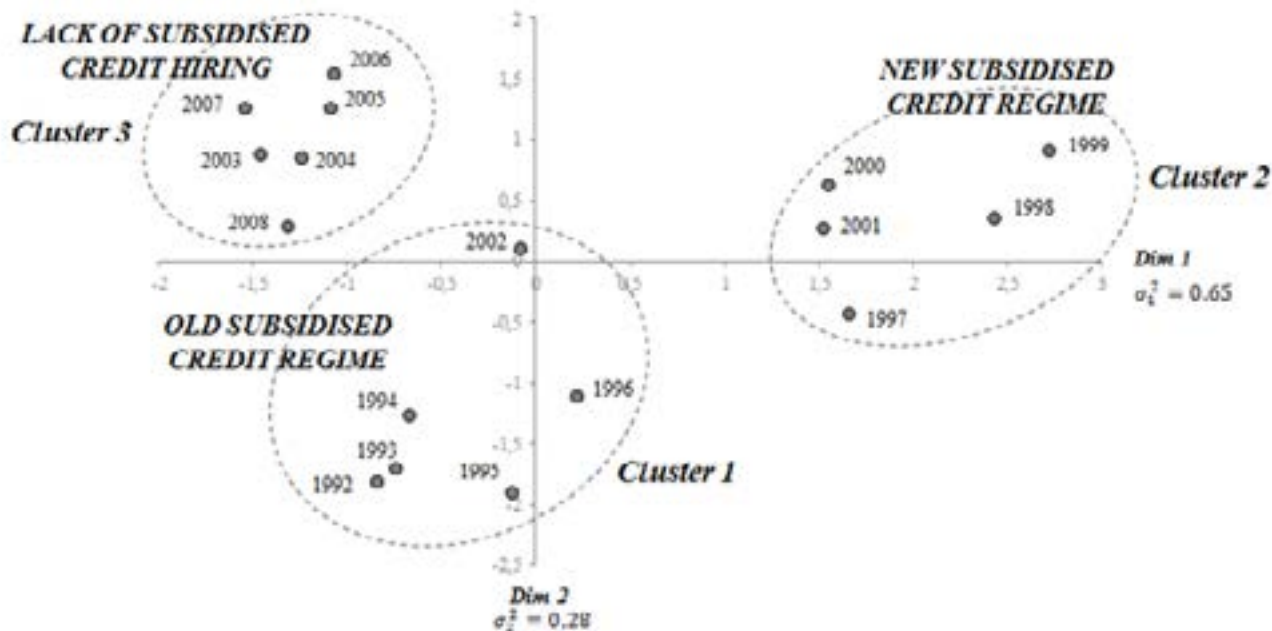
Figure 3. The compromise: A description of the structure common to the various tables of data with a Euclidean representation of the years on plane 1-2



Source: own elaboration

This representation identifies the level of compromise between the years and detects the temporal position in question, reflected by the active variables of the three agents. The identification of the three clusters defined by Ward's method is represented in Figure 4.

Figure 4. Identification of three Clusters in the common structure by Hierarchical segmentation using the squared Euclidean distance and Ward Criteria



Source: own elaboration

The application of a singular value decomposition (SVD) and subsequent principal component analysis (PCA) reveals a factorial space that captures, in two dimensions, 92.31% of the compromise matrix, being 64.55% of the information held in the first dimension. In Figure 4 can be noticed the most important periods that marked the 1992-2008 period as for the credit schemes used in Portugal.

Thus, the second dimension can be interpreted by the opposition between the years before and after entry into force of Decree-Law No. 349/98 of 11 November, decree amending and starts to regulate the new subsidized credit agreements.

Thus, it becomes possible to characterize, at first, the three clusters detected. Cluster 1 is marked by the period of the former subsidized credit scheme, Cluster 2, corresponds to the period of the new subsidized credit scheme and Cluster 3, as the period in which ceases to exist the possibility of contracts for subsidized loans (Figure 4).

In order to distinguish the three clusters, depending on variables considered significant, and, for a 95% confidence interval, it was performed a test for difference of averages with three independent samples. It was obtained in this manner the following significances values associated with the test (Table 3).

**Table 3. Test to the difference of averages for independent samples (clusters)**

	Significance	DECISION
The averages of zP1 are equal between clusters	0,11	Do not reject H0
The averages of zP2 are equal between clusters	0,11	Do not reject H0
The averages of zE1 are equal between clusters	0,004	Reject H0
The averages of zE2 are equal between clusters	0,214	Do not reject H0
The averages of zE3 are equal between clusters	0,002	Reject H0
The averages of zE4 are equal between clusters	0,175	Do not reject H0
The averages of zE5 are equal between clusters	0,002	Reject H0
The averages of zF1 are equal between clusters	0,002	Reject H0
The averages of zF2 are equal between clusters	0,004	Reject H0
The averages of zF3 are equal between clusters	0,004	Reject H0

Source: own elaboration

It was found the existence of six significant active variables (zP1, zP2, zP4, zE2, zE4 and zE6) differentiating the clusters. In Table 4 are observed movements of these six variables per cluster, over the period 1992-2008.

**Table 4. Differentiation between clusters according to the significant active variables**

Trends of ACTIVE VARIABLES		Cluster 1	Cluster 2	Cluster 3
Subsidized General Interests	zE1	↗	↘	=
Incentive to rent for the young	zE3	↗	↘	↗
RECRIA	zE5	↗	↘	↗
General Credit Scheme	zF1	↘	↗	↗
Subsidised Credit	zF2	↗	↘	=
Credit Subsidised for the young	zF3	↗	↘	=

Source: own elaboration

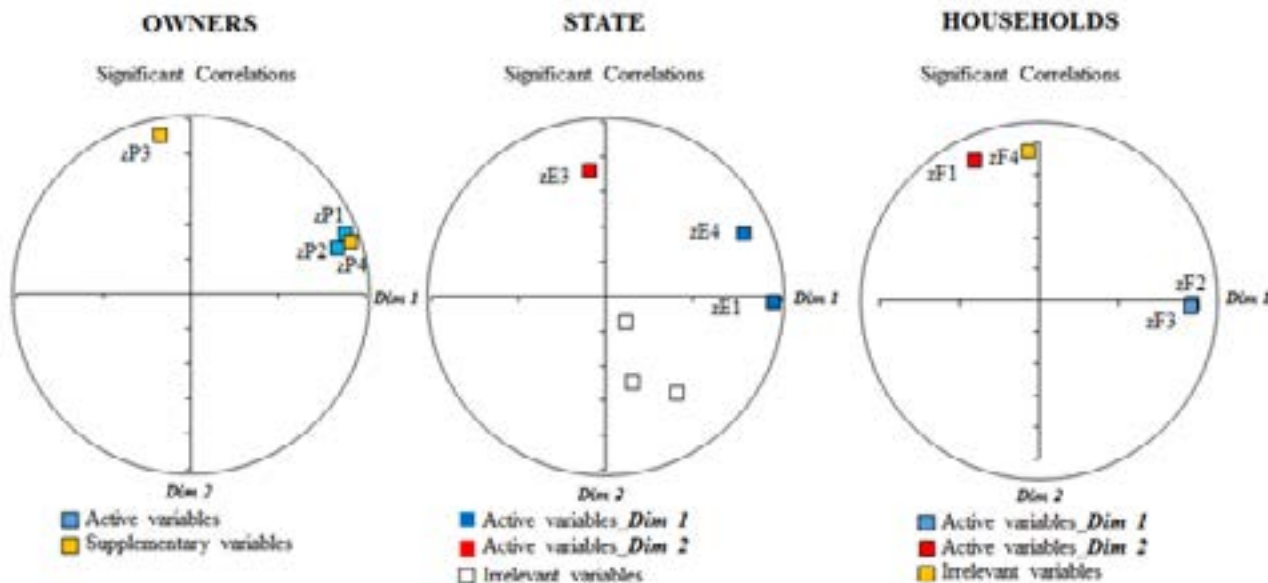
The variables Subsidized General Interest Rate, Incentive to rent by Young People, RECRIA, General Credit Regime, Subsidized Credit and Subsidized Credit for Young People had different movements for each cluster as shown in Table 4. This gives us an insight of the relative homogeneity of policies for the years encompassed in each cluster and heterogeneity of policies between clusters.

This phase of intrastructure spatially represents the structure of each original matrix data in the compromise space. Each trajectory represents one year the period 1992-2008 for the three economic agents, thus delineating approximations or deviations regarding individual's compromise.

These deviations and approximations are better understood using the correlation of active variables and supplementary variables that most significantly are associated with each of the compromise axes.

Figure 5 shows the significant correlations between the original variables and dimensions of the compromise space concerning each economic agent.

Figure 5. The infrastructure: Circles of Correlations



Source: own elaboration

It is possible to identify the variables that contributed to divergence for each economic entity.

The variables F1 and F4 for Households, E3 for State and P3 for Owners, diverged and in this sense did not support the formation of the compromise.

Thus, the reproduction of trajectories in the Euclidean image of compromise is based on the representation, in this image, of the three clouds of individuals (Figure 6). We believe, therefore, to be able to indicate the year in which the structure is more or less consistent in the relations between the three economic agents.

Figure 6. The infrastructure: identification of three examples for the 1992, 2000 and 2008 trajectories



Source: own elaboration

For 1992, the households contribute the most to the average of the behavior. There is a strong positive correlation between the state and owners. Owners and especially the state contributes, opposed to households, to the construction of the compromise.

On 2000, it is shown that it is the owners who contribute most to the behavior of the average. There is a strong positive correlation between state and households. Households and the state contribute as opposed to owners for the

formation of compromise.

In the year 2008, it is observed that are the owners who contribute most to the average behavior. There is a negative correlation between households, state and owners. There has been a greater contrast between owners and households, keeping the state on an equal relationship with both for the formation of compromise.

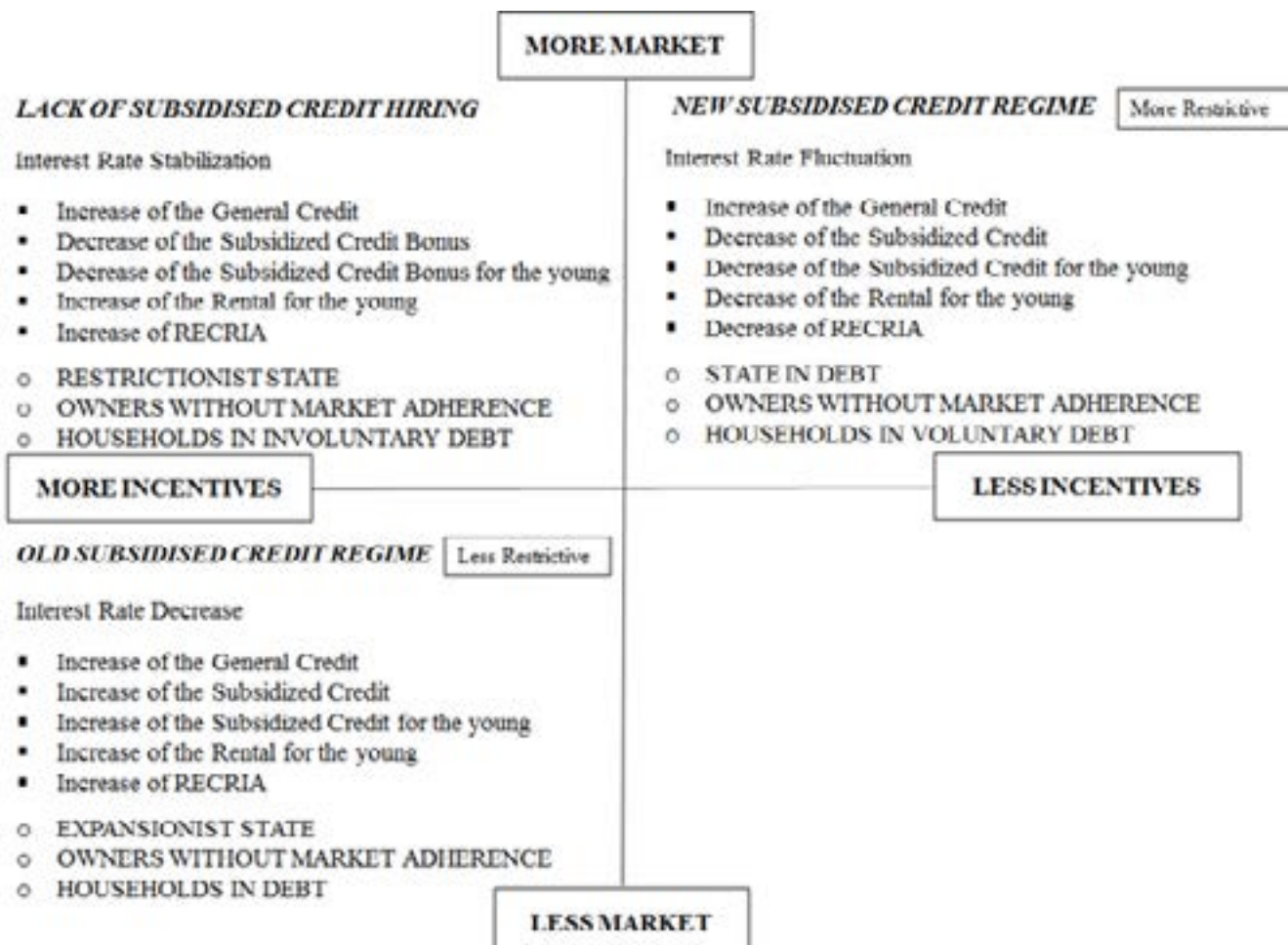
#### 4. DISCUSSION

The analysis of the results showed that there is a change in relative position of economic agents which notes:

1. The association of state and owners opposed to households in the years 1992-1994, 1998 and 2004-2007;
2. The association of state and households as opposed to owners in the years 1995-1996, 1999-2001 and 2003;
3. In 1997, 2002 and 2008, years of change, the three economic agents are negatively correlated (in opposition);
4. At no time was an association (positive correlation) between households and owners.

According to the characterization of clusters performed in Table 4 and taking into account the additional information of the evolution of the interest rate, it is possible to establish behavioral typologies that are displayed in Figure 7.

Figure 7. Behavioral Typologies



Source: own elaboration

Thus, the years that are positioned in the first cluster are the result of:

1. A STATE trying to balance the high-interest rates decline context in with the need of own housing for HOUSEHOLDS or through the subsidised credit schemes and subsidised credit for young people, little

- restrictive with regard to acquisition, or by encouraging renting by young people. On the other hand, STATE promotes the rehabilitation of rented buildings by RECRIA, a program directed to the OWNERS;
2. HOUSEHOLDS forced into debt, given the still high-interest rate for own housing purchase and the absence of a genuine rental market;
  3. OWNERS that given the rents freeze history, maintain a very high level of suspicion, either for rehabilitation investment, whether to increase the renting offer.

Similarly, the years that are positioned in the second cluster are the result of:

1. An indebted STATE, because of previously contracted subsidized loans and still in force, trying to balance the new lower interest context and its oscillation, or by restricting access to the contract of new credits of general subsidised and also for young people, or by reducing the incentives for young people's renting, directed to the households. On the other hand, it reduces the incentive to rehabilitation of rented property through RECRIA program targeted for OWNERS;
2. HOUSEHOLDS rationally, (given the low level of interest rates, the added difficulty of framing the credits subsidized and the maintenance of the lack of a real rental market), resort to credit, via general credit scheme, for the purchase of homes;
3. OWNERS that, given the reduction of state incentives or credits in general subsidised and young people credit to promote investment in rehabilitation, maintain a high level of suspicion, either for rehabilitation investment, whether to increase the house renting offer.

Finally, the years that are positioned in the third cluster are the result of:

1. A STATE trying to balance rationally the low and stable interest rates context, with less need for private housing for HOUSEHOLDS, either by the elimination of contracting new loans in subsidized schemes, either by encouraging renting by young people. On the other hand, STATE promotes the rehabilitation of buildings leased by RECRIA program directed to the OWNERS;
2. HOUSEHOLDS forced into debt to purchase private housing via General Credit, given the withdrawal of support by the State which increased the incentives to rent for young people;
3. PROPRIETARY that, given the rents freeze history, maintain a very high level of suspicion, either for rehabilitation investment, whether to increase the supply of accommodation, despite the increase in support from the state via RECRIA in promoting property leased rehabilitation.

## 5. CONCLUSIONS

About owners:

1. In the Old, the New Subsidized Credit Schemes and on its absence periods, the OWNERS maintained a low level of adherence to the market, both for investment in rehabilitation and for increasing the supply of homes for renting.

About state:

1. In the Old Subsidised Credit Scheme, and in the presence of decreasing interest rates, STATE sought to balance the needs of the two economic agents. For HOUSEHOLDS through interest subsidisation for the purchase of homes and through the encouragement of renting by young people. For OWNERS, promoting the rehabilitation of leased properties through a targeted program for this purpose.
2. In the context of the New Subsidised Credit Scheme and a swing in interest rate environment, the indebted STATE, via the previously contracted subsidized loans, restricted access to new subsidized credits and reduced the incentive for young leasing, both targeted for HOUSEHOLDS. On the other hand, it decreased the incentive to the OWNERS for rehabilitation of leased properties.
3. In the absence of Contracting Subsidised Credit and on an environment of stable interest rates, STATE tried to rebalance the demand for private housing of HOUSEHOLDS with either the extinction of new loans in

subsidized schemes, either by encouraging renting by young people. On the other hand, it also promoted the rehabilitation of rented properties, by the OWNERS.

About households:

1. In the Old Subsidised Credit Scheme, the HOUSEHOLDS were induced to indebtedness, given the decrease in interest rates for the purchase of homes and the lack of a true rental market.
2. In the New Subsidised Credit Scheme, given the low level of interest rates, the added difficulty of getting the subsidized credits, as well as the absence of a genuine lease market, HOUSEHOLDS, rationally, resorted to borrowing through General Credit Scheme.
3. In a context of No Subsidised Credit, and given the increase of stimulus for young people's rent, the HOUSEHOLDS were forced into debt via General Credit scheme.

Our empirical study detected a common structure (although there was some level of divergence between OWNERS, STATE, and HOUSEHOLDS) which showed that public housing policies are not separable in the analysis and understanding of the relationships among the three clusters, in Portugal, for the period 1992-2008.

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# INDICADORES DE RELAÇÃO ENTRE AMBIENTE CONSTRUÍDO E PADRÕES DE MOBILIDADE DOS RESIDENTES NA CIDADE DE FARO

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## RESUMO

As estruturas urbanas compactas e multifuncionais têm sido apontadas por muitos investigadores como fatores determinantes na necessidade, extensão e distribuição modal das deslocações. Argumenta-se que a diversidade no uso do solo tem um carácter influenciador no modo de transporte das populações e conseqüentemente na sustentabilidade da mobilidade. Utilizando o eixo urbano formado pela cidade de Faro e Montenegro/Gambelas, como área de estudo, analisa-se em que medida as áreas urbanas de uso misto com graus diferentes de densidade e de diversidade de funções e acessibilidade correspondem também a graus diferentes do uso dos modos de transporte suaves e motorizados. Apresenta-se a relação entre os usos do solo, recorrendo a 5 conjuntos de indicadores (densidade, diversidade, desenho urbano, acessibilidade e topografia), e variáveis caracterizadoras da mobilidade obtidas no inquérito à mobilidade da população residente nas várias zonas da cidade de Faro e Montenegro/ Gambelas.

Palavras-chave: Cidade, Uso do Solo, Mobilidade, Indicadores, Sustentabilidade.

## 1. INTRODUÇÃO

Recentemente em Portugal, Julho de 2015, ficou concluído o projeto de investigação InLUT - “Integração dos Usos do solo e transportes em cidades de média dimensão”, financiado pela Fundação para a Ciência e a Tecnologia, que foi desenvolvido em parceria por três instituições do ensino superior portuguesas: Faculdade de Arquitetura da Universidade Técnica de Lisboa, Universidade de Trás os Montes e Alto Douro e a Universidade do Algarve.

O projeto teve como principal objetivo analisar a relação entre os usos do solo e as deslocações das populações residentes em quatro cidades de média dimensão: Faro, Santarém, Vila Real, e Castelo Branco.

O presente trabalho incide no eixo urbano formado pela cidade de Faro e Montenegro/Gambelas (Figura 1). As maiores dimensões são 6,3 Km, 3,2 Km e 2,4 km e são indiciadoras de compacidade sobretudo quando analisadas nas três estruturas urbanas alusivas à Cidade de Faro, Montenegro e Gambelas. As distâncias são passíveis de ser percorridas de bicicleta e a pé.

Partindo da hipótese que o ambiente construído e os transportes desenvolvem relações de interdependência que interferem na mobilidade da população residente, procedeu-se à realização de inquéritos à mobilidade e ao desenvolvimento de um SIG no eixo urbano formado pela cidade de Faro e Montenegro/Gambelas em que foram georreferenciados os usos do solo e os inquéritos ao nível do edifício.

Com o objetivo de extrair as características do ambiente construído foram calculados, para toda a área de estudo, 6 conjuntos de indicadores: densidade, diversidade, desenho urbano, acessibilidade e topografia. O cruzamento da informação alusiva aos indicadores e aos inquéritos permitiu desenvolver modelos conceptuais (estatísticos) para

avaliar a relação entre usos do solo e transportes em cidades de média dimensão (Alves *et al.*, 2015).

No presente estudo pretende-se trabalhar a uma escala mais pormenorizada. Procedeu-se a um zonamento da área de estudo tendo em conta aspetos morfológicos, usos do solo, oferta de transportes, acessibilidade e condições socioeconómicas.

O objetivo desta comunicação é estabelecer uma relação entre estruturas urbanas compactas e multifuncionais e padrões de mobilidade, no eixo urbano formado pela cidade de Faro e Montenegro/Gambelas.

**Figura 1 - Área de estudo (cidade de Faro e Montenegro/Gambelas). As maiores dimensões da área de estudo**



## **2. A INFLUÊNCIA DAS INTERAÇÕES ENTRE OS USOS DO SOLO E OS TRANSPORTES NA MOBILIDADE**

A interação dinâmica e cíclica entre os transportes e o uso do solo, cada um sendo causa e efeito do outro, foi abordada por vários autores como Wegener (1987) e Stover e Koepke (1991) que assumiram o paradigma da causalidade circular da interação transportes – usos do solo.

A mobilidade motorizada foi incentivada por paradigmas urbanísticos de teor expansionista que determinaram uma separação física dos lugares de habitação, de trabalho e de lazer, traduzindo-se pela necessidade de deslocação quotidiana de um a outro lugar. Esta necessidade de deslocação foi induzida, sobretudo na segunda metade do século XX, pela construção de uma potente rede de infraestruturas viárias e pela produção intensiva do automóvel e consequente baixa no custo de aquisição levando à sua democratização.

Os fatores que induzem a mobilidade podem ter um carácter exterior, relativo ao ambiente envolvente do utilizador, ou um carácter individual, relativo ao próprio sujeito que influencia a necessidade, desejo ou intenção em se deslocar.

As variáveis associadas aos fatores externos estão correlacionadas, essencialmente, com a dimensão e estrutura dos aglomerados populacionais, a existência de infraestruturas de transporte, a oferta de transportes e o seu custo, os horários e a localização das atividades que geram as deslocações, entre outras. Em relação aos fatores individuais referem-se, sobretudo, às características das famílias, ao comportamento do indivíduo e à disponibilidade de veículo para utilização.

Mais recentemente tem influenciado neste aumento a dimensão da família, o número de automóveis por família e o aumento da mobilidade nos diferentes grupos etários, jovens e idosos, homens e mulheres. Estes fatores induziram



ao aumento do transporte de passageiros, levando também ao aumento da taxa de motorização.

A motorização caracteriza a propensão que um conjunto de pessoas (num país, por exemplo) tem de se dotar e de se servir de veículos motorizados. É medida considerando o número de veículos correspondentes a uma dada população (geralmente esta taxa de motorização exprime-se em número de veículos por 1000 habitantes). A motorização é essencialmente um atributo dos países desenvolvidos tendo nas últimas décadas aumentado consideravelmente.

No mundo ocidental foram vários os fatores que contribuíram para os incrementos substanciais nas taxas de motorização: as modificações na organização das cidades que aumentaram a distância entre o emprego e a habitação, o aumento demográfico com o deslocamento das pessoas do campo para as cidades levando a um aumento da suburbanização, o aumento dos rendimentos familiares, o baixo custo relativo do automóvel e a existência entre cidades de uma rede viária detentora de bons níveis de serviço, entre outros.

Paralelamente ao fenómeno de compra de casa particular em áreas periurbanas surge a generalização do emprego feminino exigindo o aumento do número de carros por família.

Por sua vez, o próprio desenvolvimento do automóvel deu força à suburbanização. Nas cidades muito dispersas o automóvel passou, não só a ser considerado como uma necessidade mas também como uma maneira de viver.

A expansão urbana está geralmente associada a um tipo de urbanização de baixa densidade que por sua vez está associada com maiores rendimentos por família, valores elevados de posse e uso de automóveis o que leva ao aumento do número de deslocações, tal como mostra um estudo efetuado na região de Toronto que comprova, efetivamente, uma relação entre menores densidades residenciais e maiores deslocações (Quadro 1). Assim, a posse de automóvel e o seu uso varia inversamente com a densidade residencial (OCDE, 1997).

**Quadro 1 – Parâmetros de deslocação e outras características de quatro zonas concêntricas da região de Toronto**

	Centro	Anel central	Zonas suburbanas interiores	Zonas suburbanas exteriores
Densidade residencial (parte urbanizada, pessoas/km <sup>2</sup> ) (N.º hab/ha)	7340 (73,4)	5830 (58,3)	2810 (28,1)	1830 (18,3)
Percentagem de famílias possuindo um ou mais carros	49 %	75 %	87 %	96 %
Rendimento em 1991 (Can\$/pessoa)	25184	24069	22849	22655
Rendimento em 1991 (Can\$/família)	45331	60171	63976	70231
Deslocação por automóvel (km/pessoa/dia)	7.5	10.2	15.0	25.6
Deslocação total por transporte motorizado (km/pessoa/dia)	11.1	14.2	18.7	27.0
Emissões estimadas de CO <sub>2</sub> resultando das deslocações (g/pessoa/dia)	1710	2280	3222	5200

Fonte: adaptado de OECD (1997, 28) citando Richard Gilbert (1995)

As interações entre transportes e uso do solo estão intrinsecamente relacionadas com a densificação residencial, a concentração do emprego, o desenho urbano, a orientação espacial da expansão urbana, a acessibilidade e o custo de transporte (Wegener e Fürst, 1999).

A densificação residencial está relacionada com os locais de residência da população que constituem pólos geradores de viagens. A distribuição espacial das áreas residenciais geralmente é caracterizada por constituir uma concentração mono ou polinucleada ou encontra-se dispersa. Em termos de intensidade de uso do solo, está associada à alta densidade ou baixa densidade. Geralmente a alta densidade potencia uma oferta adequada de transporte coletivo. Nas zonas residenciais monofuncionais há tendência para ocorrer uma maior dependência dos modos de transporte individuais motorizados.

Efetivamente também a concentração do emprego é determinante na mobilidade, pois os locais de emprego constituem importantes pólos de atração de deslocações. As áreas urbanas com elevada concentração de atividades, ou seja, detentoras de usos mistos urbanos, induzem a um urbanismo de proximidade que maximiza a utilização de modos suaves.

O desenho urbano remete para a qualificação física e funcional dos espaços urbanos, questão fundamental no domínio das infraestruturas pedonais e cicláveis para potenciar a sua utilização por modos suaves.

A orientação espacial da expansão urbana promove o conceito de *Transit Oriented Development*, em que ocorre um desenvolvimento urbano estruturado em torno de redes de transporte coletivo e caracterizado por uma densificação seletiva detentora de maior densidade residencial e maior variedade de funções urbanas junto às estações e paragens

de transporte coletivo. A desarticulação leva a uma maior utilização dos modos de transporte individuais motorizados.

O domínio da acessibilidade está relacionado com a existência de infraestruturas de transportes (uma boa oferta gera mais utilização por parte de modos de transporte individuais motorizados) e com a oferta de serviços de transporte coletivo qualificados.

O custo de transporte também influencia a maior ou menor utilização de transportes coletivos ou dos transportes individuais motorizados.

Outros estudos são consensuais com o exposto. Um estudo da União Internacional de Transporte Público indica a densidade de 100 habitantes e empregos por hectare como promotora de deslocamentos a pé, de bicicleta e de transportes públicos (Vivier *et al.*, 2005).

É necessário que a densidade residencial não se torne demasiado grande pois tal situação leva a uma perda de qualidade de vida urbana, devido ao menor número de espaços abertos, mais congestionamento e poluição operacional. É geralmente aceitável que as densidades residenciais de cerca de 300 habitantes por hectare são sustentáveis (Fulford, 1996).

### 3. A CIDADE DE FARO E MONTENEGRO/GAMBELAS

Neste capítulo apresenta-se uma breve caracterização da cidade de Faro em termos de dimensão, clima e relevo (altimetria e declives), estrutura urbana e transportes.

#### 3.1 Cidade de Média Dimensão

A cidade de Faro com cerca de 44000 habitantes (INE, 2012) é considerada, tendo em conta a hierarquia urbana portuguesa, uma cidade de média dimensão. <sup>4</sup> No contexto nacional, a dimensão, em termos populacionais, das cidades de média dimensão varia entre os 20000 e os 100000 habitantes (Costa, 2000).

O conceito/terminologia de “Cidade Média” foi introduzido em Portugal pelo Programa de Consolidação do Sistema Urbano e Apoio à Execução dos Planos Diretores Municipais (PROSIURB) em 1994. Na altura identificaram-se em Portugal cerca de 40 cidades de média dimensão entre as quais a cidade de Faro.

#### 3.2 Análise Climática e do Relevo

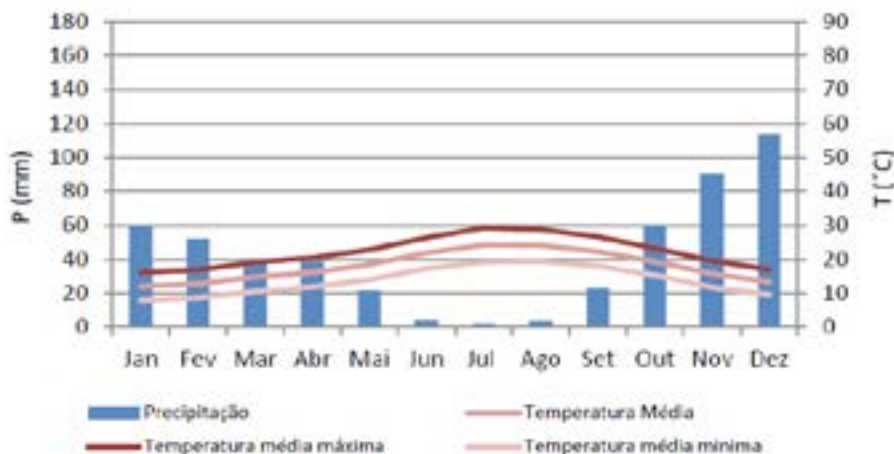
Em termos climáticos, Faro tem um bom clima para andar a pé ou de bicicleta. No mês mais frio (janeiro) a temperatura varia entre 7,3 °C e 16,1°C e no mês mais quente (julho) entre 18,2 °C e 29,0 °C.

**A média da quantidade de precipitação total, ao longo do ano varia entre praticamente zero em todo o verão e 115,6 mm em dezembro (Figura 2).**

A zona de estudo tem uma área total de 10,0 Km<sup>2</sup> (1007,6 ha). A altitude varia entre 1 m e 42 m e as coordenadas geográficas do ponto central da cidade são: Lat.: 37° 00'48'' e Long.: 7° 56'07''.

Em termos de insolação, a cidade de Faro tem como valor mínimo de horas anuais de Sol 3100 e como máximo 3200 (Atlas do ambiente, 1930-1961).

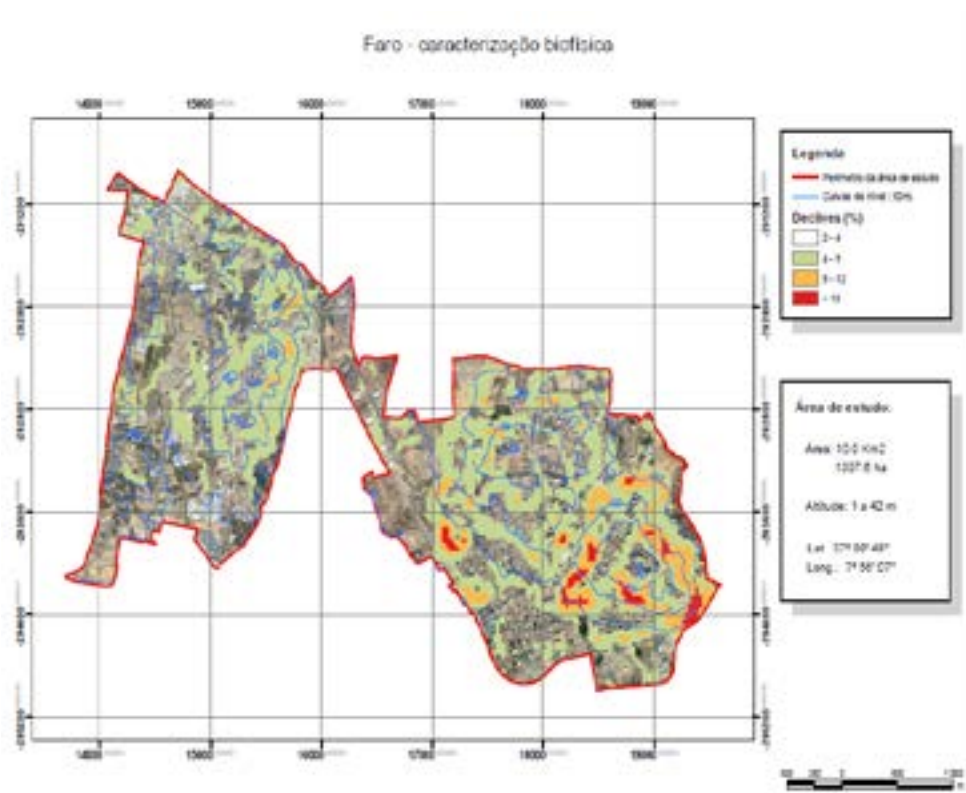
Figura 2 – Temperatura e precipitação



Fonte: IPMA série 1981-2010

O relevo não é acidentado, apresentando declives predominantes até 4% e que raramente ultrapassam os 8% (Figura 3). O relevo não constitui um entrave à utilização dos modos suaves.

**Figura 3 - Relevo (altimetria e declives) da zona de estudo**



### 3.3 Estrutura Urbana e Transportes

A expansão urbana que ocorreu nos últimos 30 anos no eixo urbano formado pela cidade de Faro e Montenegro/Gambelas configura um modelo territorial polinucleado de urbanização tendencialmente difusa, em oposição à cidade compacta tradicional de Faro. A localização de alguns equipamentos coletivos apresenta a mesma tendência, sendo exemplos os vários campus da Universidade do Algarve, o centro de saúde, escola Neves Júnior, piscinas municipais, teatro municipal, fórum Algarve, entre outros.

A estrutura viária de suporte à mobilidade no concelho de Faro apresenta uma extensão e densidade suficientes para a obtenção de uma boa acessibilidade quer no sistema urbano de Faro e Montenegro/Gambelas quer nas ligações com os concelhos vizinhos. A tipologia da malha urbana corresponde a uma estrutura rádio concêntrica incompleta, em que o pólo geométrico coincide com o pólo funcional (centro da cidade). Em agosto de 2015 foi inaugurada a variante à cidade de Faro pelo que o tráfego motorizado de atravessamento em tempos considerável (cerca de 17%) está a diminuir.

A taxa de motorização do concelho de Faro é elevada, registando-se 496 veículos ligeiros/1000 hab. e 705 veículos/1000 hab. no ano de 2011 (ISP, 2011).

O estacionamento na cidade de Faro é suportado por um sistema de parques de estacionamento pagos (mais centrais) e por parques de estacionamento não pagos. No centro da cidade tem vindo a ser implementada a política do utilizador pagador, com estacionamento pago quer na via pública, quer em parques subterrâneos. Este sistema é complementado por oferta de transporte público com vista a potencializar a transferência modal. Atualmente, de forma generalizada, não existe défice de lugares de estacionamento face à procura revelada.

Na freguesia de Montenegro não existe estacionamento pago nem atividade de fiscalização sistemática. Verificando-se frequentemente a existência de estacionamento ilegal (em segunda fila e em cima dos espaços pedonais).

Os transportes públicos têm uma razoável cobertura espacial e temporal (praticamente toda a população encontra-se a 400 m de uma paragem de autocarro) e tem-se vindo a assistir a um melhoramento da articulação entre os modos ferroviário e rodoviário.

No caso do modo ciclável, para além da Ecovia do Algarve, que na sua génese tem uma função eminentemente de lazer, são escassos e dispersos os percursos adaptados às bicicletas, não existindo uma rede de ciclovias. Existe uma perceção generalizada pela população do concelho de Faro que o uso da bicicleta é extremamente perigoso.

Com exceção do centro da cidade de Faro, os espaços pedonais não constituem uma rede articulada e agradável

à sua usufruição. A ocupação dos passeios por parte dos automóveis, a colocação sem critério de mobiliário urbano e a largura reduzida não contribui para o incentivo a caminhar. No entanto, registam-se preocupações, por parte da autarquia, em proceder a melhoramentos.

## 4. CÁLCULO DE INDICADORES POR ZONA

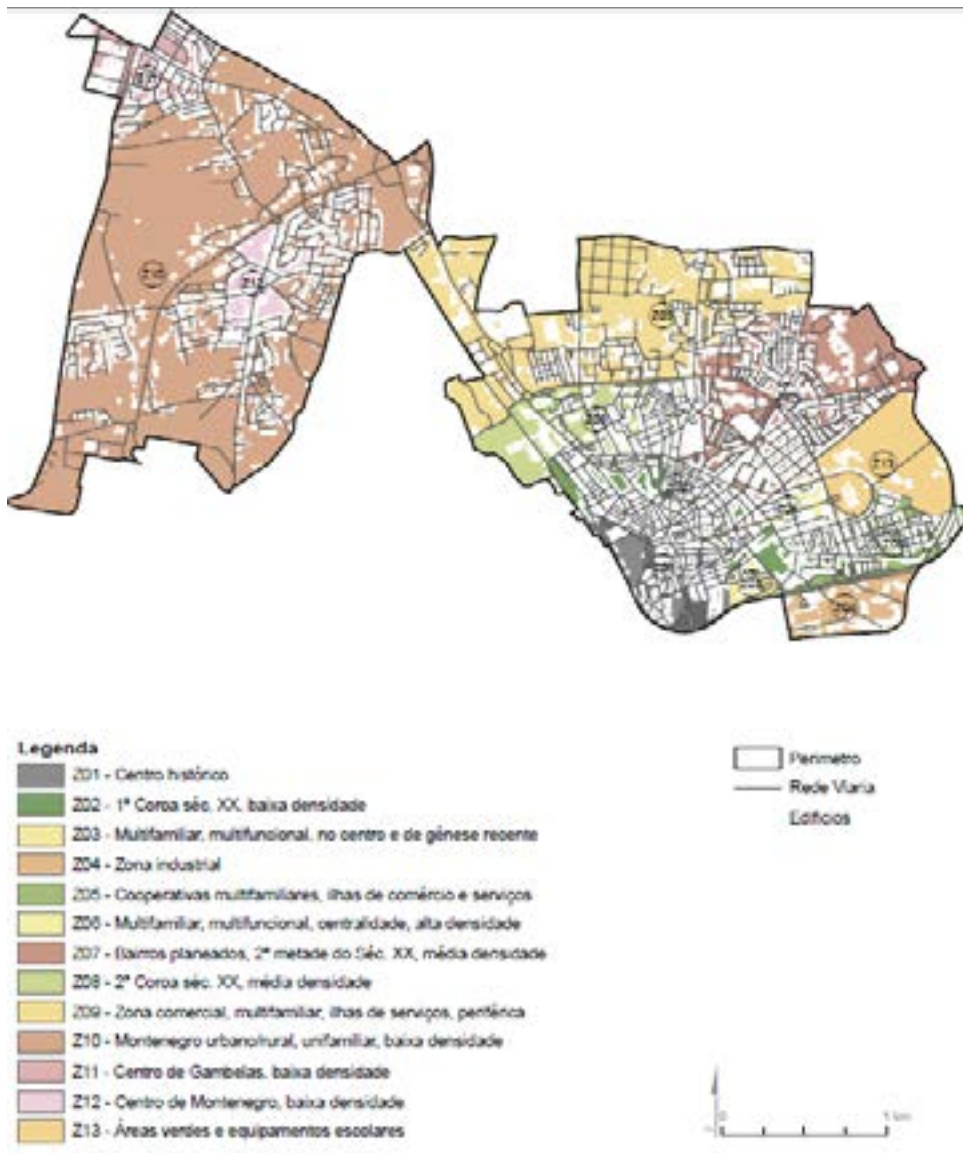
### 4.1 Zonamento da Área de Estudo

Com o objetivo de se estabelecer uma relação entre estruturas urbanas compactas e multifuncionais e padrões de mobilidade, foi feito um zonamento onde se privilegiou a evolução histórica da cidade, principais centros funcionais, estrutura da rede viária, densidade e tipologia das habitações e densidade de serviços e comércio. Resultaram as zonas abaixo identificadas:

Zona 01 (Centro histórico), Zona 02 (1ª Coroa séc. XX), Zona 03 (Horta do Ferragial), Zona 04 (Zona industrial), Zona 05 (Bom João/Sto. António do Alto), Zona 06 (Avenida 5 de outubro), Zona 07 (Penha / estrada de S. Luís), Zona 08 (Afonso III/ Alto Rodes), Zona 09 (Fórum Algarve / Urbanizações Hortas das Figuras / Lejana), Zona 10 (Montenegro urbano/rural), Zona 11 (Centro de Gambelas), Zona 12 (Centro de Montenegro), Zona 13 (Mata do Liceu).

As 13 zonas estão representadas na Figura 4 e as respetivas áreas no Quadro 2 em hectares (ha).

Figura 4. Zonamento da cidade de Faro e Montenegro/Gambelas



Quadro 2 – Área da superfície das zonas

	Z01	Z02	Z03	Z04	Z05	Z06	Z07	Z08	Z09	Z10	Z11	Z12	Z13
Área (ha)	45,64	55,61	6,87	24,85	35,79	12,14	118,76	59,81	161,81	386,04	34,10	23,45	42,37

## 4.2 Apresentação e Cálculo de Indicadores

Com o objetivo de quantificar as características do ambiente construído foram calculados, para as 13 zonas de estudo, 5 conjuntos de indicadores: densidade, diversidade, desenho urbano, acessibilidade e topografia.

Para a caracterização da “densidade” foram calculados 5 indicadores: densidade habitacional, densidade de funções não habitacionais, densidade populacional, densidade de edifícios e índice de utilização de comércio e serviços (Quadro 3).

Os dados necessários para o cálculo foram obtidos através do sistema de informação geográfica construído e dados do INE dos Censos de 2011.

O índice de utilização de comércio e serviços foi obtido utilizando a área bruta de construção de comércio e serviços sobre a respetiva área da zona de estudo.

Quadro 3 – Indicadores de densidades por zona

Indicadores Zonas	Densidade habitacional (nº frações habitacionais /ha)	Densidade de funções não habitacionais (nº frações não habitacionais / ha)	Densidade populacional (nº residentes/ha)	Densidade de edifícios (nº edifícios/ha)	Índice de utilização de comércio e serviços
Z01 - Centro histórico	28,3	21,8	38,0	22,9	0,5
Z02 - 1ª Coroa séc. XX	58,2	16,5	81,0	28,4	0,3
Z03 - Horta do Ferragial	24,9	4,2	53,0	2,9	0,3
Z04 - Zona industrial	2,6	0,8	11,0	3,4	0,2
Z05 - Bom João/Sto. António do Alto	72,9	6,1	153,0	11,8	0,1
Z06 - Avenida 5 de outubro	98,6	12,5	155,0	15,9	0,3
Z07 - Penha / estrada de S. Luís	59,5	8,9	105,0	10,6	0,2
Z08 - Afonso III/ Alto Rodes	55,6	8,5	97,0	14,8	0,2
Z09 - Fórum Algarve / Urb Hortas das Figuras / Lejana	21,8	1,7	43,0	4,9	0,1
Z10 - Montenegro urbano/rural	7,0	0,4	15,0	4,5	0,0
Z11 - Centro de Gambelas	16,0	2,7	24,0	6,9	0,2
Z12 - Centro de Montenegro	20,6	2,7	46,0	11,0	0,1
Z13 - Mata do Liceu	0,8	0,1	1,0	0,6	0,1

As zonas com maior densidade de habitação e maior densidade populacional são: Zona 05 (Bom João/Sto. António do Alto), Zona 06 (Avenida 5 de outubro) e Zona 07 (Penha / estrada de S. Luís). As Figuras 5 e 6 ajudam a visualizar as diferentes densidades de habitação entre zonas.

As zonas com maiores densidades de funções não habitacionais, ou seja, de comércio e serviços são: Zona 01 (Centro histórico), Zona 02 (1ª Coroa séc. XX) e Zona 06 (Avenida 5 de outubro).

Figura 5. Morfologia urbana da cidade de Faro

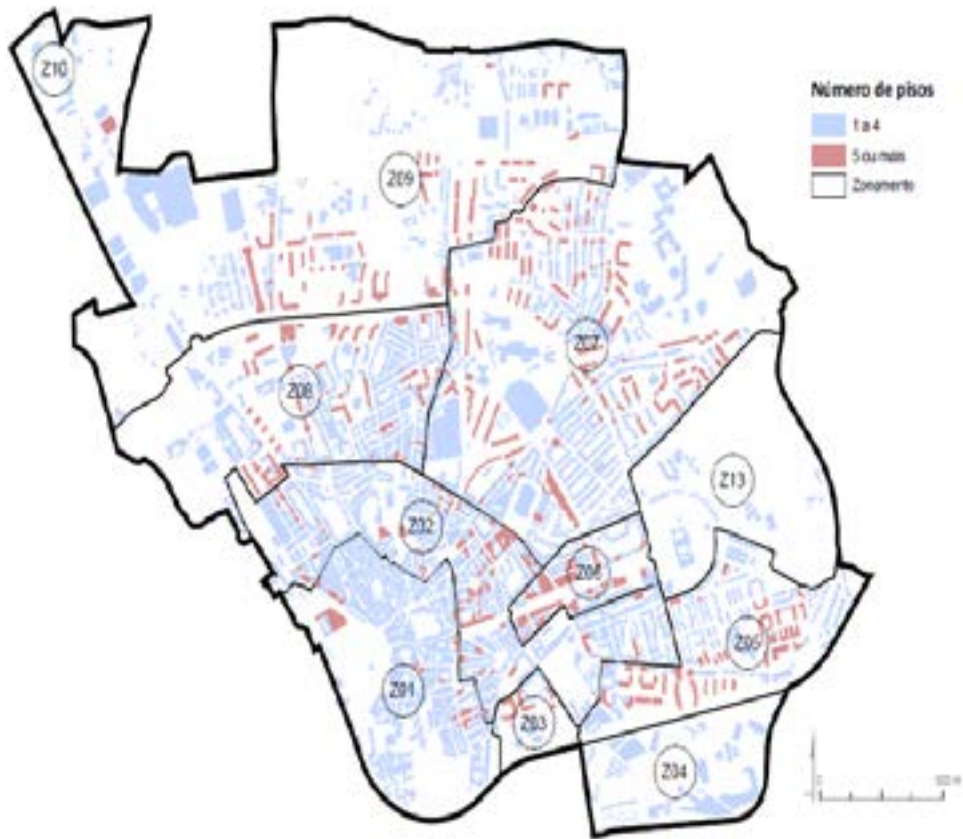
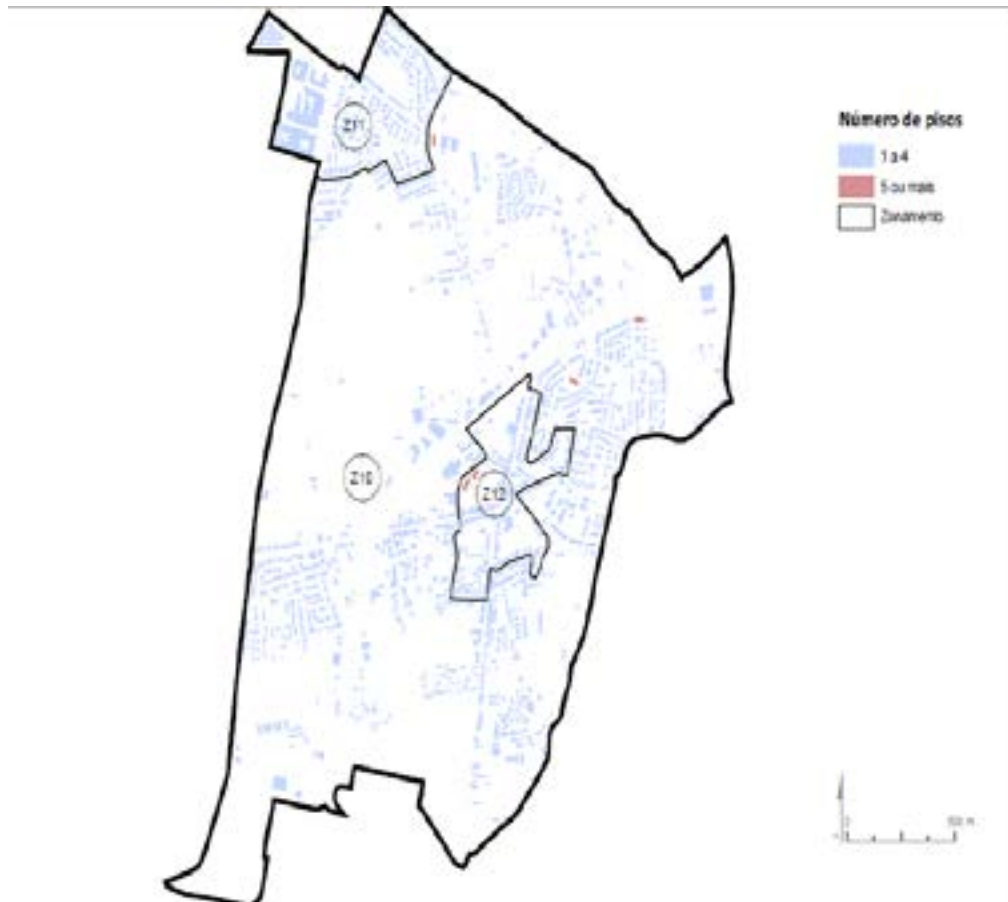


Figura 6. Morfologia urbana de Montenegro e Gambelas



Para a caracterização da “diversidade de edifícios habitacionais”, de cada zona, foram calculados 2 indicadores: percentagem de edifícios unifamiliares ( $n^\circ$  de edifícios unifamiliares/ total de  $n^\circ$  de edifícios x 100) e percentagem de frações habitacionais ( $n^\circ$  de frações habitacionais/ total de  $n^\circ$  de frações x 100). Os resultados estão representados no Quadro 4.

**Quadro 4 - Indicadores de diversidade de edifícios habitacionais por zona**

	Percentagem de edifícios unifamiliares (%)	Percentagem de frações habitacionais (%)
Z01 - Centro histórico	32,4	56,5
Z02 - 1ª Coroa séc. XX	48,5	77,8
Z03 - Horta do Ferragial	0,0	85,5
Z04 - Zona industrial	<b>76,5</b>	76,5
Z05 - Bom João/Sto. António do Alto	38,2	<b>92,2</b>
Z06 - Avenida 5 de outubro	16,6	88,7
Z07 - Penha / estrada de S. Luís	22,0	87,0
Z08 - Afonso III/ Alto Rodes	37,3	86,8
Z09 - Fórum Algarve / Urbanizações Hortas das Figuras / Lejana	54,0	<b>92,7</b>
Z10 - Montenegro urbano/rural	<b>81,9</b>	<b>94,1</b>
Z11 - Centro de Gambelas	<b>77,8</b>	85,4
Z12 - Centro de Montenegro	<b>66,5</b>	88,3
Z13 - Mata do Liceu	34,6	84,2

Os edifícios das zonas Z10 (Montenegro urbano/rural), Z11 (Centro de Gambelas) e Z04 (Zona industrial) são essencialmente edifícios unifamiliares (vivendas).

As zonas cujos edifícios são sobretudo habitacionais são Z05 (Bom João/Sto. António do Alto), Z09 (Fórum Algarve / Urbanizações Hortas das Figuras / Lejana) e Z10 (Montenegro urbano/rural),

Para a caracterização do desenho urbano de cada zona foram calculados 6 indicadores: percentagem de área de implantação de edifícios, percentagem de área de circulação motorizada, percentagem de área de estacionamento, percentagem de área de implantação de equipamentos, percentagem de área pedonal e percentagem de rácio de espaços verdes (Quadro 5).

Para a caracterização de acessibilidade em transporte público foram calculados 4 indicadores: frequência de transporte público, número de carreiras urbanas, número de paragens de autocarro e distância média dos edifícios à paragem mais próxima (Quadro 6).

O número de carreiras urbanas que serve as zonas de estudo varia entre 0 na Z04 e 13 carreiras na Z09 (Fórum Algarve / Urbanizações Hortas das Figuras / Lejana) a que é melhor servida em termos de diversidade de carreiras. A Zona 03 (Horta do Ferragial) não dispõe de paragem de autocarro dentro do seu perímetro mas detém boa acessibilidade aos transportes públicos da zona limítrofe. A cobertura temporal e espacial do transporte público é uma característica influenciadora da distribuição modal.

**Quadro 5 - Indicadores de desenho urbano por zona**

Indicadores	Área de edifícios (%)	Área de circulação motorizada (%)	Área de estacionamento (%)	Área de equipamentos (%)	Área pedonal (%)	Rácio de Espaços verdes (%)
Zonas						
Z01 - Centro histórico	42,8	16,2	4,0	8,9	13,3	2,3
Z02 - 1ª Coroa séc. XX	45,5	18,7	2,0	3,0	12,6	4,0
Z03 - Horta do Ferragial	19,6	13,9	12,0	24,6	19,3	0,0
Z04 - Zona industrial	21,6	11,3	1,8	2,1	1,6	0,0
Z05 - Bom João/Sto. António do Alto	26,3	19,0	6,1	4,3	17,7	0,0

Z06 - Avenida 5 de outubro	39,7	16,6	2,1	0,0	14,6	1,5
Z07 - Penha / estrada de S. Luís	29,6	16,1	3,9	21,0	12,8	0,0
Z08 - Afonso III/ Alto Rodes	30,9	15,8	2,7	6,8	10,7	0,3
Z09 - Fórum Algarve / Urbanizações Hortas das Figuras / Lejana	16,0	16,5	5,1	3,2	9,3	0,7
Z10 - Montenegro urbano/rural	7,8	10,2	1,0	1,0	2,5	0,1
Z11 - Centro de Gambelas	23,8	14,6	5,4	0,9	13,7	1,8
Z12 - Centro de Montenegro	19,1	11,8	2,0	2,1	6,9	0,0
Z13 - Mata do Liceu	4,8	8,4	0,6	9,3	2,5	6,0

**Quadro 6 - Indicadores de acessibilidade em transporte público por zona**

	Oferta de Transporte Público (nº carreiras por dia e por paragem)	Número de carreiras urbanas (nº carreiras/dia)	Número de paragens de autocarro	Distância média dos edifícios à paragem mais próxima (m)
Z01 - Centro histórico	162	7	8	138
Z02 - 1ª Coroa séc. XX	86	1	13	319
Z03 - Horta do Ferragial	0	1	0	244
Z04 - Zona industrial	0	0	0	124
Z05 - Bom João/Sto. António do Alto	94	4	7	128
Z06 - Avenida 5 de outubro	65	6	2	187
Z07 - Penha / estrada de S. Luís	86	4	20	464
Z08 - Afonso III/ Alto Rodes -2ª Coroa séc. XX	55	7	8	171
Z09 - Fórum Algarve / Urbanizações Hortas das Figuras / Lejana	110	13	14	184
Z10 - Montenegro urbano/rural	65	10	16	154
Z11 - Centro de Gambelas	103	2	2	165
Z12 - Centro de Montenegro	87	5	3	217
Z13 - Mata do Liceu	162	5	2	305

Foi calculado um indicador de topografia: % de área com declive inferior a 8%

O relevo não é acidentado, apresentando declives que raramente ultrapassam os 8% (Quadro 7). O relevo não constitui um entrave à utilização do modo pedonal nem do modo ciclável.

**Quadro 7 - Indicadores de topografia por zona**

	Z01	Z02	Z03	Z04	Z05	Z06	Z07	Z08	Z09	Z10	Z11	Z12	Z13
Área com declive inferior a 8% (%)	95,9	89,4	100,0	99,7	70,8	59,7	87,8	90,4	97,5	98,3	98,9	97,8	70,7

Z01 - Centro histórico

Z02 - 1ª Coroa séc. XX

Z03 - Horta do Ferragial

Z04 - Zona industrial

Z05 - Bom João/Sto. António do Alto

Z06 - Avenida 5 de outubro

Z07 - Penha / estrada de S. Luís

Z08 - Afonso III/ Alto Rodes -2ª Coroa séc. XX

Z09 - Fórum Algarve / Urbanizações Hortas das Figuras / Lejana

Z10 - Montenegro urbano/rural

Z11 - Centro de Gambelas

Z12 - Centro de Montenegro

Z13 - Mata do Liceu



## 5. INQUÉRITOS À MOBILIDADE DA POPULAÇÃO RESIDENTE

### 5.1 Caracterização dos Inquéritos

O inquérito à mobilidade da população residente na área de estudo é composto por três grupos de perguntas: (1) os dados do inquirido, do seu agregado familiar e da sua habitação, (2) caracterização das viagens referente ao dia anterior ao inquérito e (3) avaliação de perfis (atitudes).

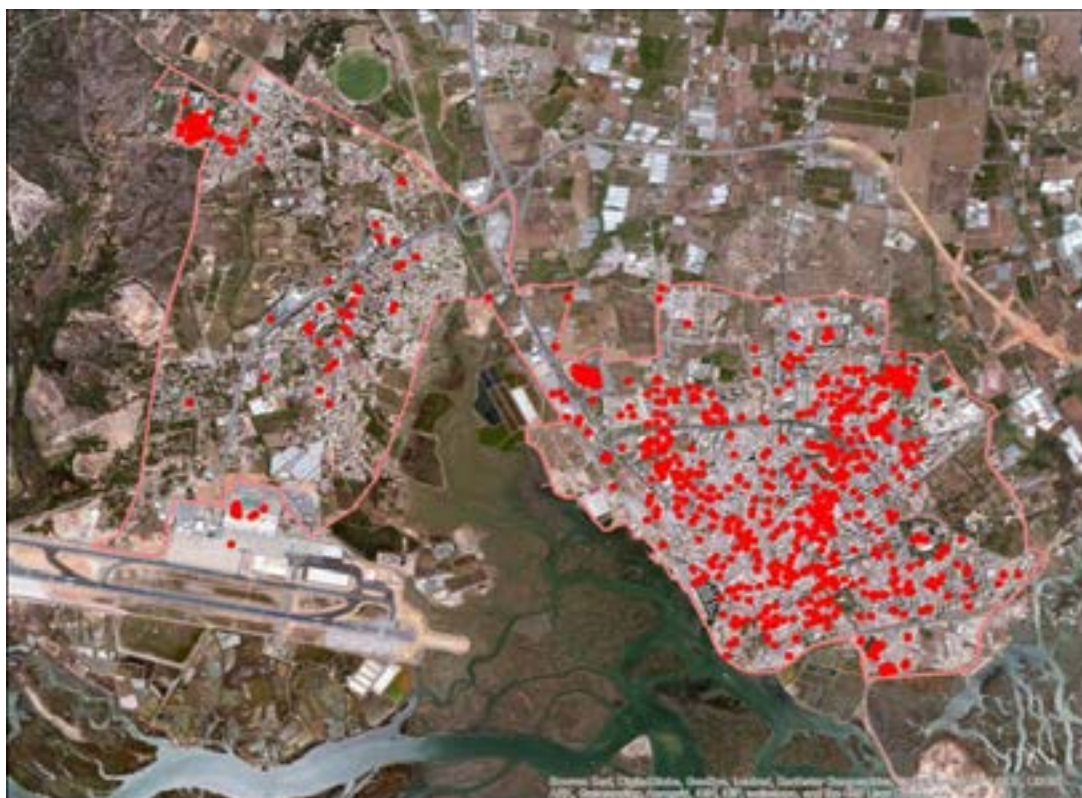
Os inquéritos foram realizados nos meses de novembro e dezembro de 2013, distribuídos por 19 dias úteis contando-se com a participação de 8 inquiridores. Com o objetivo de não refletirem, ou serem influenciados pelos comportamentos do fim de semana, foram realizados às quartas, quintas e sextas-feiras.

Os inquéritos foram realizados aos residentes com idade igual ou superior a 17 anos e foram apenas analisadas as viagens com origem e destino na área de estudo.

A determinação do número de inquéritos a realizar em cada zona tomou em consideração o número de famílias clássicas (INE, 2012), tendo sido utilizado um fator de 6 % do número de famílias com um patamar mínimo, por zona, próximo dos 40 inquéritos.

Foram obtidos 1277 inquéritos a indivíduos cuja localização da residência se encontra representada na Figura 7, tendo sido conseguida uma boa distribuição espacial.

Figura 7. Localização da residência dos 1277 inquiridos



Foi obtida uma amostra de 6,3 % dos agregados familiares, conforme Quadro 8.

Quadro 8 – Dados da amostra do inquérito

	Universe (perímetro urbano)	Amostra (inquiridos)	Percentagem %
Agregados	20 034	1 277	6,3
População diretamente inquirida	47 155	1 277	2,7
População abrangida indiretamente (constituintes dos agregados inquiridos)	47 155	2 923	6,2

## 5.2 RESULTADOS DOS INQUÉRITOS

### 5.2.1 Potencial de mobilidade

O potencial de mobilidade do agregado familiar corresponde à posse de meios de transporte individuais, à posse de passe de transporte público ou à existência de elementos com mobilidade condicionada. Os resultados apresentados na Quadro 9 correspondem apenas aos diretamente inquiridos.

**Quadro 9 - Potencial de mobilidade**

Potencial de mobilidade	Frequência	Percentagem (%)
Possui mobilidade condicionada	46	3,6
Possui carta de condução	955	74,8
Tem passe de transportes coletivos	131	10,3

Dos 955 inquiridos que possuem carta de condução 31 (3,2%) também possuem passe de transporte público. Dos 322 inquiridos que não possuem carta de condução 100 (31%) tem passe de transporte público. Em relação à posse de meios de transporte, questionou-se por aglomerado familiar a existência e a quantidade de automóveis, motos/motociclos e bicicletas (ver Quadro 10).

Os 1263 aglomerados familiares possuem 1500 automóveis, 147 motos/motociclos e 763 bicicletas. O potencial de mobilidade é considerável e assenta sobretudo no automóvel. Retirando as 268 (20,9%) famílias que não têm automóvel a média das que têm é de 1,5 veículos por família. O número de bicicletas também é relevante, mas como vamos ver praticamente não são usadas nas deslocações dos dias úteis.

### 5.2.2 Distribuição modal das viagens por zona

No quadro 11 apresenta-se a distribuição modal de todas as viagens realizadas, no dia de inquérito, pelos residentes inquiridos nas várias zonas.

**Quadro 10 - Posse de meios de transporte individuais por zona de inquérito**

Zona	Meios	Nº de aglomerados familiares inquiridos	Automóveis		Motos/Motociclos		Bicicletas	
			Frequência (n.º)	Percentagem (%)	Frequência (n.º)	Percentagem (%)	Frequência (n.º)	Percentagem (%)
Z01 - Centro histórico		39	44	62,0	2	2,8	25	35,2
Z02 - 1ª Coroa séc. XX		136	120	68,2	12	6,8	44	25,0
Z03 - Horta do Ferragial		39	47	52,2	8	8,9	35	38,9
Z04 - Zona industrial		35	12	42,9	2	7,1	14	50,0
Z05 - Bom João/Sto. António do Alto		53	71	62,3	5	4,4	38	33,3
Z06 - Avenida 5 de outubro		35	40	65,6	2	3,3	19	31,1
Z07 - Penha / estrada de S. Luís		315	347	60,6	45	7,9	181	31,6
Z08 - Afonso III/ Alto Rodes -2ª Coroa séc. XX		138	206	70,5	18	6,2	68	23,3
Z09 - Fórum Algarve / Urb. Hortas das Figuras / Lejana		205	278	65,3	19	4,5	129	30,3
Z10 - Montenegro urbano/rural		164	214	56,6	17	4,5	147	38,9
Z11 - Centro de Gambelas		30	32	68,1	2	4,3	13	27,7

<b>Z12 - Centro de Montenegro</b>	70	84	58,3	15	10,4	45	31,3
<b>Z13 - Mata do Liceu</b>	4	5	50,0	0	0,0	5	50,0
Total	1263	1500	62,2	147	6,1	763	31,7

**Quadro 11 – Distribuição modal das viagens, todos os motivos, por zona**

Zona	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Z9	Z10	Z11	Z12	Z13
<b>Modo de Transporte</b>													
<b>A pé</b>	26 41,9%	104 43,9%	48 53,3%	33 52,4%	21 27,6%	33 52,4%	300 51,7%	66 32,0%	128 27,8%	104 33,9%	44 53,0%	44 34,4%	5 62,5%
<b>Bicicleta</b>	0 0,0%	6 2,5%	0 0,0%	17 27,0%	0 0,0%	3 4,8%	14 2,4%	0 0,0%	4 0,9%	0 0,0%	2 2,4%	2 1,6%	0 0,0%
<b>Transporte Público</b>	4 6,5%	39 16,5%	0 0,0%	0 0,0%	10 13,2%	3 4,8%	21 3,6%	3 1,5%	10 2,2%	2 0,7%	5 6,0%	4 3,1%	0 0,0%
<b>Mota ou Motociclo</b>	0 0,0%	2 0,8%	2 2,2%	0 0,0%	2 2,6%	0 0,0%	0 0,0%	2 1,0%	19 4,1%	0 0,0%	0 0,0%	4 3,1%	0 0,0%
<b>Automóvel (condutor)</b>	30 48,4%	73 30,8%	37 41,1%	7 11,1%	39 51,3%	22 34,9%	198 34,1%	118 57,3%	261 56,7%	180 58,6%	23 27,7%	68 53,1%	2 25,0%
<b>Automóvel (passageiro)</b>	2 3,2%	13 5,5%	3 3,3%	6 9,5%	4 5,3%	2 3,2%	47 8,1%	17 8,3%	38 8,3%	21 6,8%	9 10,8%	6 4,7%	1 12,5%
<b>Total</b>	62 100%	237 100%	90 100%	63 100%	76 100%	63 100%	580 100%	206 100%	460 100%	307 100%	83 100%	128 100%	8 100%

Z01 - Centro histórico

Z02 - 1ª Coroa séc. XX

Z03 - Horta do Ferragial

Z04 - Zona industrial

Z05 - Bom João/Sto. António do Alto

Z06 - Avenida 5 de outubro

Z07 - Penha / estrada de S. Luís

Z08 - Afonso III/ Alto Rodes -2ª Coroa séc. XX

Z09 - Fórum Algarve / Urbanizações Hortas das Figuras / Lejana

Z10 - Montenegro urbano/rural

Z11 - Centro de Gambelas

Z12 - Centro de Montenegro

Z13 - Mata do Liceu

Figura 8. Distribuição Modal das viagens, todos os motivos, realizadas na cidade de Faro

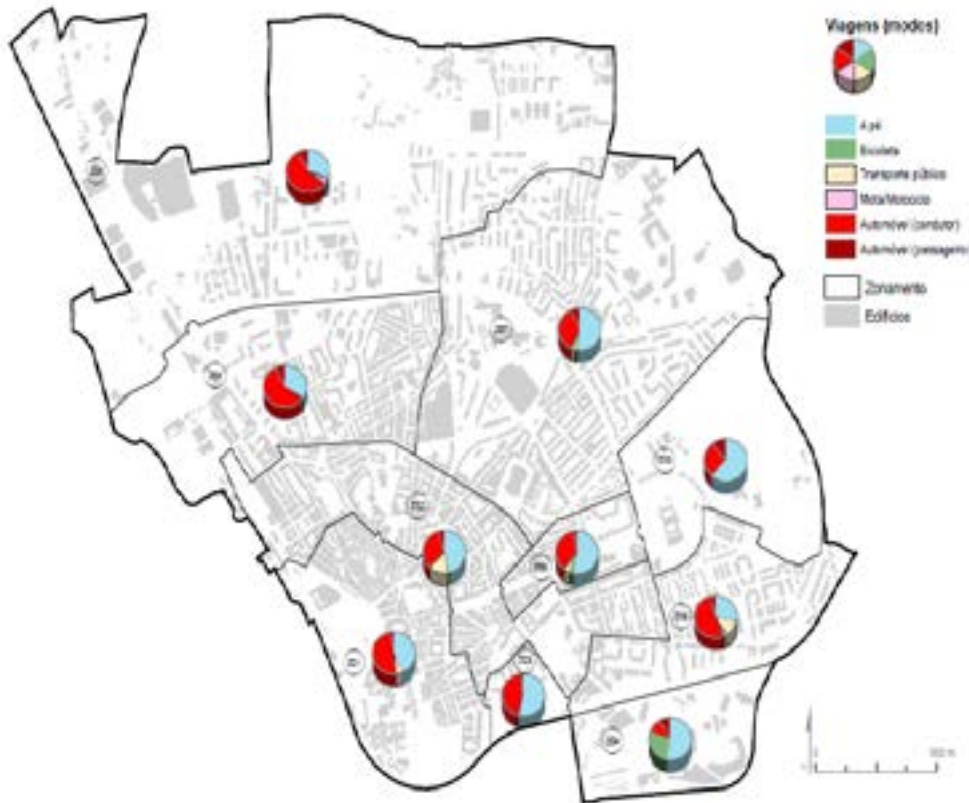


Figura 9. Distribuição Modal das viagens, todos os motivos, realizadas em Montenegro/Gambelas



As zonas caracterizadas pela proximidade à Baixa de Faro (centro histórico e comercial) e do centro de Gambelas (limítrofe ao Campus da Universidade do Algarve) detêm bons padrões de mobilidade a pé. Os bairros periféricos internos à cidade de Faro, com exceção da Zona da Penha/Estrada de S. Luís, estão associados a viagens de automóvel. A zona do Montenegro urbano/rural, entendida como sendo um anel periférico exterior à cidade, apresenta uma alta dependência do automóvel.

## 6. SÍNTESE DOS INDICADORES DE INTERAÇÃO DOS USOS DO SOLO E TRANSPORTES

A análise dos indicadores de interação dos usos do solo e transportes apresentados no Quadro 12 permite chegar a algumas conclusões que são consensuais com estudos anteriores.

A expansão urbana da cidade de Faro induziu à urbanização de Montenegro/Gambelas, estabelecendo um eixo urbano de grande importância concelhia, com dinâmicas de mobilidade específicas destes modelos territoriais. Esta urbanização constitui um anel periférico externo à cidade, caracterizado por famílias com maiores rendimentos, baixa densidade residencial, valores razoáveis de posse e uso de automóveis, ocorrendo uma percentagem elevada de deslocações motorizadas individuais. Também ocorre esta dependência do automóvel nas zonas periféricas internas à cidade de Faro, com exceção da Zona da Penha/Estrada de S. Luís que constitui uma centralidade secundária à cidade, com serviços autossuficientes, estruturados em torno do Campus da Universidade do Algarve.

As estruturas urbanas compactas e multifuncionais correspondentes à Zona 06 (Avenida 5 de outubro), à Zona 07 (Penha/Estrada de S. Luís) detêm bons padrões de mobilidade a pé.

A Zona 02 (1ª coroa do séc. XX), a Zona 05 (Bom João/ Sto António do Alto) e a Zona 11 (Centro de Gambelas) detêm uma boa oferta de transportes coletivos, induzindo à sua utilização.

Em termos de desenho urbano, a Zona 01 (centro histórico) apresenta uma boa rede pedonal e restrições ao estacionamento automóvel, induzindo à marcha a pé.

Quadro 12 – Quadro síntese dos indicadores de interação dos usos do solo e transportes

Zonamento	Densidade demográfica hab/ha	Percentagem de frações habitacionais %	Densidade de funções não habitacionais FnH/ha	Localização	Viagens a pé %	Viagens Transportes Públicos %	Viagens Automóvel como condutor %
Z01 - Centro histórico	38,0	56,5	21.8	Centro da cidade de Faro	41,9	6,5	48,4
Z02 - 1ª Coroa séc. XX	81,0	77,8	16.5	Próximo ao centro	43,9	16,5	30,8
Z03 - Horta do Ferragial	53,0	85,5	4.2	Próximo ao centro	53,3	0	41,1
Z04 - Zona industrial	11,0	76,5	0.8	Anel periférico interno	52,4	0	11,1
Z05 - Bom João/Sto. António do Alto	153,0	92,2	6.1	Periférica	27,6	13,2	51,3
Z06 - Avenida 5 de outubro	155,0	88,7	12.5	Próximo ao centro	52,4	4,8	34,9
Z07 - Penha / estrada de S. Luís	105,0	87,0	8.9	Periférica - Centralidade secundária	51,7	3,6	34,1
Z08 - Afonso III/ Alto Rodes	97,0	86,8	8.5	Anel periférico interno	32,0	1,5	57,3
Z09 - Fórum Algarve / Urbanizações Hortas das Figuras / Lejana	43,0	92,7	1.7	Anel periférico interno	27,8	2,2	56,7
Z10 - Montenegro urbano/rural	15,0	94,1	0.4	Anel periférico externo	33,9	0,7	58,6
Z11 - Centro de Gambelas	24,0	85,4	2.7	Centro de Gambelas	53,0	6,0	27,7
Z12 - Centro de Montenegro	46,0	88,3	2.7	Centro de Montenegro	34,4	3,1	53,1
Z13 - Mata do Liceu	1,0	84,2	0.1	Anel periférico interno	62,5	0	25,0

## 7. CONSIDERAÇÕES FINAIS

A análise dos indicadores de interação dos usos do solo e transportes permite chegar a algumas conclusões que são consensuais com estudos anteriores. As zonas urbanas mais compactas que apresentam maior diversidade de funções maximizam a marcha a pé e atenuam a necessidade de deslocações em modos motorizados individuais.

Neste domínio ocorre uma valorização do conceito de “urbanismo de proximidade” que promove estruturas urbanas compactas e autossuficientes enquanto a serviços, assegurando uma mobilidade de vizinhança. A coexistência de multifunções tende a favorecer o reencontro e a vida social.

Este urbanismo induz à proximidade dos equipamentos, serviços e postos de emprego com as zonas residenciais e valoriza o conceito de “uso misto urbano” que atende à diversidade de funções (residencial, comercial, serviços, indústrias limpas) mas também à multiplicidade étnica, etária e social.

O planeamento integrado de transportes e uso do solo ao nível urbano pode contribuir para a sustentabilidade das nossas cidades e deveria constituir uma estratégia ambiental e social a considerar nos processos de revisão dos Planos Diretores Municipais, que estão a ser desenvolvidos presentemente em Portugal.

## AGRADECIMENTOS

Este estudo teve como suporte uma base de dados de inventariação do edificado e da rede viária da cidade de Faro desenvolvida no âmbito do Projeto de Investigação “Integração de Usos do Solo e Transportes em cidades de média dimensão” referência FCT PTDC/AUR-URB/111013/2009, e parcialmente financiado pela Fundação para a Ciência e Tecnologia.

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# VELHICES E TERRITÓRIOS: OLHARES INTERDISCIPLINARES

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## RESUMO

“Diferentes territórios, diferentes velhices”. Partindo desta premissa, interessamo-nos pelas dinâmicas relacionais das pessoas idosas *com/nos* territórios onde habitam. Tomando as acessibilidades, mobilidades e sociabilidades como eixos norteadores, objetivamos perceber as lógicas/contradições, facilidades/dificuldades, vulnerabilidades/potencialidades existentes nessas dinâmicas. Transformamos, assim, a cidade de Coimbra num “laboratório social”, elegendo quatro territórios: o centro histórico; uma nova centralidade contemporânea; e duas zonas com características próximas do rural, tanto geográfica, paisagística e habitacionalmente, quanto nas vivências quotidianas, embora estes dois territórios estejam relativamente próximos ao centro urbano da cidade. Considerando a complexidade, a multidimensionalidade e o caráter relacional das categorias em análise – velhices e territórios –, construímos um plano metodológico/conceitual interdisciplinar, buscando reunir, colaborativamente, disciplinas das ciências sociais e humanas, nomeadamente a antropologia, a sociologia, a geografia, a história, a psicologia e a filosofia, apelando, ainda, à contribuição de áreas como a arquitetura e o urbanismo. A partir de observações, descrições, análises e construções cartográficas de cada um dos territórios, da realização de entrevistas semiestruturadas com moradores/as idosos/as, bem como da recolha de dados estatísticos e demográficos, em uma vertente comparativa, concluímos que os olhares interdisciplinares sobre as velhices a partir dos territórios podem ser definidores na promoção de velhices mais autónomas e felizes.

Palavras-chave: Velhices, Territórios, Interdisciplinaridade, Sociabilidades.

Classificação JEL: Z19.

## 1. INTRODUÇÃO

Identificar as interdependências das relações entre velhices e territórios, ou seja, entre as pessoas idosas e os territórios onde residem e, conforme o caso, circulam com maior frequência, tendo-se as acessibilidades, as mobilidades e as sociabilidades como eixos norteadores, é o principal objetivo de uma investigação que vem sendo desenvolvida na cidade de Coimbra, Portugal, desde o ano de 2013, com a previsão de ser concluída no primeiro semestre de 2017<sup>178</sup>. Por outras palavras, pretendemos identificar as influências mútuas que ambas as categorias tomadas para análise – velhices e territórios – exercem para a gestão e vivência tanto das velhices, quanto dos territórios, a partir das relações por elas estabelecidas e experienciadas.

<sup>178</sup> Essa investigação, desenvolvida pela primeira autora com a orientação dos demais autores, no âmbito do doutoramento em Estudos Contemporâneos (Centro de Estudos Interdisciplinares do Século XX, Instituto de Investigação Interdisciplinar, Universidade de Coimbra), intitula-se “Velhices e Territórios: Um estudo interdisciplinar no concelho de Coimbra, Portugal” e conta com o financiamento da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – CAPES/Brasil.

Esse objetivo foi construído a partir de algumas hipóteses – ou noções iniciais – em torno de nosso objeto de estudo, que pode ser caracterizado como sendo as próprias relações velhices-territórios. Assim, pressupomos que as diversas relações estabelecidas pelos vários atores em um determinado território diferem, necessariamente, das estabelecidas em um outro, o que, por sua vez, acaba por produzir diferentes vivências e experiências, incluindo aí as vivências e experiências de velhices.

Atentando-nos para as acessibilidades, mobilidades e sociabilidades dos sujeitos idosos, acreditamos que os diferentes territórios, tanto a nível domiciliar, quanto em relação ao espaço envolvente, assim como a diversidade de atores que deles fazem parte, podem ser facilitadores ou dificultadores de experiências de velhices mais gratificantes e significativas.

Dentro de uma vertente comparativa, escolhemos quatro distintos territórios de um mesmo concelho – Coimbra – na intenção de observar, analisar e compreender as lógicas/contradições, facilidades/dificuldades, vulnerabilidades/potencialidades existentes nas dinâmicas relacionais dos sujeitos idosos *com* e *nos* territórios.

Cientes da complexidade de nosso objeto investigativo, lançamos mão de um plano metodológico e conceitual interdisciplinar, apelando a um diálogo (ou, melhor dizendo, a *diálogos*, no plural) entre várias das disciplinas das ciências sociais e humanas e conclamando, ainda, a áreas consideradas mais técnicas e funcionais, como a arquitetura e o urbanismo.

Neste artigo, apresentamos o processo inicial de construção desse(s) diálogo(s) a partir de nossa compreensão de interdisciplinaridade, de algumas definições conceituais que consideramos basilares na busca de respostas exigidas pelas questões suscitadas ao longo de nossa investigação, e do projeto metodológico traçado para esse fim.

## 2. INTERDISCIPLINARIDADE: DISCIPLINAS EM DIÁLOGO(S)

Desenvolver um projeto de investigação interdisciplinar requer certo esforço. Algumas definições e escolhas fazem-se necessárias. Em primeiro lugar, o que entendemos por interdisciplinaridade? Que tipo de interdisciplinaridade pode atender ao projeto investigativo que estamos desenvolvendo? Quais as disciplinas e áreas convidadas/convocadas ao debate? Que contribuições cada disciplina – e todas elas juntas – pode(m) oferecer ao debate?

O facto de algumas esferas do conhecimento privilegiarem o saber especializado, alimentado por uma base científica positivista (Schimanski, 2013), com o estabelecimento, inclusive, de alguns conflitos entre disciplinas, que buscam, cada uma delas, proteger seu espaço, suas fronteiras disciplinares, faz com que o esforço despendido em um projeto interdisciplinar seja redobrado.

A ruptura entre ciência e filosofia, estabelecida a partir do século XIX, mas intensificada com o acelerado desenvolvimento científico alavancado no século XX, pode ser considerada uma das responsáveis pela fragmentação do conhecimento em disciplinas (Pombo, 1993b; 2005). Por outras palavras, a especialização, essa fragmentação do conhecimento em disciplinas mais ou menos autónomas, revela a opção metodológica analítica feita pela ciência moderna: a adoção da proposta elaborada por Galileu e Descartes de “‘esquartejar’ cada totalidade, cindir o todo em pequenas partes por intermédio de uma análise cada vez mais fina” (Pombo, 2005: 6).

A especialização científica, se trouxe inegáveis benefícios, relacionados, principalmente, aos grandes avanços da ciência, já que cada disciplina teve condições de se aprofundar cada vez mais em sua própria especialidade, desenvolvendo epistemologias, metodologias, conceitos e estratégias próprias, trouxe, entretanto, alguns elevados custos: sabe-se cada vez mais acerca de cada vez menos; cria-se uma incomunicabilidade entre as chamadas ciências da natureza e as ciências do espírito; estabelece-se uma danosa hierarquização entre as disciplinas, que, como já mencionado, acabam por competir, de forma cada vez mais desigual, por financiamentos e, conseqüentemente, por visibilidade e poder (Pombo, 2005).

A complexidade dos fenómenos contemporâneos<sup>179</sup>, entretanto, reclama por uma – para dizer o mínimo – aproximação entre as disciplinas, já que a especialização não consegue responder às questões e equacionar os problemas que tais fenómenos suscitam, acabando por complexificá-los cada vez mais. Uma das saídas para os impasses gerados pela especialização disciplinar, como “as fragilidades reveladas pela prática científica no confronto com algumas problemáticas (...), as preocupações com uma ‘humanização’ das ciências e da cultura e ainda as transformações

<sup>179</sup> Esta complexidade diz respeito, “simultaneamente a ‘atribuição espontânea de um certa característica à coisa-em-si’ e [a]o reconhecimento de que ‘não possuímos uma explicação satisfatória’ para o que observamos, não temos um modelo que nos permita interligar todos os aspectos” (Pimenta, 2005: 8).



institucionais associadas ao trabalho em rede” (Pimenta, 2005: 8), seria, então, a **interdisciplinaridade**<sup>180</sup>.

As noções construídas em torno do conceito de interdisciplinaridade são recentes. Paviani (2008: 9) estabelece os limiares dos anos 70 do século XX como marco do início dos estudos e da institucionalização do conceito, enfatizando o papel dos movimentos políticos – sobretudo o Maio de 1968, em França – na reivindicação por atividades interdisciplinares no seio das instituições de ensino, e identificando, ainda, a liderança disciplinar da filosofia. Dessa forma, a interdisciplinaridade tem sua origem nas transformações nos modos de produção da ciência e na percepção da realidade, bem como de uma nova ordem política e organizacional das instituições de ensino e pesquisa (Paviani, 2008: 14).

Sinteticamente, “a interdisciplinaridade pode ser vista como uma teoria epistemológica ou como uma proposta metodológica” (Paviani, 2008: 14).

Nossa concepção de interdisciplinaridade aponta, de forma epistemológica, conceitual e pragmática, para a convergência, complementaridade e cruzamento entre as disciplinas. O apelo interdisciplinar se dá, dessa forma, na tentativa de se responder a um problema complexo, atendendo, ainda, às multidimensionalidades de um determinado objeto de análise. O encontro entre as disciplinas, proposto em um projeto interdisciplinar, dá-se a partir dos fundamentos conceituais e metodológicos próprios a cada uma das disciplinas, que devem estar abertas a dar e a receber contributos, num movimento de trocas e convergências de conhecimentos, linguagens e estratégias, sempre buscando o alcance de novos níveis de compreensão das realidades estudadas e, conseqüentemente, a construção de novos conhecimentos (Pombo, 2013: 38).

Dessa forma, a interdisciplinaridade é compreendida como um encontro dialógico entre variadas disciplinas. No caso específico de nossa investigação, apelamos às disciplinas das ciências sociais e humanas. Esse apelo dá-se, primeiramente, pelo entendimento de que nosso objeto de análise – as relações entre velhices e territórios – são fenômenos que, embora estejam alicerçados em bases naturais, são construídos – em suas representações, imaginários, significados e sentidos – dentro de contextos sociais e culturais. Em segundo lugar, por entendermos que analisar tal objeto sob a(s) ótica(s) das ciências sociais e humanas é uma exigência do próprio contexto sociocultural contemporâneo, já que as questões relativas tanto à(s) velhice(s) quanto ao(s) território(s) são problemáticas sociais que se impõem, cada vez mais e de formas mais complexas, na contemporaneidade.

Embora as ciências sociais e humanas possam ser caracterizadas como eminentemente interdisciplinares, reconhecemos que entre suas disciplinas básicas – antropologia, sociologia e ciências políticas – ainda existam certos conflitos, marcados por disputas entre forças que, embora sejam alimentadas – e mesmo engordadas – por um sistema acadêmico – moldado por uma política neoliberal e uma economia capitalista – violentamente competitivo, consideramos, para dizer o mínimo, contraproducentes e desnecessárias.

Assim, abrimos o debate interdisciplinar com o convite às contribuições que as disciplinas de antropologia, sociologia, psicologia, filosofia, geografia, história e educação possam dar e, em contrapartida, receber. Como *convidadas especiais*, por assim dizer, chamamos as áreas da antropologia e do urbanismo, já que nosso olhar direciona-se às acessibilidades (ou à falta destas) dos territórios em questão e às mobilidades (ou imobilidades) dos sujeitos idosos nesses territórios. Entendemos que, dentro da compreensão interdisciplinar perpassada pelo trabalho, a qual convoca a uma convergência, a uma complementaridade e a um cruzamento entre as disciplinas, o diálogo proposto deve ultrapassar a pluralidade disciplinar, caracterizando-se por uma interseção entre os diversos saberes e, de certa forma, construindo pontes sobre as fronteiras disciplinares.

Nossa expectativa – que tem se confirmado ao longo de nossa investigação – é de que cada uma das disciplinas aqui convidadas possa, cada uma dentro de suas especificidades epistemológicas e conceituais, mas, mais ainda, em sua abertura às demais, contribuir para o aprofundamento e o alargamento das questões, respostas e proposições levantadas.

Apenas para exemplificar, a antropologia e a sociologia possuem características epistemológicas, metodológicas e conceituais próprias que valorizam o processo investigativo, principalmente no que tange às relações estabelecidas entre pesquisadores/as e pesquisados/as, incluindo, ainda, os vários contextos onde essas relações se estabelecem. Ambas as disciplinas enfatizam o social e o coletivo, analisando os fenômenos a partir das vivências quotidianas que se processam dentro e fora das instituições, dando especial relevância às lógicas e aos significados a elas atribuídos pelas próprias pessoas que as vivenciam.

<sup>180</sup> Outras propostas de integração disciplinar seriam a multidisciplinaridade (muitas vezes entendida como sinônimo de pluridisciplinaridade) e a transdisciplinaridade. Pombo diferencia os três conceitos (interdisciplinaridade, multi ou pluridisciplinaridade e transdisciplinaridade). O primeiro deve ser “entendido como qualquer forma de combinação entre duas ou mais disciplinas com vistas à compreensão de um objeto a partir da confluência de pontos de vista diferentes e tendo como objetivo final a elaboração de uma síntese relativamente ao objeto comum” (Pombo, 1993a:13). Por pluridisciplinaridade, devemos entender “qualquer tipo de associação mínima entre duas ou mais disciplinas, associação essa que, não exigindo alterações na forma e organização [do conhecimento], supõe contudo algum esforço de coordenação entre [os especialistas] dessas disciplinas” (Pombo, 1993a:12). “Finalmente, por transdisciplinaridade propomos que se entenda o nível máximo de integração disciplinar que seria possível alcançar (...). Tratar-se-ia então da unificação de duas ou mais disciplinas tendo por base a explicitação de seus fundamentos comuns, a construção de uma linguagem comum, a identificação de estruturas e mecanismos comuns de compreensão do real, a formulação de uma visão unitária e sistêmica de um setor mais ou menos alargado do saber” (Pombo, 1993a:13). Paviani (2008: 21) simplifica estas definições a partir dos prefixos de cada uma das palavras com relação à integração disciplinar. Assim, multi significa juntar, coordenar; inter significa entre, combinação; intra, dentro, assimilação; e, por fim, trans tem o significado de além, fusão, holismo.

A psicologia – especialmente a psicologia social – pode contribuir a partir de seu entendimento sobre como as subjetividades e as identidades – pessoais/individuais e coletivas – são construídas. No caso específico de estudos sobre velhices, as memórias e seus referentes têm, aqui, um lugar cativo, incluindo, nesse rol de referências, e de forma muito relevante, os territórios.

As questões éticas, envolvendo tanto as velhices quanto as estruturas e relações territoriais, podem ser discutidas com um maior aprofundamento possibilitado pela filosofia. Especificamente em relação ao nosso estudo, caminhamos em direção à proposição de uma mudança paradigmática, calcada no *cuidado* enquanto um valor ético e moral que perpassa a sociedade em suas estruturas, instituições e interações diárias. A abertura dialógica à filosofia, nesse sentido, faz-se extremamente necessária.

A contribuição da geografia, por sua vez, se dá a partir das concepções de territórios, de territorialidades, de espaços, de lugares, de fronteiras. Essa disciplina ainda colabora no entendimento das questões relativas à paisagem – natural e/ou construída – e à demografia. Além disso, seu auxílio é imprescindível na elaboração de cartogramas, que serão usados como um recurso metodológico auxiliar para uma melhor visualização dos diagnósticos e das análises das situações de cada um dos territórios do estudo, com vistas a proposições futuras.

Nosso diálogo com a história se dá não só pela contextualização histórica de cada um dos territórios, a partir do resgate de seus processos formativos e de suas atuais constituições, mas, também, pelo resgate das memórias das pessoas idosas em relação aos territórios, trazidas à tona através de suas histórias de vida, ligadas a contextos maiores e mais abrangentes, do local ao global: a casa, a rua, o bairro, a cidade, o país, o mundo, em um processo dialético de trânsito entre passado, presente e futuro (mesmo que o futuro, para algumas pessoas idosas, circunscreva-se na representação de um pequeno projeto a ser desenvolvido em um curto prazo de tempo).

A educação, por fim, possibilita pensarmos em novas estratégias, em novos paradigmas, construídos em novas formas de sociabilidades a partir da informalidade, da não formalidade e da formalidade educativas, abrangendo uma educação contínua, permanente e envolvente, num espectro que abranja desde a educação infantil na mais tenra idade, até a educação de jovens, adultos e idosos.

As áreas mais técnicas e de cunho mais funcional, como a arquitetura e o urbanismo, podem dar sua colaboração a partir das discussões e de suas experiências práticas em torno das acessibilidades e das mobilidades, conceitos esses que vêm se transformando, de forma cada vez mais contundente, diante das novas configurações demográficas e de novos recursos tecnológicos, que possibilitam a construção e o desenvolvimento de novos padrões, tanto de acessibilidades, quanto de mobilidades.

A possibilidade de novos conhecimentos serem construídos a partir da convergência interdisciplinar atravessa três grandes fundamentos: a veracidade dos resultados obtidos – não como uma verdade única e intransponível, mas como um verdade possível, dadas as condições e os contextos de realização da investigação e dos sujeitos que dela participam; a integração dos saberes e dos atores envolvidos; e a eficácia das ações – ou das proposições – desencadeadas (Pimenta, 2005: 6).

### 3. VELHICES-TERRITÓRIOS SOB UM PRISMA INTERDISCIPLINAR

Como já mencionamos anteriormente, estamos desenvolvendo um projeto investigativo que tem como objeto de análise as relações estabelecidas por pessoas idosas *nos* e *com* os territórios onde vivem e, de acordo com suas possibilidades, movimentam-se com mais frequência. O *locus* dessa investigação está centrado em quatro diferentes tipologias territoriais do concelho de Coimbra, Portugal.

Assim, os critérios para a participação na pesquisa centram-se nas idades dos/as colaboradores/as – igual ou superior aos 65 anos<sup>181</sup> – e nos seus locais de residência – uma das quatro tipologias territoriais escolhidas: a zona alta do casco urbano histórico, designada simplesmente por “Alta”; uma nova centralidade urbana desenvolvida a partir da segunda metade do século XX com base em um planejamento urbano, denominada de “Solum”; e as localidades do “Botão” e do “Casal do Lobo”, regiões localizadas em pontos geograficamente distintos da cidade, com paisagens diferenciadas entre si, mas ambas com características, tanto paisagísticas quanto habitacionais e comportamentais, muito semelhantes às do meio rural, ainda que as duas localizem-se bastante próximo ao centro urbano de Coimbra, ambas com acessos facilitados para esse destino.

A opção por esses territórios não se deu aleatoriamente.

Coimbra – aqui vista como um “laboratório social” – é uma das principais e mais antigas cidades do país, tendo na sua universidade, a primeira de Portugal e a terceira mais antiga do mundo, um de seus principais pontos de referência

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<sup>181</sup> Embora reconhecamos a fragilidade do critério etário como um delimitador e/ou caracterizador do que sejam sujeitos idosos, optamos por utilizá-lo em razão do peso social e cultural que comporta, sendo um critério utilizado, por exemplo, na delimitação de direitos e deveres e no estabelecimento de políticas públicas. Entretanto, a categoria etária deve ser cruzada com outras categorias analíticas, como, por exemplo, a escolaridade, a camada social de pertença, as escolhas culturais, as estruturas familiares, etc.

identitária e de reconhecimento internacional, tanto a nível educativo e investigativo, quanto turístico e patrimonial<sup>182</sup>.

Reconhecida, no âmbito da Comunidade Europeia, como a única cidade portuguesa “Referência ao Envelhecimento Ativo e Saudável”<sup>183</sup>, Coimbra apresenta-se como uma “cidade amiga dos idosos”. A geografia de muitos de seus territórios, entretanto, não é nada convidativa, principalmente às pessoas com mobilidades reduzidas e/ou condicionadas, com suas ladeiras íngremes, ruas estreitas e sem calçamentos pedonais ou estacionamentos para os automóveis que, não raro, costumam ocupar os poucos espaços destinados aos peões.

A região histórica da cidade encontra-se muito envelhecida, tanto em termos habitacionais, quanto populacionais. As habitações, por exemplo, ressentem-se, há muito, com a ação do tempo, estando degradadas e, muitas delas, abandonadas. A falta de manutenção dos espaços públicos e habitacionais reflete, além de problemas económicos específicos, agravados com a crise mundial, as dificuldades na gestão entre património e vida quotidiana. Há relatos de isolamento de idosos em pleno centro histórico, dependentes de voluntariado e da boa vontade da vizinhança ou de outras pessoas e/ou instituições. Em contraste com sua população envelhecida<sup>184</sup>, há uma grande população flutuante de jovens, vindos das mais diversas partes do globo, atraídos pela Universidade de Coimbra, o que dificulta o estreitamento de laços entre os moradores mais velhos e os mais jovens, prejudicando, assim, o desenvolvimento de uma sociabilidade mais frequente e sólida, baseada nas entreajudas e nos relacionamentos solidários e horizontais entre diferentes idades e gerações.

A escolha dos quatro territórios do estudo deu-se em razão da possibilidade de se estabelecerem tipologias para cada um deles e comparações entre si. Assim, temos as duas zonas essencialmente urbanas: o centro histórico, cuja população, conforme já referenciamos, divide-se entre pessoas muito idosas, na grande maioria vivendo sozinhas, e a população estudantil, na maioria das vezes coabitando residências estudantis, as chamadas “repúblicas”, que se espalham ao longo da cidade, mas cuja a concentração dá-se, justamente, na “Alta”; a nova centralidade urbana – a “Solum”, cujas estruturas habitacionais, comerciais, de serviços e de transportes, tanto pedonal quanto automobilístico, respeitam um planeamento territorial; e as duas áreas com fortes semelhanças – nas habitações, organizações vicinais, serviços e estruturas familiares – com o mundo rural: as zonas do “Botão” e do “Casal do Lobo”.

As especificidades de cada um desses territórios, no que respeita os aspetos humanos, históricos, geográficos, paisagísticos, sociais, culturais, arquitetónicos, estruturais e organizacionais, podem possibilitar cruzamentos comparativos necessários e enriquecedores.

As duas principais categorias em questão – velhices e territórios – e, ainda, o objeto analítico tomado em consideração – as relações estabelecidas entre ambas as categorias – obrigam-nos a pensar um projeto interdisciplinar.

Não há um tipo único de velhice; não há um único tipo de território. Por isso mesmo, referimo-nos às duas categorias sempre no plural: velhices e territórios. A multidimensionalidade e a pluralidade de relações onde/com que ambas as categorias transitam e dialogam, impedem-nos de tratá-las de forma genérica e homogénea, o que, em verdade, seria um enorme prejuízo à diversidade humana, que deve ser encorajada e respeitada, não ignorada ou mascarada em padrões e massificações excludentes.

A pluralidade e a diversidade, próprias da complexidade contemporânea, requerem, justamente, a construção de um plano metodológico/conceitual interdisciplinar. Nessa direção, buscamos reunir, de forma colaborativa, disciplinas das ciências sociais e humanas a partir de uma metodologia qualitativa que priorize as experiências quotidianas dos próprios sujeitos da investigação.

Assim, nossas primeiras inserções nos territórios deram-se com o intuito de conhecer as características, as especificidades, os movimentos e as relações estabelecidas em cada um deles. Para isso, foram realizadas observações e análises descritivas. Em seguida, passamos a uma maior interação nos territórios de estudo, com entrevistas aos idosos e às idosas que se dispuseram a participar da investigação. Estas entrevistas, ainda em andamento, são semiestruturadas, sendo analisadas em profundidade. Embora sejam baseadas em um guião construído para esse fim, são, na grande maioria das vezes, muito espontâneas, apelando às memórias, vivências atuais, aos sentidos e sentimentos das pessoas em relação aos territórios onde vivem, sempre tendo-se em consideração os eixos analíticos escolhidos: acessibilidades dos territórios e mobilidades e sociabilidades das pessoas idosas. Com base na recolha de dados estatísticos e demográficos disponíveis na Base Geográfica de Referência de Informação, do Instituto Nacional de Estatística – BGRI/INE – referentes aos Censos 2011, estamos construindo mapas de cada um dos territórios. Esses mapas têm o intuito de oferecer uma melhor visualização, tanto ao nível comparativo quanto diagnóstico, das condições encontradas pelos sujeitos idosos nos territórios onde vivem. Acreditamos, assim, na possibilidade de, ao finalizarmos o trabalho, elaborarmos algumas proposições e sugestões que qualifiquem as relações velhices-territórios, envolvendo os diversos atores e instituições sociais de variados âmbitos territoriais.

<sup>182</sup> A 22 de junho de 2013, a Universidade de Coimbra, Alta e Sofia receberam da Organização das Nações Unidas para a Educação, a Ciência e a Cultura – UNESCO – o título de “Património da Humanidade”.

<sup>183</sup> Com a candidatura apresentada (e devidamente acolhida no seio da Comunidade Europeia), em 2013, por um consórcio de empresas e instituições lideradas pela Universidade de Coimbra, representada pelo sua Faculdade de Medicina, denominado “Ageing@Coimbra”. Esse consórcio pretende atrair financiamentos a partir da identificação e promoção de “boas práticas” de envelhecimento ativo e saudável realizadas na região.

<sup>184</sup> Segundo o Instituto Nacional de Estatística – INE –, em Portugal o número de idosos para cada 100 jovens era, em 2014, ano da última contabilidade, de 141. Em Coimbra, no mesmo ano, esse número já ultrapassava a média nacional: 180, 2 idosos para cada 100 jovens.

#### 4. DEFININDO ALGUNS CONCEITOS

A apropriação de alguns conceitos que julgamos basilares para a compreensão e análise das lógicas estabelecidas nas relações entre velhices e territórios é de grande importância e só pode acontecer com a necessária convergência e abertura interdisciplinar.

Essa apropriação requer certo esforço, uma vez que nossa formação acadêmica e profissional estrutura-se na disciplinaridade. Isso quer dizer que cada um/a de nós está familiarizado/a com os fundamentos de nossas próprias disciplinas, de forma individual, na maioria das vezes. Esses fundamentos abarcam toda a estrutura disciplinar, o que inclui as mais diversas concepções e definições nos âmbitos epistemológicos, metodológicos e conceituais, além de uma linguagem própria, por norma – como uma das estratégias das disputas por poder – propositadamente inacessível às demais disciplinas e especialidades. Adentrar pelos meandros de uma disciplina “estranha”, da qual estamos, na grande maioria das vezes, completamente alheios, não é uma tarefa fácil, sendo necessária uma abertura de mão dupla: de um lado por quem se envereda por esses novos caminhos; de outro, a quem cumpre o papel de guia nessa aventura, lembrando que, para um verdadeiro diálogo entre as disciplinas, os papéis devem, vez por outra, se inverter.

Uma das vantagens perceptíveis da interdisciplinaridade, tal como a estamos concebendo, é a possibilidade de um verdadeiro trânsito – quer conceitual, quer metodológico, quer epistemológico – entre as várias disciplinas. Por outras palavras, a interdisciplinaridade, compreendida como um encontro dialógico, de trocas, entre as disciplinas, possibilita que as definições conceituais, por exemplo, tão necessárias como referenciais a qualquer empreendimento investigativo, sejam estabelecidas/construídas não de acordo com uma disciplina, em específico. Mais do que responder às lógicas internas de cada disciplina, a interdisciplinaridade abre brechas para que as definições –conceituais, metodológicas, epistemológicas – sejam feitas tendo em conta o objeto de estudo – e não, necessariamente, uma disciplina –, obedecendo a um melhor enquadramento, não raro conduzido pelos caminhos percorridos no decorrer da própria investigação.

Assim, mais importante que as definições próprias a cada disciplina, são as construções coletivas, possibilitadas pela flexibilidade conquistada com a abertura interdisciplinar.

Aqui, julgamos oportuno explicitar alguns dos conceitos que embasam nossa investigação e que foram definidos a partir do diálogo interdisciplinar entre as ciências sociais.

Começamos pelas duas categorias que tomamos, a partir de suas relações, como objeto de estudo: *velhices* e *territórios*.

Entendemos *velhice* como uma categoria social cuja construção se dá tanto sobre estruturas naturais quanto culturais. Sendo eminentemente relacional, seus significados e atributos são dependentes de múltiplos contextos (históricos, geográficos, culturais e religiosos, por exemplo) e categorias (género, idade, ocupação, nível de instrução, dentre outras) (Veiga *et al.*, 2014: 118).

Sendo assim, as diferenças biológicas e cronológicas/etárias que separam os indivíduos são elaboradas e reelaboradas por cada sociedade, de acordo com seus valores e paradigmas. São estas (re)elaborações que determinarão os estatutos dos sujeitos velhos em cada sociedade.

Uma sociedade que tem sua base no consumo e no descarte, como a nossa (Debert, 2004), por exemplo, reserva aos seus velhos um lugar de inferioridade, se não de invisibilidade.

Embora os paradigmas e valores globais perpassem a sociedade como um todo, influenciando seu funcionamento de forma quase estrutural (principalmente quando são reforçados pelos meios de comunicação social e reproduzidos por instituições como as escolas, por exemplo), uma mesma sociedade é composta por várias coletividades, o que se traduz, por um lado, na impossibilidade de que grandes generalizações sejam realizadas e, por outro, na possibilidade de que novos paradigmas e valores sejam construídos.

Além disso, as diversas abordagens do que seja velhice – biomédicas, antropológicas, sociológicas, psicológicas – e as maneiras diversificadas como esta fase da vida é experimentada e significada pelas próprias pessoas, transformam-na em um objeto plural, não sendo possível tomá-la – nem a si, nem aos seus sujeitos – como universal e homogênea.

No que respeita à diversidade e pluralidade e às características relacionais, o mesmo pode-se dizer em relação aos *territórios*.

Nossa compreensão de território alicerça-se em uma abordagem crítica, política e transformadora da geografia. Nessa direção, os territórios são, ao mesmo tempo, cenários e atores, produzindo e sendo, eles próprios, produtos dos movimentos que ali se estabelecem: de ideias, de mercados, de capitais, de pessoas (Saquet, 2011). Os territórios são histórica e socialmente construídos. Essa construção “envolve necessariamente o poder, as contradições, as desigualdades, as redes de circulação e comunicação (transescalaridade), as demarcações, as identidades, as apropriações e dominações” (Saquet, 2014: 177). As relações sociais, dessa forma, são constituidoras dos territórios, que não tomam forma “só por meio da sua inscrição no espaço físico, mas nas narrativas, pois ele[s] também (...) [são] organizado[s] discursivamente” (Godoi, 2014:444).

No âmbito de nossa investigação, interessam-nos todos esses movimentos e, em especial, as *territorialidades*, aqui compreendidas tanto em uma vertente fenomenológica, representando “as relações sociais centradas nas percepções, sentimentos, memórias, identidades, símbolos e representações”, quanto em sua concepção histórica, como “relações

políticas de governança, sem deixar de envolver processos económicos, culturais e diferentes formas de apropriação e uso do ambiente” (Saquet, 2014: 176).

Como eixos norteadores de nosso olhar investigativo, os conceitos de *acessibilidade* e *mobilidade* também impõem-se como essenciais.

Ambos são conceitos recentes, próprios da contemporaneidade, sendo a mobilidade um condicionante da participação nos territórios, sobretudo nos meios urbanos (Rémy e Voyé, 1997), acentuando-se nos territórios em que há uma *especialização espacial* (Silvano, 2007), com serviços distribuídos em setores específicos da cidade (por exemplo, setor bancário, setor hospitalar ou de saúde, setor educacional, etc.), o que obriga as pessoas a se deslocarem de um território a outro em busca de determinado serviço.

Nessa direção, a mobilidade se assume como uma dimensão individual e necessária, quase sempre associada à autonomia e à apropriação territorial, “o momento em que transcendemos as geografias do quotidiano reinventando e projetando novos tempos e imaginários” (Teles, 2014: 10). Sob esse aspeto, a mobilidade acaba por repercutir nos diversos sistemas: sociais, culturais e psicológicos, implicando até mesmo na construção da personalidade e da identidade dos indivíduos (Silvano, 2007), que, em algumas vezes, acabam sendo estereotipados em razão de sua mobilidade – ou sua redução, condicionamento ou falta.

Relacionada à mobilidade, a acessibilidade é vislumbrada como uma forma de minimizar as dificuldades de movimento que surgem como novos desafios a partir das transformações das sociedades contemporâneas.

Compreendendo-se a mobilidade como a capacidade de os sujeitos se movimentarem pelos territórios, tornando-se agentes *nos* e *dos* territórios, a acessibilidade aparece como uma facilitadora desses movimentos. Dessa maneira, as acessibilidades – e, em contrapartida, sua ausência – podem condicionar as mobilidades.

Por fim, um último conceito cujo entendimento gostaríamos de compartilhar refere-se às *sociabilidades*.

Simmel (1983: 168) define sociabilidade como sendo “uma forma autónoma ou lúdica de sociação”. A *sociação*, por sua vez, pode ser compreendida como uma interação social entre os indivíduos motivada por recompensas, benefícios ou trocas materiais – interesses profissionais, por exemplo. Nesse sentido, a sociabilidade extrapola a sociação, sendo motivada por interesses mais subjetivos, existindo “por si mesma e pelo fascínio que difunde pela própria liberação destes laços.” (Simmel, 1983: 168).

Ainda que a sociabilidade também pressuponha trocas, essas se estabelecem, geralmente, mais a nível afetivo e de forma mais espontânea. Esse é um ponto crucial, principalmente quando focalizamos os sujeitos idosos. A perda de referenciais importantes, bastante comum a algumas pessoas idosas, acaba por fragilizá-las emocionalmente. Essa fragilidade se transforma em carência afetiva – e vice-versa, em um processo circular que só pode ser travado com a constituição de redes de apoio, quer da família, quer de vizinhos, quer de amigos, ou mesmo de voluntários e de instituições sociais e culturais, redes essas cujos nós que devem ser fortalecidos a partir de um convívio cuidadoso, solidário, fraterno e horizontal, que valorize e estimule a diversidade humana (etária, étnica, cultural, de gênero, social...) como um fator enriquecedor para as relações sociais.

## 5. CONSIDERAÇÕES FINAIS

Buscamos, com esta comunicação, oferecer subsídios para o debate acerca da interdisciplinaridade em ciências sociais e humanas. Para tanto, partilhamos alguns pontos de nosso projeto de investigação, que tem como objeto as relações vivenciadas pelas pessoas idosas *com* e *nos* territórios onde vivem, a partir de três grandes eixos: as acessibilidades, as mobilidades e as sociabilidades.

Compreendendo nosso objeto de estudo, bem como as categorias que o compõem, como eminentemente relacionais e pluridimensionais, apelamos à interdisciplinaridade como uma possibilidade de multifacetar, também, nosso próprio olhar. Assim, fizemos a opção pelo diálogo interdisciplinar entre disciplinas que, em nossa concepção, além de passíveis a esse diálogo, podem dar sua contribuição à caminhada a que nos propusemos.

Nosso entendimento do que seja interdisciplinaridade conduz-nos a uma metodologia híbrida, de caráter qualitativo, que, ainda que lançando mão de estratégias mais técnicas e/ou quantitativas, como dados estatísticos, prioriza a profundidade analítica das experiências dos próprios sujeitos sociais a partir de suas interações *com* e *nos* territórios vividos e compreende a investigação como um processo dialógico, onde os vários saberes – das múltiplas disciplinas, dos/as investigadores/as, dos/as participantes e da própria comunidade – participam na construção do conhecimento.

Velhices e territórios são categorias vivas, em constante movimento e transformação. Enquanto categorias sociais, devem ser tomadas em sua diversidade e heterogeneidade, tendo os/as investigadores/as de estar em constante vigilância para que esta “categorização” não extrapole sua real função – facilitar o estudo do social –, cristalizando-se e engessando o dinamismo, a complexidade e o colorido da vida real e quotidiana.

O estudo do social requer uma abertura para o(s) encontro(s) com o(s) outro(s), com a(s) diferença(s), através do diálogo, da complementaridade, do respeito. A interdisciplinaridade possibilita esses encontros.

Experienciar uma velhice com segurança e com laços de sociabilidade legítimos e fortes é um direito de todos e o dever de cada um: indivíduos, coletividades, poder público e sociedade como um todo. Olhares interdisciplinares sobre as velhices a partir dos territórios podem, dessa maneira, ser definidores na promoção de velhices mais autônomas e felizes.

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## PARALLEL SESSION VI

# **BROWNFIELD REDEVELOPMENT IN THE MEDITERRANEAN REGION: THE USE OF INVERTED TRANSLATIONAL RESEARCH METHOD**

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## **ABSTRACT**

The redevelopment and reuse of brownfields constitutes a sustainable planning approach since it encourages and reinforces the positive re-use of redundant buildings and landscapes generally located in advantage positions in the urban fabric, adjacent to residential communities and often supported by existing infrastructure. These landscapes are environmentally impaired assets that need to be returned to productive uses, and reintegrated into the surrounding community. Still, besides all the developed researches, the type of redevelopment that better fits these areas, is not consensual.

This paper addresses the urgent need to reclaim and transform these areas, focusing different perspectives towards three particular opportunities related to their redevelopment: the first one related to housing development, which contributes to increase urbanized areas; the second one related to urban greenspace development, which contributes to enhance public space and ecological areas; and the third one related to multifunctional/mixed use developments, which promote both housing and greenspaces.

In this regard the research is based on the inverted translational research method, which throughout the analysis of successful Portuguese brownfield redevelopment projects, enables the definition of a set of advantages and disadvantages for each redevelopment approach, that might inform and serve as a basis to brownfield redevelopment, according not only to municipal master planning, but also to specific needs of each individual area. Conversely to the generality of the planning methods, the use of a methodology based in the analysis of practical design in order to build specific theory, reinforces the relevance of this approach to future brownfield redevelopment.

Keywords: Brownfields, Landscape Reclamation, Redevelopment, Urban Assessment.

## **1. INTRODUCTION**

The redevelopment and reconversion of brownfields constitutes an important cultural objective which is inherently sustainable since it encourages the positive re-use of redundant, polluted and derelict buildings that are part of our industrial past. This paper addresses the urgent need to reclaim these landscapes, influenced both by two different tendencies connected with the abandonment of industrial landscapes. On one hand, the urban pressure related to the city's administration and stakeholders' will to urbanize those areas and on the other hand, the increasingly public awareness of the necessity to cleanup and redevelop these derelict sites towards a more sustainable city. Still, even if it is increasingly acknowledged that the significant changes promoted in the natural landscape by industrialization need to be recovered and reclaimed.

Decision makers were not prepared to deal with the magnitude imposed by globalization, deindustrialization, industrial relocation and economic (re)conversion which had a profound effect on traditional industrial areas all over the world and produced a vast array of obsolete industrial facilities (Loures and Panagopoulos, 2007a). In this regard, throughout the last decades several researchers and academics have been committed with the development of strategies that enable the creation of better landscape reclamation projects, which are normally excessively subjective and dependent on the designer's determination, fact that is considered to be a severe limitation (Loures, 2011).

This paper presents an approach based in the combined application of a two important research methods the inverted translational research (Loures, 2008) and in the case study research method (Yin, 1994). This approach and the way it is applied in this paper may be empirically described as the assessment and analysis of specific brownfield redevelopment projects, in order to identify a set of design benefits and limitations that might influence the transformation of similar landscapes. Conversely to the generality of the planning methods this paper is based in the analysis of practical design in order to build a design theory that might be used in post-industrial landscape reclamation. The selected study area is the Mediterranean Basin since contrariwise to Central Europe, brownfield reclamation was not one of the urban development priorities and either a central approach.



## 2. MATERIAL AND METHODS – INVERTED TRANSLATIONAL RESEARCH (ITR)

As mentioned by Robert Yin (1994) on his book “Case Study Research – Design and Methods” there are five research strategies (although acknowledging the existence of several others), suited somehow to the analysis of specific projects: experiment; survey; archival analysis; history and case study. The method applied in the presented research is composed by two different but complementary strategies: Case Study Research (CSR) and Inverted Translational Research (ITR), and follows the method originally presented by Loures (2008).

As mentioned by Loures (2009) the Case Study Research method considered by several authors a very important research strategy (Agranoff and Beryl, 1991; George, 1979; Lucas, 1974 and Yin, 1994), allows the analysis and comparison among similar case studies, and has been applied in various fields of knowledge as it is the case of medical research, sociology, engineering, planning, architecture and landscape architecture (Francis, 2001). Furthermore, according to Mark Francis (1999 and 2001) this method is a very useful tool to study and analyze existing projects and the way in which certain problems and design constraints were solved and which strategies should be followed or avoided (Loures, 2009).

The Inverted Translational Research method constitutes an adaptation of the Translational Research which is the process originally used by medical researchers to bring scientific discoveries from research into clinical practice (National Institute of Health, 2007), potentiating cooperation and coordination amongst different investigation methods and sources.

The use of the inverted process in the present research is based in the fact that instead of bringing theory into practice, the aim of this research, similar to the one presented by Loures (2009) is to identify a set of benefits and limitations of specific brownfield redevelopment strategies associated to the three sustainability pillars, that may inform the definition of a specific theoretical basis that might grant relevant data for future brownfield redevelopment proposals. Given this objective, the simultaneous use of these two methods (ITR and CSR) enables the development of a systemic approach, where the subjective component is considerably smaller, reason why the proposed method is considered to be a helpful strategy in the analysis of brownfield reclamation projects.

## 3. CASE STUDIES

Considering the afore-presented methodology the selection of case studies constituted an essential component of the research, representing an important aspect to the accomplishment of the present study. In this regard, the selection of case studies considered a set of predefined parameters and was anchored in the analysis of 12 brownfield redevelopment projects selected according to their specific characteristics that made them significant not only in terms of land transformation but also regarding ecological, social and economic sustainability of the project.

Additionally, the envisioned strategy aimed not only to address projects with different design typologies but also with different design programs. In order to reduce cultural biases, the research focused projects from several geographic locations within the Mediterranean basin, enabling the definition of benefits and limitations that were not site specific. According to the idea presented by Loures *et al.* (2006), which suggested that design strategies for post-industrial landscape reclamation focus different landscape characters, the selection of case studies was focused on the different sustainability pillars, which besides the general aspects include also other associated dimensions (Environmental-Aesthetic; Social-Cultural and Economic). The set of brownfield redevelopment benefits and limitations which will be presented was based in the analysis of the design approaches used in the following projects:

### 3.1 Economic dimension

*Alcântara Rio - Lisbon, Portugal* - Developed by Frederico Valsassina Arquitectos Lda and PROAP this project was built in a former 1,76 hectares' block, in which the União Factory was located, underwent a urban redevelopment that reconverted this industrial area into a housing and office block. The strategy developed for this area considered two levels: the urban design level, which took into consideration the strategic location of the site, and its integration with the surroundings, developing an independent but interconnected set of paved and green areas, which established a separation between public and semipublic space; and the architectural level, which intended both to create a new identity and, to respect not only the value of the old structure, considered an important element of industrial heritage, but also the unique constructive character of the city.

*Boca do Rio Resort - Lagoa, Portugal* – Designed by Architect Fernando Raposo on a former canning factory, the project aimed to convert the previous infrastructure into a luxurious resort near the Arade River, in Mexilhoeira da Carregação, an important village in the canning industry within the region. Even if, the industrial heritage was used as a component of the design strategy, most of the old factory was destroyed. As it is common in this type of redevelopment the chimney was the only element to remain, as if it could represent alone the entire history of the industrial building. Still, the building constructed within the hotel property, to serve as a warehouse for the nautical

training school, used the same character and architectural style of the former factory, attempting to highlight the relevance of the old industrial activity in the development of the existing landscape.

*Convento das Bernardas - Tavira, Portugal* – Designed by *Souto Moura Arquitectos Lda.* on a former factory facing the protected landscape of “Ria Formosa”, the redevelopment proposal aimed to convert the existing infrastructure into a residential block that houses 78 lofts supplied with the latest technologies and equipments. Although the building was founded as a convent in 1509, later in 1834 it was transformed into a factory which worked until around 1960, being abandoned since then. The used approach focused not only in restoring the former exterior character of the edifice by keeping the original “Manuelino” portico and the architectural style of the facades, but also in providing the building with the latest technologies as is the case of the optic fiber, installed for the first time in the region, and with a set of leisure areas, such as the two salt water pool and a museum area.

*Santa Giulia - Milan, Italy* – Designed by Foster + Partners and West 8 Urban Design & Landscape Architecture this project was developed in order to transform the former 110 hectares of polluted industrial areas into a mixed-use district in south-east Milan. The design strategy employed focused on creating a clean, integrated and sustainable district that comprehends housing, offices and commercial areas, together with recreational elements, such as an Exhibition Hall and a Congress Centre. Another important feature of the project was the green spaces design, which occupies more than half the site’s area, contrary to most recently developed urban projects. While the proposed central promenade links together a series of public squares, the connection of the site to the tram network links the site within and with its surrounding districts.

**Figures 1 to 5 – Images from the analyzed case studies**



1 and 2- Alcântara Rio - Lisbon, Portugal – Source: Frederico Valsassina Arq. - all rights reserved;

3- Boca do Rio Resort - Lagoa, Portugal - Source: L. Loures - all rights reserved;

4- Convento das Bernardas - Tavira, Portugal - Source: LT Studios - all rights reserved;

5- Santa Giulia - Milan, Italy - Source: West8 Urban Design & Landscape Arch. - all rights reserved.

### 3.2 Environmental-Aesthetic dimension

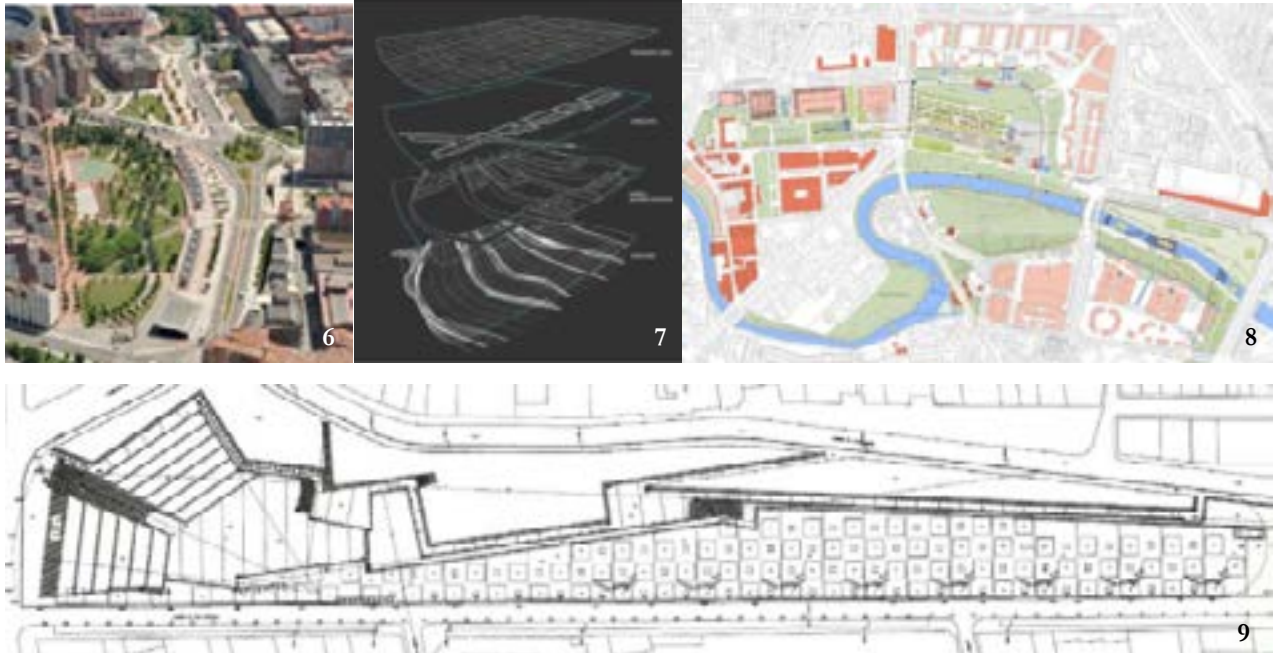
*Bilbao Ria 2000 - Bilbao, Spain* - Coordinated by the public company Bilbao Ria 2000 (with the participation of Cesar Pelli, Frank Ghery, Zaha Hadid, Sir Norman Foster among others) the project developed to the densely industrialized river banks led to the creation of Bilbao Ria 2000 in 1992, which investment until now is over 300M Euros. The company focused on the redevelopment of several underused metropolitan areas, including the waterfronts, safeguarding the industrial heritage and relocating the ports and harbors in the outer bay, leaving these relevant areas to be used by citizens and visitors. The design strategy in the project shows that an essential element for success in brownfield redevelopment is a stimulating vision which must be disseminated in a dynamic and appealing way.

*Estació Vella Park - Igualada, Spain* - Designed by Battle i Roig Arquitectes the former train station of Igualada town, near Barcelona, was converted into a 1,6 hectare park. The site is bound by two streets and divided by an accentuated slope, which creates two separate levels according to the topography of the corresponded adjacent street. In this regard, while the lower level is an open space with ordered plain trees and birches; the upper level is a naturalized area with a shrub forest. The overall design strategy is evident in the proposed wall, which provides a multifunctional program along the site, according to the different uses and functions projected. Serving as a channel, staircase, amphitheater, and bar among others, the wall functions both as a connector and a boundary between the formal and natural design.

*Hellenikon Metropolitan Park - Athens, Greece* - Designed by David Serero, Elena Fernandez and the Office of Landscape Morphology the proposed project aimed to transform the Hellenikon Airport into a 530 hectares urban park with residential areas larger than London's Hyde Park and New York's Central Park. The envisioned design strategy was supposed to promote the development of the park in three layers: Softscapes, which considered the restoration of the natural water systems, promoting the development of a multifunctional program along the green corridors enhancing the sustainability of the site; Hardscapes that recover the airport's runways to set the main circulation areas and replant the lawn areas between them, resulting in large boulevards that celebrate the sites' heritage; and Edges, which increase the relation of the site with its surrounding urban areas and buildings maximizing the park borders usage and its real estate value.

*4 - Parco Dora - Torino, Italy* - Inserted in an urban context and having in mind the 2006 Winter Olympic Games, the Parco Dora, designed by Latz + Partner, resulted from the conversion of a 45 hectares derelict industrial area. The design strategy focused in integrating this derelict site into the urban grid and its surroundings, maintaining and enhancing the existing industrial heritage. Additionally, considering the existing contamination cleanup was one of the main objectives of the project. In this regard the contaminated soil was covered with impermeable clay and unpolluted recycled material, in order to give back the river Dora to its citizens, promoting the transformation of a series of channels, tanks and settling basins.

**Figures 6 to 9 – Images from the analyzed case studies**



6 - Bilbao Ria 2000 - Bilbao, Spain - Source: Bilbao Ria 2000 - all rights reserved;

7 - Estació Vella Park - Igualada, Spain - Source: BATTLE I ROIG - all rights reserved;

8 - Hellenikon Metropolitan Park - Athens, Greece - Source: Serero Architects - all rights reserved;

9 - Parco Dora - Torino, Italy - Source: Latz + Partner - all rights reserved.

### 3.3 Social-Cultural dimension

1 - *22@Barcelona - Barcelona, Spain* - Proposed by the Municipal Society 22 ARROBA BCN, S.A.U. under the coordination of Jordi William Carnes the project consisted in the redevelopment of approximately 198 hectares of industrial land located at the Poblenou in Barcelona. With the objective of transforming this district into a high-quality environment for working, living and learning, the design team established a rational and compact use for this urban space, increasing occupation levels inherent to industrial areas. The new urban classification replaces the former definition, “22a”, used to classify areas used exclusively for industrial uses, by “22@”, which integrates different uses, such as, new green areas and subsidized housing, as long as former industrial activity is replaced by new offices and business associated with technology and knowledge. Comprising an investment of 180 million Euros, the redevelopment proposal intends to increment the green areas by 114.000 square meters, generate 130.000 new jobs.

2 - *Auditorium Niccolò Paganini - Parma, Italy* - Designed by Renzo Piano Building Workshop this restoration project consists on the transformation of an old sugar factory built in 1899 and abandoned in 1968, into a 90 meters long auditorium with capacity for 780 people. The industrial heritage was a key issue in the overall design strategy, as this development was framed by a larger program of industrial history reconversion of the city, which focused on the recovery of most of its main factories. The transformation of the factory encompassed several alterations concerning not only the structure but also the stability of the building. In this regard new foundations and numerous walls reinforcements were developed. However it maintained its former character and overall aspect, conserving the old chimney and the original configuration of the roof.

3 - *Fiat Lingotto Factory - Torino, Italy* - Envisioned by Renzo Piano Building Workshop for a former car manufacturing facility, built in 1920s, which was the biggest and most modern factory in Europe, both in terms of architecture and production capacity, the project aimed to redevelop the existent building as a civic multipurpose structure, which focused on research, technology and culture. In this regard, the several uses were established for the building, such as: an auditorium, a shopping center, a cinema, a faculty, and the Fiat headquarters among others. According to the designer the green areas were augmented, considering that with the factory construction some landscapes were taken from the city.

4 - *Museu Municipal de Portimão - Portimão, Portugal* - Designed by José Cid & Isabel Aires Arquitectos, Lda. The project intended to convert the former canning factory which ceased activity around the 1960's into the first Portimão's municipal museum. The design strategy for this former factory was to transform the industrial building into a cultural edifice, maintaining the industrial heritage and establishing the necessary structural stability. The converted building serves now multiple uses besides the museum function, receiving several cultural and scientific activities, storing the municipal archives and revealing the city's historic and social evolution. The relevance of this intervention both locally, regionally and even nationally may be attested by the award of the Council of Europe Museum Prize.

Figures 10 to 16 – Images from the analyzed case studies



- 10- 22@Barcelona - Barcelona, Spain - Source: 22 ARROBA BCN, S.A.U. - all rights reserved;  
 11 and 12- Auditorium Niccolò Paganini - Parma, Italy - Source: T.Regio diParma - all rights reserved;  
 13 and 14- Fiat Lingotto Factory- Torino, Italy - Source: Renzo Piano BuildingWS - all rights reserved;  
 15 and 16- Museu Municipal de Portimão- Portimão, Portugal- Source: L. Loures - all rights reserved.

#### 4. RESULTS

Throughout the different but complimentary analysis developed during this research, it was possible not only to identify a set of benefits of brownfield redevelopment, but also to ascertain their relation to the sustainability pillars/dimensions (environmental and aesthetic; sociocultural and economic. As presented in previous studies which analyzed a broader set of postindustrial landscapes (Loures, 2014), the identified benefits are considerably wide-ranging, given that several redevelopment projects have interconnected effects not only on site, but also beyond its boundaries, which range depend, normally, on the type of land use, program and functions proposed in each redevelopment project. Throughout the analysis of the 12 case studies it was possible to identify a significant number of direct and indirect benefits associated with post-industrial redevelopment, presented in table 1.

**Table 1 – Identified benefits of brownfield redevelopment by sustainability dimension**

	<b>Economic dimension</b>	<b>Environmental-Aesthetic dimension</b>	<b>Social-Cultural dimension</b>
<b>Create and protect wildlife habitat while enhancing biodiversity</b>	X	X	
<b>Create green open space and recreational opportunities</b>		X	X
<b>Improve urban aesthetic quality</b>		X	
<b>Increase human-environment connections considering the possibility to create green open space</b>		X	X
<b>Encourage inner city investments while increasing property value</b>	X		X
<b>Increase tax revenue while attracting new investment</b>	X		X
<b>Increase value of cultural assets</b>	X		X
<b>Job creation and economic development</b>	X		
<b>Promote environmental cleanup while preventing the spread of contaminants</b>		X	
<b>Protect and highlight industrial heritage</b>		X	X
<b>Reduce air and water pollution</b>		X	
<b>Reduce greenfield consumption</b>	X	X	
<b>Stimulate new economic activity</b>	X		
<b>Utilize existing infrastructure and thus reducing greenspace consumption and urban sprawl</b>	X	X	

However, even if there are several benefits associated to brownfield redevelopment and even if the reuse of derelict land is often considered a positive approach towards sustainable development, these areas and their redevelopment projects face often numerous problems regarding both regulation and liability issues, cleanup standards, access to funding, public perceptions towards derelict land, etc. (Bartsch, Collaton, & Pepper, 1996; Ekman, 2004; McCarthy, 2002; Pepper, 1997). Considering the analyzed case studies, it was possible to identify a significant number of obstacles to redevelopment, as presented in table 2.

**Table 2 – Identified limitations of brownfield redevelopment by sustainability dimension**

	<b>Economic dimension</b>	<b>Environmental-Aesthetic dimension</b>	<b>Social-Cultural dimension</b>
Available but under-skilled labor force	X	X	X
Challenges in obtaining financial support	X		X
Difficulties in site assembly	X	X	
High redevelopment costs and uncertain demand	X		
Inadequate access		X	X
Insufficient understanding of redevelopment interrelationships	X	X	X
Local and regional lobbies	X		X
Overlapping jurisdiction		X	X
Ownership patterns	X		X
Perception of crime	X		X
Potential for biological, physical and chemical impacts		X	X
Practical uncertainties regarding remediation and construction	X	X	X
Uncertainty about liability and cleanup issues	X	X	
Unclear idea of monetary cost	X		

## 5. CONCLUSIONS

After the realization of this research it is possible to conclude that the used approach – inverted translational research applied to case study research method – allowed the identification of specific benefits and limitations associated to brownfield redevelopment in Mediterranean regions enabling the acquisition of valuable information directly connected with the existing landscape, respecting site and context, that may contribute to increase the sustainability of future design proposals.

Additionally, the develop research highlighted the fact that, even if there is still a long way to go for this type of interventions in order to achieve sustainable development, once the private sector prefers more cost-effective alternatives to build new facilities than to renovate existing, abandoned and degraded sites (Blokhuis and Schaefer, 2007; Loures, 2006), the assessed brownfield reclamation projects besides being site-specific were very often driven by combined economic, social, environmental and cultural motivations, offering a great potential for sustainable reuse and revitalization of underused areas that in several cases spanned beyond property lines.

Although the present research constitutes a specific perspective towards the application of a methodological approach regarding the identification of benefits and barriers associated to brownfield redevelopment, it is thoroughly acknowledged that it represents just one possibility among several others and that the application of such framework would be augmented by a multidisciplinary approach composed by several specialists with different scientific backgrounds.

Beside the aforementioned conclusions, the present study corroborate with the ideas put forward by several authors, according to which liability concerns are commonly believed to be a considerable limitation to brownfield investment (BenDor & Metcalf, 2005; Wright, 1997), thus limiting the possibility of redevelopment and that environmental assessments and cleanups represent very high costs which often require significant financial investment in order to reduce pollution to an acceptable level (Loures, 2011; Meyer, 2000 and 1998).

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# URBAN PARKS AS A DRIVER FOR URBAN SUSTAINABILITY – CASE STUDIES FROM OPORTO, PORTUGAL

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## ABSTRACT

Urban parks are an important part of the complex urban ecosystem network and provide significant ecosystem services, benefiting urban communities both environmentally, aesthetically, recreationally and economically. Nevertheless, urban parks and other green spaces as we know them today, are the result of a deep and long evolution started during the industrial revolution era in England. These urban green spaces generally associated to a complex greenway networks could contribute to restore natural processes and functions, promoting sustainable growth. However, the intricacy of these spaces, evident in the number of different ways in which they have been described, both in the literature and by designers and other specialists who worked and/or analyzed them, make urban parks' role in urban development and city design, hard to explain and even more difficult to envision and design.

This paper assesses two different urban park projects of the Oporto metropolitan area, evaluating how they contribute to ecological, social and economic sustainability of the Oporto metropolitan landscape, addressing the importance of urban nature for citizens' quality of life and sustainable city development. The performed study complements a research developed in 2012 in order to assess the impact of urban parks to urban ecological sustainability.

Keywords: Urban Parks, Metropolitan Green Space, Sustainability, City Planning.

## 1. INTRODUCTION

Increasing population and urbanization is recognized as one of the most complex process at global scale. This massive urbanization, begun in the industrial revolution in the nineteenth century coupled with the reduction of urban nature increased public awareness to the need of strengthening natural elements in urban contexts, leading to the creation and development of the urban park movement with the objective of increasing life quality in the modern city (Loures and Costa, 2012). Urban parks are an important part of the complex urban ecosystem network and provide significant ecosystem services. Still, even if the location, structure, form and typology of urban green spaces is increasingly recognized as a significant asset that encompasses a wide range of social, economic and environmental issues (Loures *et al.* 2007, 2010, and 2011), little have been done in order to improve the quality of these spaces in metropolitan areas. Urban parks are an important part of the complex urban ecosystem network and provide significant ecosystem services. They benefit urban communities environmentally, aesthetically, recreationally and economically. Nevertheless, urban parks and other green spaces as we know them today are the result of a deep and long evolution started in during the 19th century (Costa and Loures, 2012). These urban green spaces if developed at a larger scale and across multiple sites could contribute to restore natural processes and functions, create multifunctional landscapes and promote sustainable growth (Musacchio *et al.* 2005). However, the complexity of these spaces, evident in the number of different ways in which they have been characterized, make urban parks' role in urban development, hard to explain and even more difficult to envision and design, specially if one tries to assess their impact on the sustainability of cities and metro areas, in which the true meaning of sustainability spans generally far beyond from its common definitions. In fact, as mentioned on the European Landscape Convention to achieve sustainability, development should be based on a balanced and harmonious relationship between social needs, economic activity and the environment (Costa and Loures, 2012).

The last years we have seen a tide of interest sweeping across Europe in the development of nature in cities, and an increasing amount of landscape development in urban areas (Bengston *et al.* 2004; Jonson, 2001), since they have



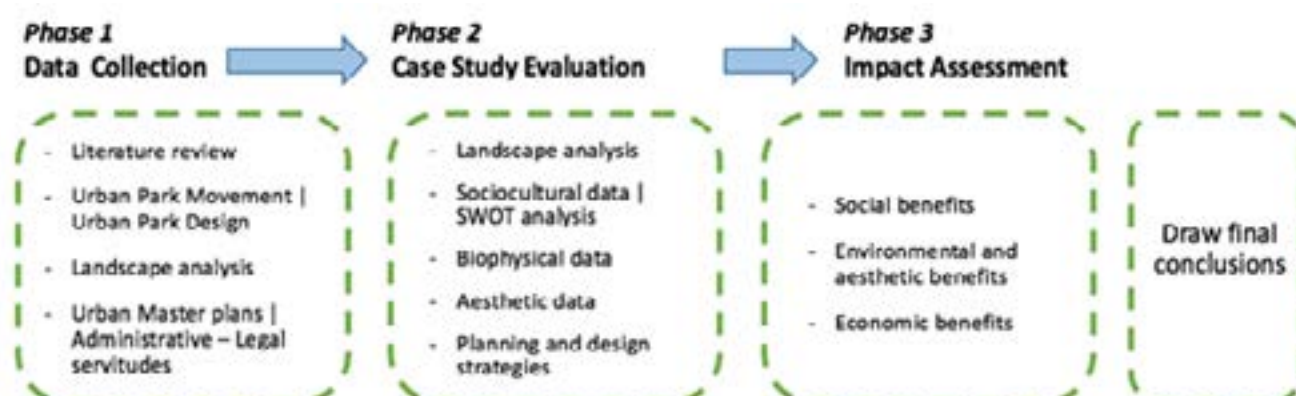
significant ecological, social and economic functions, since it is increasingly recognized that urban parks and other urban green spaces and structures promote urban sustainability (Breuste *et al.* 2013; Carrus *et al.* 2015; Ordóñez and Duinker, 2014; and Slater, 2010;) since they provide children the simple joys of playing; improve health and recreation; grant equal access to public resources; ensure the democratic participation in deciding the future of the community; enable economic vitality for all with increased property values, local jobs, small business contracts, and affordable housing; foment several environmental benefits of clean air, water, and ground; and foster sustainable regional planning. However, in order to achieve these goals, it is essential to follow all dimensions of sustainable development (environmental, social and economic) at the same level.

This paper will address two different urban park projects, with different sizes, approaches and programs that envisioned the creation of a meaningful landscape with potential to fulfil economic, social, and environmental sustainability goals, paying special attention to landscape quality and efficiency, carefully using natural resources, and involving stakeholders in the process during its different stages, once active public involvement and a healthier dialogue between political representatives, residents and economic actors is essential to find better solutions for sustainable city planning.

## 2. METHODOLOGIC APPROACH

The developed approach (figure 1) is based in the holistic concept of landscape as a resource, following the methods used by Loures and Costa (2012) and is divided in three phases: The first phase considered the study of the origin of urban parks, analyzing the evolution of urban park design, assessing formal and development issues in significant urban parks recently designed, the ways in which they marked the metropolitan landscape and the areas in which they were developed considering the embellishment of an oriented landscape analysis. The second phase considered the collection and analysis of information about the different components of the landscape (geology, geomorphology, soil, slopes, land use and cultural heritage), taking into consideration the existing territory constrains (urban master plans, legal frameworks and administrative servitudes), based on a performed SWOT analysis. Subsequently, a synthesis of the abovementioned information was used in order to identify their influence and the benefits they represent to the metropolitan area at different sustainability levels, e.g. environmental, social and economic. Additionally, the collected information was also used in order to define the importance of the analyzed case studies mutually as green areas (as isolated parks) and as greenway corridors (as an integral part of the metropolitan green structure), dividing the identified benefits by sustainability dimension.

Figure 1 – Used methodology diagram



## 3. ADDRESSED CASE STUDIES – ANALYSIS AND DISCUSSION

The addressed case studies, located at the metropolitan area of Oporto (figure 2), were selected to highlight the fact that different scales are equally important in metropolitan sustainability, since they both integrate a larger greenway infrastructure which composition is essential not only at the ecosystem services they provide but also considering the social and cultural functions they have.

More over the selected projects present also different typologies and development approaches reinforcing and emphasizing the importance of that kind of project in metropolitan areas.

Figure 2 – Location of the addressed case studies



**S. Brás Park – Matosinhos** – Designed by UTAD and Laura Roldão Costa – Landscape Architecture, this 260ha park was developed in three phases for the Municipality of Matosinhos is located on a valley in which the proposed park constitutes a key element of the ecological structure of the Metropolitan Area of Porto. The park incorporates fundamental ecological values and natural resources, constituting a structural element to enhance the quality of the urban region. The park area (figure 3) incorporates several assets, different typologies of open space, and a diverse infrastructure, arranged/articulated on a specific social, economic and environmental manner, in order to answer for local and regional needs.

The proposed park aims to create a balanced landscape able to offer ecological equilibrium and biodiversity while preserving fundamental activities such as agriculture, recreation, and socialization. Additionally, it functions as a frame to several operational infrastructures such as highways, metro landfills, among others. As mentioned before the project structured in three phases: (i) landfill recovery, considering not only design issues but also ecological and legislation constraints; (ii) construction details, including the implementation of the Municipal Nursery and wood recovery; (iii) redevelopment of the agricultural land located along the River margins, considering the transformation of the existing farming, gardening and also the installation of a bike path along the river and several equestrian and pedestrian paths. By the river the landscape is dominated by large-scale corn fields and meadows, marked by natural lines, and subtle and transparent riparian trees. Churches and chapels of the eighteenth century looked at us as vigilant sentinels in the landscape. The basic idea was to maintain landscape structure, respecting it as a crucial element of sustainability, both at environmental, cultural and social level.

The envisioned design emphasizes the need to develop new strategies in the metropolitan area of Oporto to increase the primary sector giving it a perspective of ecological preservation, highlighting their relevance as recreational green corridors. The Program defined in the project had the intention to recover the forest through natural regeneration strategies and techniques of landscape management, creating the different types of forest native on the North Atlantic area trying to achieve climax communities of specific trees as Oak, Pine, Birch, Lips and Cork.

Figure 3 – S. Brás Park – Matosinhos – Master plan – Laura Roldão Costa - all rights reserved



**Foz do Porto Urban Park – Porto** – Designed by Laura Roldão Costa – Landscape Architecture Office, this urban park project was a request from the Municipality of Porto. The envisioned idea for this 4.3ha park (figure 4) results on the one hand from the evaluation of the regional context in which the park is an essential element, and on the other hand from the thoughtful consideration of local conditions and capabilities, from the need for visual framing, and environmental and ecological amenity of the intervention area, and from the relationship of this space with its surroundings.

Considering these aspects, the main objectives envisioned in this project were: (i) to establish a high scenic value area, considering different views and perspectives of movement and use; (ii) to use vegetation as a recovery element of the park; (iii) to preserve and enhance biodiversity and specific habitats; and (iv) to define a green area that falls within the ecological structure of the Oporto Metropolitan Area, straightening it. In this regard the proposed park design was based on landscape preservation and conservation principles applied to key systems that marked the study area, while promoting biodiversity, high sustainability, and optimizing construction, management and maintenance of the proposed green spaces.

Fig. 5 - Foz do Porto Urban Park - Oporto Master plan – Laura Roldão Costa - all rights reserved



After the preformed analysis and considering the objectives of this research it was possible to identify a set of benefits associated to the development/implementation of urban parks in dense metropolitan areas (table 1), and also ascertain their impact on the different sustainability pillars. The analysis of the collected data related to the different uses implemented on the addressed case studies stressed out not only the importance of the different scales and approaches to urban park development, but also the importance of these spaces to the overall metropolitan sustainability.

**Table 1 – Benefits of urban parks to urban sustainability aligned by dimension**

	<i>Economic</i>	<i>Environmental</i>	<i>Social</i>
<b>Attract new investment</b>	•		
<b>Benefit air quality - sequester carbon dioxide emissions and produce oxygen</b>		•	•
<b>Create green open space and recreational opportunities</b>		•	
<b>Create recreational opportunities</b>	•		•
<b>Encourage city investments while increasing property value</b>	•		
<b>Encourage outdoor sports activities</b>	•		•
<b>Enhance biodiversity both in terms of fauna and flora</b>		•	
<b>Enhance leisure chances</b>			
<b>Enhance soil and water quality</b>		•	•
<b>Favor social inclusion</b>	•		•
<b>Improve people’s physical and mental health</b>			•
<b>Improve urban aesthetic quality</b>	•		•
<b>Increase land value</b>	•		
<b>Increase sense of belonging</b>			•
<b>Increase the connection between citizens and the environment</b>		•	•
<b>Opportunities for food production</b>	•		•
<b>Protect wildlife habitat</b>	•	•	
<b>Reduce crime, and enhance safety</b>	•		•
<b>Reduce noise</b>		•	•
<b>Reduce runoff water</b>		•	
<b>Regulate temperature - create beneficial microclimates</b>	•	•	•

#### 4. FINAL REMARKS

The analyzed urban park projects highlighted the fact that public open space, when conveniently designed and well incorporated in the urban fabric can provide areas for appreciating nature, as well as for recreation and sport. The benefits include improvements in people’s physical and mental health, and the environmental value of biodiversity and improved air quality. Still it is important to notice that besides the identified benefits the main goals of the analyzed project were to preserve the character of the landscape, increasing space identity, highlighting the fact that even if landscape character is constantly evolving, the introduction of new compatible functions constitutes a crucial aspect in any urban park development.

In both cases the envisioned design strategies tried to increased multifunctionality while fostering environmental, aesthetic and ecological quality of the new space and its surroundings, using connections not only to increase park’s attractiveness but also to strengthen the existing green structure as a crucial element of metropolitan sustainability.

Furthermore, the performed analysis enabled us to identify significant benefits provided by urban parks that corroborate with the ideas put forward by previous studies, as for example: benefits human population and ecosystem functions (Brueckner, 2000); sequester carbon dioxide emissions and produce oxygen (Collins, 2001), purify air and water, regulate micro-climate, reduce noise (Teal, 1998), protect soil and water (Thomson, 2002), maintain biodiversity (Costanza *et al.*, 1997), and have recreational, cultural and social values (Jo, 2005), present a significant effect on the sale price of houses in close proximity to those resources (Bolund and Hunhammar, 1999 and Panduro and Veie, 2013).

Additionally, this research highlighted the fact that more than the park itself, it is the functional network of green space in which the park is inserted that develops a structural role for the creation and maintenance of a sustainable urban landscape. For this reason, urban parks should promote landscape connectivity, stimulating the development of greenways and the use of autochthonous species, adapted to local condition, with low maintenance cost, self-sufficient and sustainable. In summary, even if it is possible to conclude that since the beginning urban parks have been playing an important role in sustainable city development, as it has been highlighted by several authors (Chiesura, 2004) they still tend to be driven by economic development motivations, not offering the full potential for sustainable urban design. Landscape architects and other planning professionals are still limited to the development of specific spaces within the city, which are selected by stakeholders and decision makers that do not really understand the full potential and impact of a coherent greenway structure at the metropolitan level.

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# AS CIDADES EDUCADORAS NO QUADRO DA EDUCAÇÃO PERMANENTE

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## ABSTRACT

Today the city offers countless opportunities for education. The city contains within formal educational institutions, non-formal interventions and informal interventions will collaborate either bilaterally or multilaterally in the exchange of experiences. These elements makes the city a complex system, object of educational attention and a permanent, plural, multi-faceted, educating agent capable of, promotion and development of all its inhabitants. The educating city will give priority to children and youth, but with a commitment to including persons of all ages in lifelong education. The main problems involved in education are not pedagogical, but political problems. A new education would be an education for autonomy, an ethical education that should promote the improvement of people's life quality. Permanent Education associated with a political project of local development it should stimulate the population to face their community problems and trying to foster a more active intervention of the citizens in community life, taking knowledge and experiences as cultural sources.

Keywords: Lifelong Education, Educator's Cities, Democracy, Educative Project.

## RESUMO

Hoje a cidade oferece inúmeras oportunidades para a educação. Na cidade existem instituições de educação formal não formal e informal que colaboram de uma forma bilateral ou multilateral, através da troca de experiências. Estes elementos tornam a cidade num sistema complexo, plural, multifacetado com uma capacidade de educação permanente capaz de promover o desenvolvimento educativo de todos os seus habitantes. A cidade educadora dará prioridade às crianças e jovens, mas com o compromisso de incluir pessoas de todas as idades num processo alargado de educação permanente. Os principais problemas envolvidos nos processos educativos na cidade não são de ordem pedagógica, mas de ordem política. Uma nova perspectiva de educação seria uma educação para a autonomia, uma educação ética capaz de promover a melhoria da qualidade da população. A educação permanente está associada a um projeto político de desenvolvimento local que deve estimular a população a enfrentar os seus problemas vividos na comunidade e tentar promover uma intervenção mais ativa dos cidadãos na vida da comunidade, tendo por base a sua cultura, conhecimentos e experiências.

Palavras-chave: Educação Permanente, Cidades Educadoras, Democracia; Projeto Educativo.

## 1. INTRODUÇÃO

Num mundo global em que Estados, Instituições, pessoas, interagem através de uma rede de comunicações, relações, partilhas comerciais, financeiras, económicas, sociais, políticas, culturais, educativas de forma rápida e eficiente, as cidades sofrem mudanças estruturais e processuais que implicam novos desafios. “O local é cada vez mais o outro lado do global e vice-versa, o global é cada vez mais o outro lado do local” (Santos, 2002, p.17). Um local de tipo cosmopolita e não insular, um local sem muros, que por essa via se abre criticamente ao global, parece constituir-se como locus indispensável ao exercício de uma cidadania democrática (Lima, 2005). Numa cidade em (trans) formação, a informação, o conhecimento, a criatividade, a cultura são recursos estratégicos de redobrada importância. Contudo, nem toda a transformação parece ser, obrigatoriamente, sinónimo de uma melhor intervenção no sentido da melhoria da qualidade de vida dos seus habitantes, uma vez que essa melhoria não se prescreve em resultado de mandatos políticos, nem tão pouco por geração espontânea. Para a melhoria da qualidade de vida das pessoas, a educação tornou-se uma das mais importantes áreas de atividade humana. Uma educação transformadora, uma educação para a democracia que valoriza a participação de todos/as no sentido de promover mudanças por meio de reformas histórico-culturais. Para a pessoa poder transformar-se e transformar o seu contexto social, precisa sentir-

se livre, não deixa manipular-se, já que submete a sua ação à reflexão, humanizando-se no exercício da responsabilidade face à mudança social. Neste sentido, a Educação *é um compromisso histórico em que as pessoas, as instituições educativas, a sociedade civil, os agentes educativos, produzem novos conhecimentos que permitam refletir a educação e apontar novos caminhos a seguir, assumindo o seu papel de sujeitos que fazem e refazem o mundo* (Freire, 1999).

A ação educativa não deve ser entendida como neutra, devendo sempre haver um posicionamento político, não permitindo lugar a uma pretensa imparcialidade. Também não adianta haver discursos progressistas e a ação ser caracterizada pela falta de compromisso com a mudança social, contrária aos princípios progressistas (Freire, 2006). A ação educativa é social e histórica, mesmo que tenha uma dimensão individual, ocorre num certo contexto tempo-espacial. Não basta dizer que a educação é um ato político assim como não basta dizer que o ato político é também educativo. É preciso assumir realmente a politicidade da educação (Freire, 2001). A ação educativa enquadra diferentes tipos de iniciativas, diferentes programas específicos de natureza educacional e formativa, desenvolvimento comunitário, intervenção socioeducativa, sociocultural, orientados para a comunidade e levados a cabo por instituições, agrupamentos de escola, sociedade civil, poder local. O desenvolvimento destas atividades integradas em projetos educativos, sobretudo locais ou regionais, devem traduzir opções de política local, nomeadamente, em relação às autarquias (Arroteia, 2008). Uma autarquia regida por princípios orientadores que objetivam, sobretudo, o desenvolvimento integral de todos os cidadãos, pode crescer ao aprender a gerir o processo educacional, o que constitui uma municipalização da educação, um processo democrático e descentralizador (Freire, 2006). A municipalização da educação ocorre por via da descentralização de competências que leva o poder local a definir estratégias e objetivos a atingir no quadro do aprofundamento da democracia. Através do poder local é possível criar as condições para que pessoas e grupos se envolvam na resolução dos seus problemas, elaborando projetos, definindo critérios de prioridades, promovendo iniciativas de desenvolvimento, em vista a uma intervenção prática/funcional e positiva na comunidade (Machado et al, 2014).

A educação pode ter uma dimensão global, mas a ação é localizada no território onde se encontram os recursos comunitários. A solução dos problemas não se dá de cima para baixo. As decisões têm de partir do local senão, mais tarde ou mais cedo, os projetos perdem sentido e não têm aplicabilidade, porque não correspondem aos interesses das pessoas e grupos. A autarquia local é a entidade territorial mais próxima das populações e a que detém mais condições para promover a melhoria da qualidade de vida das pessoas. A autarquia dispõe de autonomia, de recursos materiais e financeiros que lhes permite definir, implementar e apoiar programas que promovam a melhoria da qualidade de vida das pessoas. Uma das condições para os programas sejam bem-sucedidos é que resulte de iniciativas locais, “*bottom-up*”, promovendo o desenvolvimento endógeno e criando laços de cooperação entre vários atores sociais, estabelecendo a essência da ação política e democrática: construir algo em comum centrado no local que promova o desenvolvimento social e educativo das pessoas e reforçando as identidades regionais (Farias, 2010). No sentido da mudança, as autarquias podem dar importantes contributos nem que seja incentivando e apoiando pessoas e grupos a sair da apatia. Contudo, para que as pessoas ganhem este sentido de participação têm de ser sujeitas a processos educativos que mudem mentalidades ainda eivadas de saberes, procedimentos práticos e automatismos de comportamentos de que têm dificuldade em descartar-se, por si próprias (Faria, 2010).

Foi com este propósito que foi definida uma Carta de Princípios do movimento das Cidades Educadoras, nascido em 1990 (Barcelona) e formalizado em 1994 (Bolonha) como Associação Internacional das Cidades Educadoras. Esses princípios ético-políticos foram novamente revistos no Congresso Internacional de 2004, em Génova. Atualmente, a nível mundial existem cerca de 500 cidades que assinaram a Carta de Princípios da Associação Internacional de Cidades Educadoras. Em Portugal foi criado, em 2012, um grupo de trabalho, integrando representantes dos municípios de Odemira, Sesimbra, Palmela, Loulé, Lisboa e Évora, para produzir um referencial teórico-prático orientador da construção dos respetivos Projetos Educativos Locais. No nosso país existem 16 municípios (dois no Algarve: Loulé e Albufeira) que assinaram a Carta de Princípios da Associação Internacional de Cidades Educadoras (AICE) e já estão na fase de execução do Projeto Educativo e Local.

É no respeito pelos princípios definidos pela AICE que as cidades educadoras criam e dinamizam processos educativos globais, promovendo aprendizagens significativas e colocando-se ao serviço da promoção e do desenvolvimento integral dos seus cidadãos e cidadãs. Só assumindo esta intencionalidade, se considera a cidade como lugar de educação e o meio urbano como um agente educador. Na cidade educadora aprende-se a partir de um Projeto Educativo Local que associa instituições educativas, sociedade de civil, espaços informais, recursos do meio (museus, bibliotecas, associações culturais). E aprende-se a partir dos processos educativos gerados na cidade (congressos, exposições, campanhas, feiras, eventos, celebrações), aprende-se através das escolas, das associações, das ações não formais como as atividades nas áreas da saúde, da sexualidade, da educação cívica, do urbanismo, do ambiente, da cultura, da economia, etc... (Trilla, 1999).

Relativamente à origem do conceito de cidade educadora, parece ter sido Edgar Faure (1974), autor do relatório “Aprender a Ser”, sob a égide da UNESCO, que assumiu a importância de se considerar a educação segundo uma perspetiva mais ampla, apostada na valorização integral de todos os indivíduos. A educação nunca poderá ser centrada



na escola, uma vez que esta se revela incapaz de responder sozinha a todos os desafios e mudanças sociais. É nesta perspectiva que Edgar Faure (1974) evidencia as potencialidades pedagógicas da cidade. Faure referia-se à cidade educativa como recurso mobilizador de novas políticas educativas considerando a cidade como um espaço com potencial educativo não só pela intensidade das trocas de conhecimentos que se operam, mas também pela escola de civismo e de solidariedade que constitui” (Faure, 1974).

Este novo paradigma de características emancipadoras de cidadania e de cultura geral, surgiu como alternativa ao modelo escolar, numa nova perspectiva de encarar a educação enquanto processo contínuo e global, integrando a vertente cognitiva, afetiva, social e cultural. Foi neste contexto que *Aprender a Ser* (1974), deu continuidade a um conjunto de reflexões sobre a educação permanente no sentido de capacitar as pessoas a serem autores e atores do próprio desenvolvimento. O Relatório de Faure *Aprender a Ser* assentava em quatro aspetos fundamentais: A existência de uma comunidade internacional que, sob a diversidade de nações e de culturas, das opções políticas e dos níveis de desenvolvimento, deve buscar solidariedade e a unidade de aspirações; A crença numa democracia concebida como o direito de cada ser humano se realizar plenamente e de participar na edificação de seu próprio futuro; O desenvolvimento que deve ter por objetivo a expansão integral da pessoa em toda a riqueza e complexidade, das suas expressões e compromissos; Uma educação formadora das pessoas, cujo advento se torna mais necessário à medida que coações sempre mais duras separam e fragmentam cada ser. Trata-se, então, de não adquirir, de maneira exata, conhecimentos definitivos, mas de preparar para elaborar ao longo de toda a vida, um saber em constante evolução e de aprender a ser (Faure, 1974, p. 225).

A Educação Permanente foi considerada uma ideia mestra das políticas educativas, dado que conferia centralidade à Educação, quer em termos pedagógicos quer como objeto de políticas sociais, em que o Estado assumia um papel de grande responsabilidade social. As políticas públicas estavam baseadas na ideia de educação ao longo de toda a vida, podendo ser considerada como uma iniciativa social-democrata na medida em que havia um pacto social entre capitalismo e democracia. A relação entre necessidades económicas e democratização da sociedade do bem-estar tornou-se uma prioridade política significativa, o que implicou a criação de meios e serviços promotores da justiça social e do direito à educação. Com a expansão das escolas públicas, a política direcionada para a ideia de uma educação para todos constitui um dos pilares da democratização dos Estados capitalistas ocidentais (Fragoso e Guimarães, 2010).

O indivíduo é um ser inacabado e não pode realizar-se se não tiver as condições para aceder a uma educação contínua que tem lugar em todas as idades da vida e na multiplicidade das situações e das circunstâncias da sua vivência (Freire, 1999). Também Faure (1974) defendia a mesma perspectiva de que o indivíduo é um ser inacabado, que está obrigado a realizar aprendizagens contínuas para poder (sobre) viver. Daí que, a Educação Permanente, segundo o Relatório de Faure *Aprender a Ser*, deveria constituir um projeto político- institucional que permita que todas as pessoas deveriam ter a possibilidade de aprender por toda a vida; A educação devia-se prolongar por todas as idades mediante a ampliação e diversificação da oferta, aproveitando todos os tipos de instituições existentes educacionais ou não; Permitir a cada um escolher seu caminho mais livremente, optando por métodos convencionais ou por meios autodidáticos; O sistema educativo deverá ser global e aberto para facilitar a mobilidade vertical e horizontal dos alunos; No que diz respeito à preparação para o trabalho, a educação deve formar não apenas para um ofício como também preparar os jovens para se adaptarem a trabalhos diferentes à medida que evoluem as formas de produção; A educação deverá facilitar a reconversão profissional; A responsabilidade pela formação técnica deverá ser partilhada pelas escolas, empresas e educação extraescolar; Os alunos, jovens e adultos devem poder exercer responsabilidades como sujeitos não só da sua própria educação, mas de toda atividade educativa, no seu conjunto.

## 2. A EDUCAÇÃO PERMANENTE NA PERSPETIVA DA CIDADE EDUCADORA

O conceito de Educação Permanente constituiu uma das grandes revoluções educativas operadas depois da 2ª Guerra Mundial, no sentido de elevar a educação a todos os níveis da vida, com a intenção de que as pessoas a recebessem e a utilizassem. Pressupunha uma nova conceção de indivíduo e o seu desenvolvimento total, no sentido da obtenção da liberdade e da democracia. A educação devia sair do âmbito estritamente escolar e passar a ocupar todas as atividades do indivíduo, quer relativamente ao trabalho quer relativamente ao lazer. A educação permanente exigia uma reorganização total do sistema educativo com implicações ao nível dos objetivos, estruturas e métodos utilizados pelas instituições educativas. A UNESCO, desde a sua fundação em 1945, começou por defender o conceito de educação permanente, um projeto político institucional que, através de uma educação cultural, cívica e política, capacitasse as pessoas para serem agentes dos processos de desenvolvimento social e comunitário (Knoll, 2009). O realce conferido pela UNESCO à educação permanente acentuou a importância dos processos educativos na formação de indivíduos mais ativos e participativos, na mudança e construção de uma sociedade mais democrática, mais justa e solidária (Guimarães, 2011). Representa não só um princípio universal, mas um passo concreto no sentido de um processo de democratização na educação, que deve conduzir a uma melhoria da qualidade de vida para todos (Milana, 2012).

A Educação Permanente engloba a aprendizagem em contextos formais, não formais e informais, dando continuidade ao longo do tempo (articulação vertical), bem como a uma integração de diversas dimensões (integração horizontal). A educação acontece durante toda a vida: na infância, na pré-adolescência, na adolescência, na idade adulta e na velhice. O ser humano adulto passa por transições biográficas (Alheit, 2007) e constrói novas identidades de aprendizagem (Kolb & Kolb, 2010). Em cada transição biográfica, cada fase com as suas especificidades, o indivíduo vive diferentes processos de interação social, em que age e interage, dialoga, reflete e experiencia novas aprendizagens, organiza o seu próprio trabalho, articula o conhecimento com a prática, desenvolve a sua biograficidade (Alheit, 2007) e torna-se mais independente e autónomo (Gadotti, 2005).

A educação é permanente, não porque certa linha ideológica ou certa posição política ou certo interesse económico o exijam. A educação é permanente na razão, de um lado a finitude do ser humano, do outro a consciência que ele tem da sua finitude. Mais ainda, pelo fato de, ao longo da história ter incorporado à sua natureza, não apenas saber que vivia mas saber que sabia e, assim, saber que podia saber mais. A educação e a formação permanente fundam-se aí (Freire, 2001).

De acordo com o Relatório para a UNESCO da Comissão Internacional sobre Educação para o século XXI (2010), a Educação deveria organizar-se em torno de quatro aprendizagens fundamentais que ao longo de toda a vida seriam, de algum modo, para cada indivíduo os pilares do conhecimento: Aprender a conhecer, isto é adquirir os instrumentos da compreensão; Aprender a fazer para poder agir sobre o meio envolvente; Aprender a viver juntos a fim de participar e cooperar com os outros em todas as atividades humanas; Aprender a ser, via essencial que integra as três anteriores. Estas quatro vias do saber constituem apenas uma perspectiva, dado que existem entre elas múltiplos pontos de contato, de relacionamento e de permuta. O conceito de educação permanente aproxima-se do conceito de sociedade educativa, onde tudo pode ser ocasião para aprender e desenvolver os próprios talentos. É um paradigma que significa aproveitar todas as oportunidades e manifestações oferecidas pela sociedade, no sentido de buscar a centralidade do ser. Centralidade que envolve o comprometimento com o todo (Delors, 1996).

Face ao exposto, percebe-se que, cada vez mais, a educação não se restringe, unicamente, aos processos formais, transpondo os muros da escola para a cidade educadora, entendida como espaço integrador e produtor de saberes, espaço de educação cidadã que se concretiza na reflexão, circulação de conhecimentos e interação entre diversos saberes (Brandão, 1985). À medida que as sociedades evoluem, conforme as épocas históricas, modificam-se as concepções sobre educação que tem sido caracterizada por descontinuidades, inovações, pontos de rutura, “frentes de vaga” (Toffler, 1984, p. 16). A partir da educação cidadã, com a sua realidade social, é possível refletir sobre o papel da educação para a concretização de uma cidadania plena, quando as instituições educativas vivem momentos de alguma incerteza. As cidades serão consideradas educadoras quando assumem, além das suas funções tradicionais, uma nova função que tenha como objetivo a formação pela e para a cidadania. As cidades tornam-se cidades educadoras face à necessidade de educar, de aprender, de ensinar, de conhecer, de criar, de sonhar” (Freire, 2001). A Educação Permanente, enquanto motor da cidade educadora, permite a criação de oportunidades de reflexão e ação frente aos desafios impostos pela sociedade atual na concretização de uma formação efetiva em esferas de democracia plena e participativa. Daí que a seja fundamental uma articulação entre diversos contextos existentes na cidade (família, escola, espaços não-formais e informais de educação, autarquia, etc.), tendo em conta os equipamentos e os recursos existentes e exequíveis, englobando as dimensões económicas, educativas, culturais, sociais e históricas (Brandão, 1985).

A educação permanente não é uma nova oportunidade de recuperação escolar, nem tão pouco é uma formação vocacional, mas, antes, uma política global, sinónimo de educação geral que se relaciona com o direito da maioria das pessoas terem acesso à educação ao longo da vida. A educação permanente pertence à História do mundo, faz parte da história da educação de todos os países do mundo. A história da educação permanente é composta de projetos educativos, políticas, teorias e utopias. Para se compreender a história da Educação Permanente, que é um exercício semântico e ao mesmo tempo cultural, há que considerar as necessidades da formação continuada numa determinada época, provocada por uma sociedade que exige constante renovação de conhecimentos. Para renovar a Educação é preciso lutar, quer na sociedade civil quer nas instituições educativas, discutindo, realizando projetos, criando novos espaços educativos onde se reflita, se discuta, se coloque em prática uma educação para todos e por todos, reforçando as relações entre formação, educação e cultura (Gelpi, 1990).

O conceito de cidade educadora está associado a um compromisso do poder local em promover as condições para a melhoria da qualidade de vida das pessoas através da criação de processos de educação e participação, no sentido de uma educação permanente que promova o desenvolvimento integral de cidadãos e cidadãs. Neste paradigma de cidade educadora, o poder local promove políticas educativas que permitem a articulação, a integração e a iniciativa entre pessoas, grupos, instituições, criando as condições para uma cidadania mais intensa e ativa. A cidade educadora, com o seu poder local, deixa de ser o poder que se contrapõe ao poder nacional. Antes, pelo contrário, ao criar um projeto político-institucional, no sentido da humanização do desenvolvimento, suportada por princípios educacionais práticos, põe em prática uma experiência local que pode ser reproduzida a nível mais global. O global é o local sem paredes, pois o local deixou de ser exclusivamente local (Santos, 2002).

Neste paradigma de cidade educadora que pressupõe um ambiente democrático, integrador e solidário, a educação permanente é uma revolução copérnica em que todas as pessoas têm o direito de se envolver, de forma voluntária, em todas as atividades educativas e formativas, ao longo da vida, nas várias etapas: inicial intermédia e tardia (Gelpi, 1990). Uma cidade educadora cujo poder local está comprometido com a sociedade civil, com as instituições, através de propostas integradoras que valorizam o potencial educativo de pessoas, espaços comunitários, instituições, parece inviabilizar a criação de situações, em que sob a capa da educação permanente, se esconda um discurso ideológico conservador, cujas intenções são a continuidade da injustiça social, da desigualdade de oportunidades, da repressão educativa.

A cidade educadora é baseada em critérios que contemplam questões como a democratização da sociedade e a liderança, em que se enfatiza a imparcialidade, a transparência e a credibilização dos seus processos alicerçados numa ativa participação social (Marques e Moreira 2009). Neste sentido a participação de pessoas, grupos, instituições, é condição necessária para educação crítica que contribua para a democratização da democracia. Uma participação que permita redistribuir o poder às pessoas excluídas dos processos políticos, económicos, educativos e culturais, para que possam participar ativamente nas tomadas de decisão do poder local. O conceito de Educação Permanente constitui a expressão de uma visão sociopolítica e histórica, a contribuição de uma educação crítica para a cidadania democrática será relevante no sentido em que vier também a contribuir para a ampliação dos atores participantes na deliberação democrática (Lima, 2005).

A Educação Permanente é suportada por princípios educacionais práticos que defendem uma educação diretiva nem autoritária, democrática e individualizada, uma vez que as pessoas têm uma motivação intrínseca para a aprendizagem. Nesta perspetiva, difere da educação da tradicional porque propõe uma educação para todos, baseada na experiência de vida e na realidade das pessoas (Finger e Asún, 2003). A Educação Permanente constitui uma resposta original aos desafios impostos pelos novos tempos, como meio de preparar as pessoas para a participação, para a defesa dos direitos e valores fundamentais da sociedade democrática, ajudando à autoinstrução e à evolução, de forma eficaz, numa sociedade marcada por mudanças previsíveis e imprevisíveis (Arroteia, 2008).

É na cidade educadora, a partir da ancoragem local onde pessoas, grupos, instituições, sociedade civil, poder local, se articulam para desenvolver iniciativas locais para identificar e resolver problemas e para promover processos de educação cidadã, no sentido de uma “reinvenção da emancipação social (Santos, 2002: 10). Quando a educação cidadã constitui uma prioridade no serviço à comunidade e à solidariedade, cidade educadora pode ser um exemplo de cidadania forte, uma forma de pensar a globalização contra-hegemónica ao proporcionar formas alternativas de pensar e agir sobre os processos educativos que só podem ser reconhecidos através de uma atitude crítica, ativa e progressista (Santos, 2002)

No sentido da emancipação social impõe-se a construção e atualização de conhecimentos extensiva a todas as pessoas, independentemente da idade, abrangendo a dimensão pessoal, profissional, cívica, cultural, uma vez que a instituição escolar se manifesta impotente para responder às necessidades educativas da maioria dos indivíduos, cidadãos membros de uma comunidade internacional (Arouca, 1996). A Educação Permanente é uma forma de responder à crise do sistema de educação no mundo, podendo conduzir a movimentos de reforma e de inovação do sistema educativo, através de medidas educativas que visem recriar o processo educativo no sentido de cada pessoa, em permanente atualização, aprender continuamente ao longo da vida. É uma educação sem limites e sem fronteiras, uma educação durante toda a vida para todas as pessoas, é um processo de aquisição e de ampliação do conhecimento, de dominar a tecnologia, de desenvolvimento do senso crítico, de descoberta e (re) descoberta de valores e de se relacionar com o mundo. É um processo em que a pessoa é o sujeito da construção da sua própria aprendizagem biográfica e é capaz de aproveitar todas as oportunidades para crescer, valorizar-se como pessoa e afirmar-se como cidadão (Lampert, 2005).

A educação permanente, introduzida nos anos 70, um dos conceitos chave do pensamento radical que se elaborou ao longo dos anos sessenta para contestar a instituição escolar, é uma alternativa crítica ao modelo escolar, deslocando a educação do espaço institucional para o conjunto dos espaços sociais e culturais, alargando a formação a todas as fases da vida adulta (Nóvoa, 2009). Encarado como um processo contínuo durante toda a existência da pessoa, a Educação Permanente pode constituir um princípio reorganizador de todo o processo educativo, tendo como referência a pessoa como sujeito de formação e assente em três aspetos fundamentais, “o da continuidade dos processos educativos, o da sua diversidade e o da sua globalidade” (Canário, 2000, p. 88).

Fundamentada na interpretação de um processo educativo que se prolonga por toda a vida, a Educação Permanente evidencia a necessidade de serem disponibilizados os meios adequados às aspirações culturais e educativas das pessoas, independentemente da idade, situação social ou profissional, num mundo complexo que exige actualização contínua de conhecimentos e novas aprendizagens. Enquanto princípio organizador da globalidade dos processos educativos, a Educação Permanente terá como principal referência a dimensão cívica da educação centrada nas pessoas como sujeitos de formação e aprendizagem, no âmbito das diversas atividades profissionais, económicas, cívicas e de lazer, que permitam não só aprendizagens como reciclagens visando o desenvolvimento pessoal numa sociedade moderna (Arouca, 1996).

A Educação Permanente pode ser fundamentada em três âmbitos: Epistemológico dado que a evolução dos conhecimentos exige uma aprendizagem constante, uma necessidade de aprender a aprender; Tecnológico e laboral, uma vez que o mundo laboral exige novas qualificações e formação contínua; Cultural porque a transmissão cultural, de geração em geração, vai muito para além da educação formal e engloba todo o ciclo de vida da pessoa. Deste modo, a Educação Permanente tem como objetivo aproximar as pessoas dos processos educativos, criando novos espaços e novas oportunidades e garantindo a continuidade entre a educação dos jovens e dos adultos, respeitando os diferentes ritmos, interesses e trajetórias de vida das pessoas.

Associado ao conceito de Educação Permanente estão os regimes de democracia política em que o poder local tem uma importante vocação intervencionista relativamente à satisfação dos direitos sociais dos cidadãos. Entre outras funções, deve assumir o papel de principal ator na promoção e garantia do direito à educação com o objetivo de favorecer a participação e a cidadania democrática, a responsabilidade social e emancipação (Lima, 2007). Nesta perspetiva, a Educação Permanente constitui um processo de humanização dos seres humanos capaz de contribuir para a interpretação crítica do mundo e a participação ativa na sua transformação. É um processo passível de ocorrer em praticamente todos os espaços sociais da esfera pública, o que implica mobilização e participação ativa com vista à autodeterminação e ao autogoverno, mais ou menos vinculado a lutas sociais. Mas, também a outros processos de transformação com vista à mudança nas relações de poder, incluindo dimensões ético-políticas, a solidariedade e o bem comum, a justiça social. É um projeto global e integrado de natureza holística. É esta perspetiva holística que torna a Educação Permanente um projeto tão difícil de concretizar pois: Exige abordagens globais e integradas; Mobilização individual evitando individualismos; Requer resposta a problemas práticos; Exige respostas socioeducativas; Não sendo indiferente às lutas em torno do poder, encontra-se comprometida com a transformação democrática do exercício do poder; Contribui para a adaptação e a inserção dos seres humanos no mundo que é o do seu tempo; Contribui para a inscrição crítica das pessoas e dos coletivos e para a sua participação ativa, no processo de transformação do mundo social (Lima, 2005)

O movimento de Educação Permanente é uma “educação subversiva” (Melo, 1997, p. 267), assente num paradigma de humanismo crítico capaz de, perante as negatividades produzidas pela globalização hegemónica (Santos, 2002), provocar um choque cultural que faça a rutura com crenças, ideologias, catecismos, preconceitos e frases feitas utilizadas por esse poder hegemónico. Face à crescente agressão política, económica e mediática de que somos objeto, a Educação Permanente tem um papel essencial a cumprir na resistência aos novos veículos da opressão, na invenção de alternativas liberatórias, na mudança de mentalidades, no progresso contínuo de pessoas e grupos, através da criação de situações educativas promotoras da criatividade, da reflexão, da inovação, no sentido da “ (...) solidariedade e coesão sociais, da cidadania informada e activa, da democracia generalizada” (Melo, 2011, p. 503).

### **3. O POTENCIAL PEDAGÓGICO DA CIDADE EDUCADORA**

A cidade educadora é um espaço de encontro, partilha, construção e transmissão de conhecimentos e saberes em que são reconhecidas as potencialidades dos vários agentes educativos (instituições, poder local, associações, agrupamentos de escola) promotores da educação formal e não formal. Para a Associação Internacional das Cidades Educadoras (2013), a cidade educadora é definida como uma cidade liderada pelos seus representantes democráticos que estimulam e oferecem vias de realização da capacidade educadora de todos os membros da cidade, tanto individual como coletiva. Neste paradigma a cidade é entendida como agente e conteúdo da Educação, na medida em que emerge a centralidade do poder local, que em articulação com os diferentes recursos culturais e educativos da comunidade (instituições, município, associações, sociedade civil, escolas, etc...), vão definir as dimensões de um Projeto Educativo Local (Machado, 2004). A cidade educadora é entendida como agente porque integra o sistema educativo formal, não formal e informal, onde cabe o poder local, a sociedade civil, as estruturas públicas e privadas e, sobretudo, os cidadãos e cidadãs, gente com experiência de vida, potencialmente inteligentes que são possuidoras de capacidades para construir e reconstruir novos conhecimentos e produzir cultura (Freire, 1999). Através do desenvolvimento do pensamento crítico, da capacidade de problematização do indivíduo sobre o meio envolvente, quanto mais exerça a capacidade de aprender, mais desenvolverá a curiosidade epistemológica (Freire, 1997). Por outro lado, torna-se importante que as pessoas se sintam não só cidadãos e cidadãs de um país, como de um local desse país, pessoas identificadas com a sua cidade, com a cultura da cidade, com as suas próprias lealdades locais. A lealdade para com a cidade surge, primeiro, da lealdade em relação à família. A cultura transmite-se através da família e, depois, da família a principal transmissora da cultura é cidade, mais que a escola (Llosa, 2012). Um dos problemas da Escola é que, embora promova a transmissão de saberes, não ensina a criar o conhecimento e essa ausência é responsável pelos constantes erros humanos. Daí que, muitos dos conflitos sociais decorram do pouco conhecimento que as pessoas têm sobre as coisas. E, também a compreensão parece estar ausente do Ensino porque problemas como o racismo, a xenofobia, o ódio, resultam da incompreensão entre as pessoas. Por outro lado, a escola não promove um conhecimento pertinente capaz de apreender os problemas globais e fundamentais para aí inscrever os conhecimentos parciais e pessoais. Até

porque os estudantes não são capazes de relacionar disciplinas como as ciências humanas ou as ciências da natureza com a unidade e a diversidade de tudo o que é relativo ao ser humano (Morin, 2002).

Daí, a importância do Projeto Educativo Local ao articular a educação formal com a não formal e a informal, num mesmo espaço que é a Cidade. As práticas não formais e até mesmo informais de educação não devem ser entendidas como antagônicas da educação formal, antes pelo contrário, a articulação entre esses campos distintos, desde que preservadas certas características que os definem e qualificam é enriquecedora e gera uma sinergia positiva (Gadotti, 2005). A articulação entre formal, não formal e informal gera conhecimento pertinente que permite uma compreensão contextualizada e multidimensional, em contraposição ao mero acúmulo de informações (Morin, 2002). O Projeto permite promover a autoformação, a relação entre socialização e aprendizagem, a valorização daquilo que as pessoas sabem como ponto de partida para construir a sua autonomia, ao contrário daquilo que a Escola faz (Canário, 2005). As pessoas têm uma tendência natural para evoluir e para se auto atualizar desde que motivadas, apoiadas e enquadradas na dinâmica do grupo (Rogers, 1984).

A Cidade Educadora é entendida como agente porque o município assume um papel coordenador que se caracteriza pela sua função integradora e radical, afastando-se do paradigma assistencialista, otimizando sinergias entre diferentes atores e agentes com responsabilidades no desenvolvimento educativo local. Esta perspectiva integradora do poder local permite que sejam criados espaços de participação e de negociação que valorizem pessoas, grupos, organizações locais, conferindo maior liberdade e poder nas tomadas de decisões públicas em questões que dizem respeito aos seus interesses, com a vantagem de proporcionar soluções mais vantajosas do que qualquer processo centralizado. É através da ação localizada no território onde se encontram os recursos comunitários que pessoas e grupos se envolvem na resolução dos seus problemas. A solução dos problemas não se dá de cima para baixo. As decisões têm de partir do local senão, mais tarde ou mais cedo, os projetos perdem sentido e não têm aplicabilidade, porque não correspondem aos interesses das pessoas e grupos. Uma das condições para que os programas sejam bem-sucedidos é que resulte de iniciativas locais, “*bottom-up*”, promovendo o desenvolvimento endógeno e criando laços de cooperação entre vários atores sociais, estabelecendo a essência da ação política e democrática que é construir algo em comum centrado no local que promova o desenvolvimento social e educativo das pessoas e reforce as identidades regionais (Faria, 2010). O município é a entidade territorial mais próxima das populações que dispõe de autonomia, recursos materiais e financeiros que lhe permita coordenar a operacionalização do Projeto Educativo Local.

A cidade educadora é entendida como conteúdo porque, ao promover a transversalidade das diferentes estratégias ao nível dos Agrupamentos de Escola, instituições públicas e privadas, organizações da sociedade civil, associações culturais e desportivas, organizações de ação social, empreendedores económicos, vai cruzar a educação formal com a não formal e informal, vai conciliar os projetos de escola com as linhas de ação estratégica do Projeto, reforçando também as redes locais, o *know how* e o capital social. A cidade educadora reconhece e valoriza as potencialidades e os contributos de todos os membros da cidade (a nível individual e coletivo) na construção de um Projeto Educativo Local, no sentido da transformação do espaço público, nos aspetos educativos, sociais, de coesão e concertação social. A construção de um Projeto Educativo Local é a mais relevante atividade que os diferentes parceiros de um território podem empreender. Diagnosticar, identificar problemáticas, definir objetivos, planear formas de ação, conceber estratégias de intervenção, executar, promover a governação colaborativa e avaliação democrática do Projeto Educativo Local, envolvendo Todos, constitui um desafio absolutamente central no desenvolvimento da Cidade. “É necessário passar, em definitivo, de uma concepção baseada na pedagogia da cidade para uma outra baseada na cidade como pedagogia” (Almeida, 2008, p. 8-9). A Pedagogia e a cidade educadora estão situadas num ponto onde confluem o educativo e o social, e esta articulação só pode compreender-se a partir da perspectiva de que as pessoas se socializam dentro da cidade, na família, e fora da instituição escolar e, por isso, a educação deve efetuar-se em todos os contextos nos quais se desenvolve a vida do ser humano. Nesse sentido, a cidade educadora deve, antes de mais, ajudar a pessoa a interagir, a aprender a ser com os outros, a viver juntos e em comunidade através de processo educativos que contribuam para que o indivíduo se integre no meio social que o envolve, mas com capacidade crítica para o melhorar e o transformar (Soriano Diaz, 2006). A cidade, como instrumento pedagógico capaz de definir linhas orientadoras para o desenvolvimento de aprendizagens significativas para a infância, juventude, idade adulta e velhice, promove a coesão social, melhora a qualidade da interação entre pessoas, entidades e o município, conferindo à educação uma dimensão prioritária.

Nesta perspectiva a educação permanente constitui um eixo chave da cidade educadora, ao proporcionar às pessoas processo educativos, integrados e multisectoriais, cuja ação dos grupos de ação local, associações, organizações comunitárias e voluntárias, valida a ação cooperativa enfocada nas potencialidades locais. O Projeto Educativo Local como projeto participativo, relacional e dialógico, vinculado a uma modelo global de cidade e de sociedade, deve potencializar experiências educativas que contribuam para a elevação intelectual das pessoas (Gramsci, 1991) e promova o surgimento de novos valores, novas atitudes, novos comportamentos, favoráveis a uma melhoria da qualidade de vida de pessoas e grupos.

O desafio da Projeto Educativo Local será estimular e criar uma cultura de desenvolvimento educativo para que as

peças se sintam motivadas para a educação ao longo da vida. A autonomia, a participação na tomada de decisões, a participação em processos de mudança social parece não depender, por si só, da educação, mas, sem o seu contributo, é muito improvável que a mudança ocorra. A educação não muda a sociedade, mas sem ela é pouco provável que a sociedade mude (Freire, 1981). A implementação de um programa educativo constitui uma oportunidade para recuperar um manancial de saberes, conhecimentos, experiências que as pessoas possuem e cuja valorização impõe realizações socioeducativas adequadas ao contexto do meio situação das pessoas. Em resposta às necessidades concretas do município, o Projeto pode ser uma tentativa de solução para os problemas humanos e sociais criando o espaço e a necessidade para uma pedagogia que satisfaça as necessidades individuais e sociais e estabelecendo o ideal de comunidade. A cidade educadora adota uma pedagogia que reforce a integração de esforços para a abertura de novos caminhos educativos e formas de ajuda à integração social de pessoas e grupos. O Projeto parte da realidade concreta, tendo como ponto de partida a orientação pedagógica que busca o desenvolvimento humano e a necessidade de modificar as condições ambientais e contextuais, no sentido de um modelo global de cidade (Soriano Diaz, 2006). O conceito de cidade educadora tem subjacente a ideia de sociedade educativa, garante de todas as oportunidades de educação, que deve combinar a cultura geral com aprendizagens específicas. Deve ser um processo ao longo da vida que favoreça as qualificações profissionais, o desenvolvimento de competências em contexto profissional, o desenvolvimento dos valores do interculturalismo, da autonomia, do pluralismo, do desenvolvimento pessoal e social, da expressão físico motor, do lazer, do sentido estético, tendo em conta que distinguir a educação por períodos de vida, infância, adolescência, idade adulta, idade melhor, não corresponde ao conceito de vida dos tempos modernos.

#### 4. CONCLUSÕES

A construção de um Projeto Educativo Local de uma Cidade Educadora constitui um instrumento estratégico, que tendo por base a Carta de Princípios das Cidades Educadoras, define as orientações pedagógicas que sustentem um conjunto de práticas educativas, sociais e culturais no sentido de promover a participação das pessoas no próprio processo de desenvolvimento da Cidade, não apenas como produto, mas também como método. Através de uma educação ao longo da vida que combina ações formais, não formais ou informais, as pessoas constroem novos conhecimentos, convivem, partilham afetos, trocam experiências, ensinam, aprendem, criam cultura e favorecem a criação de alternativas no campo da educação permanente (Freire, 1999). As pessoas, as instituições, os agentes públicos e privados, as novas tecnologias da informação, criaram novos espaços do conhecimento. A escola, a empresa, o espaço familiar, o espaço social, tornaram-se contextos educativos, cada vez mais, as pessoas aprendem em casa, através do acesso à informação disponibilizada pelo computador, ou através da ação desenvolvida pela sociedade civil (Gadotti, 2005).

A valorização da cultura local, a troca de saberes resultantes de experiências de vida diversificadas de pessoas com potencialidades para aprender, para evoluir, para mudar, ocorre desde que sejam criadas condições que as desafie para a mudança. A mudança, a vontade de aprender depende da própria pessoa, depende do grau de interação com as outras, mas, depende, sobretudo, da existência de um Projeto que tenha por base o desenvolvimento da comunidade e como princípio a Educação, que deverá ser um direito de Todos/as. Importa promover a mudança individual, sobretudo, porque a Cidade está em constante mudança, o que coloca em causa as concepções de desenvolvimento social, económico e educativo. Daí, a necessidade de uma mudança social, cultural e educativa que ajude pessoas e grupos a adaptarem-se e a participarem nesse processo de mudança (Stoer, 2006), no sentido de uma cidadania ativa em que todos os agentes educativos possam utilizar um referencial comum, uma orientação programática concreta, convincente e bem definida para que todos se entendam e colaborem num projeto comum.

É neste contexto que se justifica o Projeto Educativo Local, enquanto instrumento potenciador e facilitador da transformação do espaço público que deverá assentar numa retaguarda educativa, constituída por uma população com uma boa formação de base, promotora do desenvolvimento humano (Lima, 2005). Para tal, o município deve investir na Educação, um direito fundamental, um serviço público que deve ser assegurado pelo poder local como um garante para a igualdade de oportunidades, independentemente da origem social e económica de cada cidadão. E, também, por ser condição necessária à melhoria da qualidade das relações entre cidadãos, cidadãs e as entidades e entre estas e o município (AICE, 2015). Neste sentido, deve ser valorizado o conceito de educação permanente, propondo-se uma concepção de aprendizagem como algo global e contínuo que deve ocorrer *lifewide* (Alheit, 2007).

Face ao exposto, a Cidade Educadora deve ser percebida como uma ação sociopedagógica, caracterizada pela intencionalidade de gerar processos baseados em princípios operativos que proporcionem oportunidades para que as pessoas e grupos criem maiores laços entre si e se reúnam à volta de assuntos considerados objeto de preocupação comum, reforçando não só sentimentos de pertença, mas também valores e identidade culturais partilhados na comunidade. A Cidade Educadora como método e como produto deve privilegiar as políticas educativas/ofertas públicas que proporcionem construção de conhecimentos, bem-estar social, desenvolvimento do sentido crítico, mais formação e melhor formação para que as pessoas tenham um melhor controlo da sua vida e possam continuar a

valorizar-se, a enriquecer o coletivo e a afirmar-se como cidadãos e cidadãs. A Cidade Educadora deve ser entendida: como parte de um novo movimento social; como mecanismo de participação social e política; um movimento irreversível de aprendizagem colaborativa; um processo de valorização cultural, formação profissional; um modelo de educação cidadã; como espaço de desenvolvimento de competências para a resolução de problemas; como instrumento de reformulação de hábitos e atitudes que permitam enfrentar os desafios da vida em sociedade.

A Cidade é constituída por pessoas, pelas instituições, pelos espaços educativos, pela administração pública, pelos agentes económicos e sociais locais, a cidade é cultura, é educativa, mas não basta reconhecer que o é. Para ser Cidade Educadora precisa ter subjacente à Construção do Projeto Educativo Local os princípios definidos na Carta das Cidades Educadoras, assente em quatro pilares: A Educação, a Promoção cultural, a Defesa das condições existenciais que garantem a dignidade e o bem comum; as Políticas municipais. Assim, o Projeto ao precisar ter em conta a realidade local, as idiossincrasias de cada território, deve assentar em três princípios fundamentais: Informação, respeitante à comunicação necessária para que se verifique igualdade de oportunidades no acesso aos projectos e programas desenvolvidos na cidade; Promoção da co-responsabilização dos cidadãos e cidadãs nas opções que lhes são destinadas; Avaliação dos resultados e eficácia das medidas concretizadas (Trilla, 1999).

Neste âmbito, a Cidade é, ao mesmo tempo, Educadora e Educanda. Ser Cidade Educadora emerge como um novo paradigma, um desafio e uma proposta para a intervenção municipal, que não se pode limitar única e exclusivamente à disponibilização de equipamentos e serviços, mas, deve integrá-los numa lógica que maximize as potencialidades educadoras da cidade e favoreça a formação integral e contínua de todos os seus cidadãos. O município tem de assumir a sua responsabilidade nos processos educativos, sensibilizando, propondo, apoiando, coordenando, incentivando, monitorando em parceria, facilitando a operacionalização das atividades a realizar. A tarefa de educar como responsabilidade social é o princípio norteador de uma cidade educadora que se define como aquela que entende o potencial do território, explora as suas possibilidades e as transforma em capital educativo.

Face a uma sociedade em constante mudança, a Educação deve ser entendida como um processo ao longo da vida que contribua para que os seus habitantes e demais agentes (instituições, associações, organizações, cidadãos, grupos minoritários), que fazem parte integrante da Cidade, desenvolvam o sentido de participação cívica e que, ao afirmarem a sua identidade cultural, reconheçam como uma mais-valia a heterogeneidade, as identidades culturais diferentes das suas, numa comunidade cada vez mais multicultural. O desafio para o século XXI será a consagração das cidades educadoras como as cidades do futuro, cidades democráticas, plurais, capazes de governar para e com os cidadãos, contando com Todos os agentes locais para as diversas tarefas inerentes ao Projeto Educativo Local, um instrumento estratégico que o município, as pessoas e demais atores locais vão desenvolver enquanto construtores de uma nova realidade para Cidade onde as questões de ordem económica, social, educativa, cultural, multicultural e ambiental assumem carácter prioritário.

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# TEACHING AND LEARNING SOCIOLOGY IN DISTINCT AREAS OF THE PORTUGUESE HIGHER EDUCATION SYSTEM

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## ABSTRACT

In recent decades, sociology has gained a lot of importance in both the higher education and research level, in Portugal. This growth, along with a gain in reputation, is found not only within the social sciences, but also in other areas of knowledge, fostering multidisciplinary scientific production. At the education level - not the teaching of sociology as a major training field, but its mobilization by graduations of other training areas in higher education - the intervention is often performed through 'specialized sociologies'. It is the goal of this paper to present a few results of three steps in a doctoral research: first, the listing of the Portuguese higher education undergraduate programs that provide one or more curricular units in the area of Sociology (concerning the 2013/2014 academic year); second, in order to understand how the discipline stands within the general scope of the undergraduate program and what its usefulness is - both planned, and perceived -, pairs of coordinators / sociology teachers' were interviewed; finally, an online survey was applied to students taking these undergraduate programs, seeking to understand to what extent they see value in sociology, both in their training as well as in their future.

Keywords: Higher Education; Interdisciplinarity; Sociology; ISCED Fields.

JEL Classification: Y80.

## 1. INTRODUCTION

In recent decades, sociology has gained a lot of importance in both the higher education and research level, in Portugal. This growth, along with a gain in reputation, is found not only within the social sciences, but also in other areas of knowledge, fostering multidisciplinary scientific production. However, the reflective look of sociology on this has been overlooked. This paper intends to focus on the level of education - not the teaching of sociology as a main training area, but its mobilization by other degrees and areas in higher education - and present the main results of three stages of a PhD research in sociology whose main goal is understanding what the current presence of sociology in Portuguese higher education is, in courses of other training areas. Additionally, other goals seek to know how the subject falls within the general scope of the programs and what its usefulness is - both planned (by teachers and coordinators) and perceived (by students).

The structure of the paper is divided into four parts. First, the main guiding theoretical framework of the research is presented: a brief overview of the evolution of sociology in Portugal and an analysis of previous studies on the presence of sociology in higher education programs in other training areas. Then, the information collected about all the undergraduate programs and integrated masters who teach a sociology discipline (notably that has that word in its name, or some derivation of "social" in it) in the Portuguese higher education, excluding the very own sociology degrees, is presented and interpreted. The third part deals with the phase of conducting interviews with degree coordinators and sociology teachers. In the fourth part, some results of a survey applied to students of these degrees are presented. Finally, the main conclusions that can be drawn from the study to date are mentioned.

## 2. LITERATURE REVIEW

### 2.1 The evolution of Sociology in Portugal

The evolution of Sociology in Portugal, of which here is a brief summary, has long been the subject of reflection by various authors (see, inter alia: Nunes, 1988; Almeida, 1992; Almeida, 2004; Pinto, 2004; and, more recently, Machado, 2009).

The flourishing of the social sciences in Portugal, in which sociology is included, was quite late compared to European countries governed by democratic political regimes. For nearly five decades after the military coup of 1926 all kinds of sociological reflection have been suppressed by the dictatorial regime. However, in the 60s, several factors combined to begin to tolerate the growing presence of social sciences in the country, such as the gradual opening of the economy to the outside, the emigration surge, the proletarianization of large sections of the peasant population and the intensification of the urbanization process, having created “generally favorable conditions for the development of a systematic thinking and academically framed on the social” (Pinto, 2004: 14).

The turning point that paved the way for Sociology’s implementation in Portugal was the creation, in 1962, on the Instituto Superior de Ciências Económicas e Financeiras (Higher Institute of Economics and Finance - ISCEF), of the Gabinete de Investigações Sociais (Office for Social Research - GIS), under the impulse of Adérito Sedas Nunes, which gathered in Lisbon an active group of intellectuals from different disciplinary backgrounds (often acquired abroad) (Nunes, 1988: 45). In the early 70s, the growing social and political unrest to the regime, along with the major restructuring carried out in the higher education system by the “Veiga Simão Reform”, came to give a key boost to an increasing openness to social sciences and Sociology in Portugal.

The expansion of sociology in higher education took place in the late 70s, after the change to a democratic regime, accompanied by the emerging of research centers within or near the periphery of the higher education institutions<sup>185</sup>. In the 90s, sociology arises in newly created private universities and its teaching extends to higher graduate levels (with the granting of masters and doctorate degrees). Simultaneously, “general sociology” and “specialized sociology” units became part of the curricula of different higher education courses.

## 2.2 The presence of sociology in higher education courses of other training areas

The issue of teaching sociology in a university context, as a degree in itself, has been several times object of reflection - especially in the early years of the great expansion of this discipline in higher education (see, for example, Almeida, 1992 and Machado, 1993). Studies of the various specialized sociologies, for instance, are aplenty, including reviews dedicated only to the bibliographic inventory of what is published to a certain time in specific areas of sociology. However, what matters here is addressing the existing studies on the teaching of sociology (including its more specialized divisions) in the context of other disciplines in higher education. In this regard, even the occasional references in studies with another focus are scarce.

The first reference found dates back to 1963 in the first issue of the journal *Análise Social*, and precisely by the hand of Adérito Sedas Nunes (which does not cease to be curious, because of the taboo that sociology constituted at that time). There, in a few pages, the author focuses on the “Problems of Sociology in Portugal”, beginning by measuring the extent and form of its presence in higher education at the time. Since there was no degree in sociology, the sociology chairs worked necessarily inserted into other disciplinary degrees. The survey carried out accounted for only a dozen disciplines, in a few Engineering, Agronomy, Architecture and Human Services courses (Nunes, 1963).

Complementing this information, Almeida (1992: 187) notes that to the generations of the first major university flows was not only prohibited the choice of direct training in the sociological domain, as the nearest degrees - for example Economics, Law, History - carefully excluded elective training in this area. Referring to the same period, Pinto (2004: 15) states that although the institutional consecration of the discipline in university sectors potentially more favorable to its development continued to be refused until the early 1970s, some attempts had been made to, covertly, make the sociology enter chairs formally dedicated to very different thematic. It was during the 80s that a sudden movement of “inflation” of demand of sociology in higher education happened; this demand was even superior to the supply of what sociologists would be at the time in a position to offer.

After 30 years of the brief survey by Adérito Sedas Nunes, José Resende and Maria M. Vieira (1993) publish an article containing the second survey of sociology in higher education in contexts of other training areas - and, to date, also the most complete. The authors were moved by the desire to know what sociology was taught and in what courses, trying to understand the motives that lead to their inclusion in the various curricula.

The authors have focused on the number of courses (except the sociology degrees) of various areas of knowledge<sup>186</sup> that had at least one course in the Humanities and Social sciences in general and in Sociology in particular (see Table 1, which focuses only on the latter element).

<sup>185</sup> For a detailed listing on the creation of both degrees in sociology as the various research centers, cf. Machado (2009:290).

<sup>186</sup> The list of the degrees that make up each area can be consulted in Resende and Vieira (1993: 76-78).

**Table 1 - Areas of knowledge which have sociology chairs, by education system (in numbers and %)**

	Public University	Public Polytechnic	Private Education	Total
Social and Human Sciences <i>(of which in Teaching)</i>	36 8 (22,2%)	14 2 (14,3%)	33 2 (0,6%)	<b>83</b> 12 (14,5%)
Humanities <i>(of which in Teaching)</i>	16 12 (75%)	11 11 (100%)	- -	<b>27</b> 23 (85,2%)
Arts <i>(of which in Teaching)</i>	18 2 (11,1%)	19 19 (100%)	7 -	<b>44</b> 21 (47,7%)
Natural and Hard Sciences <i>(of which in Teaching)</i>	33 25 (75,8%)	7 7 (100%)	- -	<b>40</b> 32 (80%)
Applied and Technological Sciences <i>(of which in Teaching)</i>	34 1 (2,9%)	2 -	4 -	<b>40</b> 1 (0,25%)
Professional Courses <i>(of which in Teaching)</i>	- -	34 29 (85,3%)	24 10 (41,7%)	<b>58</b> 39 (67,2%)
<b>Total</b> <i>(of which in Teaching)</i>	<b>137</b> 48 (35%)	<b>87</b> 68 (78,2%)	<b>68</b> 12 (17,7%)	<b>292</b> 128 (43,8%)

Source: Adapted from Resende and Vieira (1993:62)

The authors also tried to find out what sociology was requested in higher education courses (see table 2).

**Table 2 - What sociology is requested in higher education, with the exception of the sociology degree?**

Areas of sociological knowledge	Public University		Public Polytechnic		Private Education	
	(1)	(2)	(1)	(2)	(1)	(2)
General Sociology	6	88	3	31	4	51
Epistemology, methods and techniques	33	19	-	-	2	8
Applied / specialized sociology	33	137	18	94	32	69

Number of different chairs in each area of sociological knowledge

Total number of times in which they are represented different chairs in total courses

Source: Resende e Vieira (1993:65)

The analysis made to the data contained in Table 2 shows that in the polytechnics there is a greater use of sociology chairs with a pragmatic nature. In university education, despite a high frequency of specialized chairs, not only is there a greater amount of “sociologies” to offer students in this field, as the number of times that epistemological and mainly theoretical-methodological framework chairs are “claimed” counter the image of “desertification” registered on the polytechnic. In the private higher education, it is most notorious to find a higher frequency of sociology chairs included in the group of general sociologies, epistemology, methods and techniques (Resende and Vieira, 1993: 64-65).

The authors also analyzed in more detail the group of “specialized sociologies” (see Table 3), Sociology of Education stands out as the more often required discipline throughout higher education, although no longer having the same importance in the private sector. On polytechnics there is a greater reliance on subjects related to the Sociology of Education. At the university level, there is a more balanced distribution of the various fields of specialized sociological knowledge, particularly with a more representative component of units with a more cultural scope and therefore less dependent on an immediate applicability (Resende and Vieira, 1993:66-67).

**Table 3 - Representation of specialized sociologies, grouped into thematic areas, by type of higher education system.**

	Public University	Public Polytechnic	Private Education	Total
Sociology of education	37	65	10	<b>112</b>
Industrial, labor and organizations sociology	28	11	24	<b>63</b>
Sociology of communication, culture and leisure	28	9	8	<b>45</b>
Rural and urban sociology	19	3	-	<b>22</b>
Political, law, institutions and development sociology	15	-	9	<b>24</b>
Sociology of the family, classes and social stratification	5	-	1	<b>6</b>

Socio-anthropology	-	9	8	<b>17</b>
Others	4	-	4	<b>8</b>

Source: Resende and Vieira (1993:66)

Noteworthy is a common tendency to the three types of higher education systems: the strong mandatory component of sociology disciplines, when they are included in the study plans (Resende and Vieira, 1993:70).

From the conclusions of Resende and Vieira (1993), it is important to highlight the confirmation of an extensive request of the humanities and social sciences, especially sociology, in the whole of higher education courses. Even the hard and natural sciences, and especially technological courses, considered the collaboration of sociology to be important. However, the integration of sociology varies in number of subjects (general or specialized), in number of hours and in goals.

Although this has been the last survey of this kind carried out in Portugal, it is safe to say that since the beginning of sociology studies in the country the landscape has changed radically and now the discipline is mobilized in several courses and areas of higher education outside the university degrees of sociology.

### 2.3 Teaching and learning Sociology

Although the theoretical references on the teaching of sociology in courses of other training areas are scarce, we find some studies that focus on the particularities and difficulties of teaching the subject in the areas of economics / management (references in Almeida, 1992; Esteves, 2004; Pinto, 1994) and teacher training (Cortês, 1992; Esteves and Stoer, 1992; Vieira, 2004).

One of the main issues addressed is that of the “effects” of sociology presence in these courses, usually seen as beneficial but sometimes very limited in reach (Almeida, 1992). Both Cortês (1992) and, a decade later, Vieira (2004) conclude that sociology has great importance in teacher training, especially for its contribution to the successful performance of professional duties.

Another approach to the teaching of sociology outside the sociological space is the identification of possible constraints or difficulties. The authors refer to the single and sporadic contact with the discipline and its reduced temporality (Vieira, 2004); the increased need for selection and condensation of knowledge (Vieira, 2004); the contact with the characteristic theoretical pluralism in sociology, because it can be seen as something strange and often inducing suspicion as to its scientific validity (Sebastião, 2004; Vieira, 2004); and also a peripheral or secondary location of sociology in courses (Esteves, 2004).

Such difficulties are a challenge to the pedagogical relationship and raise issues of legitimacy of the presence of sociology in the courses (Pinto, 1994; Esteves, 2004). According to Esteves (2004: 67), in these cases, the strategy to be used must be to make pedagogical strength out of the curricular weakness of sociology, which could be developed for the establishment of an explicitly formulated program in a logic of elective affinities to paradigms that, being transdisciplinary, are overlooked or completely forgotten by the dominant and exclusive paradigms of the core disciplines of the [economics] course. For his part, Pinto (1994) gives special importance to the development of technical and methodological problems of research on specific situations, with special focus on the stage of information gathering. The author states that the factors influencing the pedagogical-didactic options in the chair are the dynamics of transformation of socio-professional aspirations systems and prevailing profiles of knowledge demand in the university student population; several circumstances linked to administrative constraints regarding the curricula, the lessons schemes, the dimension of teaching teams and the academic, pedagogic and professional training of its elements; and finally, the type of preparation obtained by students in secondary education, as well as some traditions and routines installed at the University in matters of teaching rhythms and evaluation of knowledge (Pinto 1994: 49-50).

Some refer to the advantages and disadvantages perceived by students from other training areas in learning sociology. Sebastião (2004: 130) states that learning sociology is not only to master a set of concepts or techniques, but to build on the student a progressive reflective maturity, able to make him understand the relationship between the characteristics of scientific activity in the social sciences and the complexity of social life. Vieira (2004: 145) claims that the three main difficulties by students in understanding sociology, in the hard and natural sciences courses, are: the pluriparadigmatic character of social sciences, in contrast to the solid uniparadigmatism that seems to dominate the scientific practice in hard and natural sciences; the understanding of the meaning, that is, the status of subjectivity of the actors, as in “their” science there are no reflective actors-subjects; and finally, the question of the validity of the results in social sciences and humanities, not tendentially universalistic, as in “hard sciences”, but based on an “epistemology of validity areas” of more limited scope.

### 3. METHODOLOGY

#### 3.1 The presence of Sociology in the Portuguese higher education system

In order to make a list of all undergraduate degrees and integrated masters who teach a sociology subject, the curricula of all courses of the Public Universities (for the 2012/2013 academic year), Public Polytechnics, Military and Police, and Private Institutions (for the 2013/2014 academic year) were analyzed. This listing includes information on the higher education institution, the course designation, the name(s) of the subject(s) taught, the type of attendance of each unit and the academic year in which it is taught.

#### 3.2 Teaching Sociology: the interviewing process

In order to understand how the subject falls within the general scope of the course and what the advantages and disadvantages of this insertion are, it was decided to interview pairs of accountable persons (coordinator / teacher of the subject) in different courses / institutions.

The information collected about the presence of sociology in higher education<sup>187</sup> allowed for the selection of courses / institutions where to carry out the interviews in an informed manner, grouped by the different International Standard Classification of Education: Fields of Education and Training 2013 (ISCED) and taking into account their distribution by educational subsystems<sup>188</sup>. In order to advance to the field work, the optimal number of courses by area and educational system was calculated in order to respect the actual proportion, but without representativeness concerns.

Two interview scripts were built from scratch, leaning on the following topics: personal and institutional characterization; presence and evaluation of sociology in the course; considerations about the teaching of the discipline; expectations about acquired skills and contribution to the employability and future functions of the students; and perspectives on aspects most and least valued by students. Also, other topics of interest were addressed by the respondents, since the interviews followed a semi-directive method (see Quivy and Campenhoudt, 1998). The scripts were almost identical, but had slight differences according to if the target respondent was a teacher or a director.

Fieldwork took place from September 2014 to June 2015, resulting in 32 interviews carried out in 17 courses (in institutions from all over the country), whose characteristics can be found in Table 4. In some cases, it was not possible to interview the teaching / director pair, while in others more than one teacher was interviewed, corresponding to more than one discipline of sociology available. Table 4 will be referenced throughout subsection 4.2 of the paper.

**Table 4 - Profile of interviewees by ISCED field and system(s) of higher education**

ISCED fields of training	Higher Education System				Teacher	Director
	University	Polytechnic	Public	Private		
HW		x	x		A	A
HW		x	x		B1, B2	B
HW	x			x	C	C
HW		x		x	D	D
BAL		x	x		E	E
BAL		x		x	-	F
BAL	x		x		G	-
SSJI		x	x		H1, H2	H
SSJI	x			x	I	-
AH	x		x		-	J
AH	x		x		K	K
AH	x			x	L	L
Services		x	x		M	M
Education	x		x		N1, N2, N3	N

<sup>187</sup> See subsection 4.1 of the paper for the main results.

<sup>188</sup> It was decided to eliminate the military and police higher education system, not only for its specificity, as for the small number of cases presenting; then, it was decided to group the areas of Natural Sciences, Mathematics and Statistics; Information and Communication Technologies; and Agriculture, Forestry, Fisheries and Veterinary in a new classification – “Other areas”, due to the small number of cases in each category.

EMC	x		x		O	-
EMC	x		x		P	-
OA	x		x		Q	Q

Subtitle: HW – Health and Welfare; BAL – Business, Administration and Law; SSJI – Social sciences, journalism and information; AH – Arts and Humanities; EMC – Engineering, manufacturing and construction; OA – Other areas.

### 3.3 Learning Sociology: the survey

Finally, in order to understand what use students and alumni recognize in the discipline for their educational and career paths, an online survey was applied. However, this is an exploratory study that cannot ensure the representativeness of the results. The questionnaire was also built from scratch for this purpose, covering the following topics: personal characterization; institutional characterization; evaluation of the curricular unit; and perspectives on sociology, in different contexts. Then the questionnaire was made available online via the LimeSurvey service. Coordinators of courses that provided at least one subject in sociology, in the academic year of 2015/2016, were contacted by e-mail with the request to send a brief description of the study to their students and alumni, which included a link to access and fill the questionnaire. This phase of the doctoral research started in March 2015 and is not yet completed; however, for purposes of this paper, some preliminary results for a total of 415 complete responses obtained so far are presented. The data was entered into the IBM SPSS Statistics 22 program for analysis.

## 4. RESULTS AND DISCUSSION

### 4.1 The presence of Sociology in the Portuguese higher education system

Some of the main results of the research done in the doctoral project regarding the presence of Sociology in the Portuguese higher education system will be presented next. However, for further analysis on this subject, see Egreja (2014).

#### 4.1.1 The institutions

There were accounted for 95 institutions, including universities, academies, schools and colleges, which have at least one course (undergraduate or integrated masters) where sociology is taught: 14 in the public university system, 22 in the polytechnic public system, 3 in the military and police system, 25 in the private university system, and finally, 39 in the private polytechnic system. Although this count has no parallel in the study of Resende and Vieira (1993), we can safely conclude that the current figures are quite higher.

#### 4.1.2 The courses

They were accounted for 655 courses which met the specifications, as follows: 170 in the university public system, 216 in the polytechnic public system, 8 in the military and police system, 165 in the university private system, and finally 96 in the private polytechnic system. This figure is clearly higher than previously found by Resende and Vieira (1993), who have accounted for 292 courses (137 in public universities, 87 in public polytechnics and 68 in privates; thus the great expansion occurred in all areas outside the public university).

By degree, we found that only 42 of the courses are integrated masters degrees: 20 are taught in public universities, 14 in private universities and 8 in the military and police system (i.e., 100% of the courses here recorded).

By the ISCED fields of training (Table 5), most courses are classified as Health and Welfare (22,6%). Then with similar values, appear the fields of Business, Administration and Law (17,0%); Social Sciences, Journalism and Information (16,3%); and Arts and Humanities (15,1%). In the opposite side, with very few cases, appear the fields of Natural Sciences, Mathematics and Statistics (2,0%); Information and Communication Technologies (1,5%); and Agriculture, Forestry, Fisheries and Veterinary (0,6%).

**Table 5 – Distribution of courses that offer sociology subjects, by ISCED fields of training (in number and %)**

ISCED fields of training	Number of courses	%
Health and Welfare	148	22,6
Business, Administration and Law	111	17,0
Social Sciences, Journalism and Information	107	16,3
Arts and Humanities	99	15,1
Services	63	9,6
Engineering, manufacturing and construction	56	8,6
Education	44	6,7
Natural Sciences, Mathematics and Statistics	13	2,0
Information and Communication Technologies	10	1,5
Agriculture, Forestry, Fisheries and Veterinary	4	0,6
<b>Total</b>	<b>655</b>	<b>100,0</b>

Source: Own elaboration

Regarding the study of Resende and Vieira (1993), since the areas are not the same, the results may not be comparable. However, a conclusion that seems safe is the large decrease in the importance of degrees in education (in this context), which in 1993 constituted about half of the courses and currently concern only 6.7% of them.

By type of education institution, we see some changes in this distribution (Table 6): in the public universities, the main areas are the Arts and Humanities, Social Sciences, Journalism and Information, and Engineering, Manufacturing and Construction. In the public polytechnics, the two main areas coincide with the general distribution, but in third the Services arise. In private universities, the main areas are the Business, Administration and Law, Social Sciences, Journalism and Information and the Arts and Humanities. The private polytechnics stand out the most from the rest: more than half of the courses belong to Health and Welfare, followed at a great distance by the areas of Business, Administration and Law and Education.

**Table 6 - Distribution of courses that offer sociology subjects, by ISCED fields of training and institutional nature (in number and %)**

ISCED fields of training	Higher education institutions									
	Public Universities		Public Polytechnics		Military and Police		Private Universities		Private Polytechnics	
	n	%	n	%	n	%	n	%	n	%
Education	16	9,4	10	4,6	0	0,0	8	4,8	10	10,4
Arts and Humanities	40	23,5	22	10,2	0	0,0	30	18,2	7	7,3
Social Sciences, Journalism and Information	34	20,0	34	15,7	0	0,0	32	19,4	7	7,3
Business, Administration and Law	14	8,2	42	19,4	1	12,5	41	24,8	13	13,5
Natural Sciences, Mathematics and Statistics	11	6,5	0	0,0	0	0,0	2	1,2	0	0,0
Information and Communication Technologies	6	3,5	0	0,0	0	0,0	3	1,8	1	1,0
Engineering, Manufacturing and Construction	21	12,4	15	6,9	3	37,5	17	10,3	0	0,0
Agriculture, Forestry, Fisheries and Veterinary	1	0,6	3	1,4	0	0,0	0	0,0	0	0,0
Health and Welfare	17	9,4	55	25,5	1	12,5	23	13,9	53	55,2
Services	11	6,5	35	16,2	3	37,5	9	5,5	5	5,2
<b>Total</b>	<b>170</b>	<b>100,0</b>	<b>216</b>	<b>100,0</b>	<b>8</b>	<b>100,0</b>	<b>165</b>	<b>100,0</b>	<b>96</b>	<b>100,0</b>

Source: Own elaboration

#### 4.1.3 The curricular units

In total, 996 sociological subjects were accounted for in these courses, in contrast to the 497 found in the study of Resende and Vieira (1993).



The subjects are located in greater numbers in public institutions, either universities (n=306) or polytechnics (n=300); in private institutions the offer is smaller, both in universities (n=233) as in polytechnics (n=146). In the military and police institutions, there are only 11 subjects. In the study of Resende and Vieira (1993), the proportions are similar: 244 subjects in public universities, 125 in public polytechnics and 128 in private institutions.

However, it should be noted that a large part of them (roughly a quarter) joins sociology with other discipline, in several variants: it is the case of Psychology (n=150), Anthropology (n=72), Economy (n=16), History (n=16), Law (n=2) Linguistics (n=2), Geography (n=1) and Demography (n=1).

The more often present subjects in different courses and institutions are: “Sociology” (n=70); “Sociology of Communication” (n=51); “Social Psychology of Organizations” (n=38); “Sociology of Organizations” (n=34); “Sociology of Education” (n=34); “Sociology of Health” (n=33); “Antroposociology and Field Work” (n=29); “Sociology of Tourism” (n=24); “Sociology of Sport” (n=23); and “Sociology of Art” (n=19). Just this set of ten subjects makes up for 35.6% of the total.

As in Resende and Vieira (1993), the discipline with a larger presence is in the scope of General Sociology. As for specialized sociologies, the sub-fields of Communication, Organizations and Education are the ones who maintain a similar level of visibility. Specialized disciplines in the areas of Politics, Family and Rural / Urban lost importance while others such as Health, Tourism, Art and Sport are now a new trend.

Also, the overwhelming majority of the subjects are compulsory in the courses (781 against 215 optional), similar to what appeared in Resende and Vieira (1993).

## 4.2 Teaching sociology – the teachers’ and program coordinators’ perspective

### 4.2.1 Profile of respondents

Teachers who were interviewed have between 34 and 62 years of age (mean = 50 years), nine are men and ten are women. Most have a degree in Sociology, although some have training in other areas (teachers G, K, L, N2, O and Q<sup>189</sup>). On average, teachers have been performing their duties for about eleven years, but there are cases in which they are in office for only one year, and others who have already been teaching for around three decades.

The directors / program coordinators who were interviewed have between 37 and 71 years of age (mean = 54 years), five are men and eight are women. None of them have a degree in Sociology. On average, the directors have been performing their duties for about five years, but there are cases where they are in office for only one year, while others have been there close to two decades.

### 4.2.2 Presence and evaluation of Sociology in the course

Most courses teach a subject in Sociology since its inception (courses A, B, C, D, H, I, K, M, N); in some cases, Sociology was introduced with the restructuring of Bologna in 2006 (courses E, Q).

When asked about the grounds for inclusion of Sociology, the directors (and some teachers who also spoke on the subject) mainly refer to the need to study the core issues of the various courses as being a social phenomena (teacher H1; directors A, H) and the importance to mobilize various areas of knowledge in the training of students (teachers E, G; directors C, E, K, M, Q). In some cases the importance of the “vision” of the founders of the courses is referred, or the “tradition” of multidisciplinary of the higher education institutions to which they belong to (director and teacher D; teacher B1 and director B; director J; teacher P). However, not all directors know how to answer this question (directors F, L, N).

Having been asked to make an assessment of the Sociology presence in the course, teachers and directors have similar views - although, again, some directors don’t elaborate much on their opinion (directors F, L, Q). The most common perspective is the positive evaluation without reservations to the important meaning that it has in the course and in the training of students (director and teachers H; director and teacher C; directors A, D, E, N; teacher O). The presence of Sociology even takes up a lot of weight in two courses (C and N). Another very common type of assertion is a positive assessment but affected by the little interest or even resistance of the students (teachers D, I, K, L, Q; director and teachers B; director M).

However, regardless of the importance that respondents assign to the inclusion of sociology in the course, many of them - almost exclusively teachers - report that its presence has been declining (e.g., teachers A, B1, M, O and P refer that Sociology decreased in the course after the Bologna process) and / or fear that it may be cut off in the future, in that there are voices against sociology, power games within the institution or that this is the direction that educational policies have taken lately (teachers B1, B2, L, K, N1, N2, O; director E).

It is also mentioned a tendency to replace Sociology by other social sciences, especially by Psychology (teachers B1, D, M). On the other hand, it is important that Sociology is not redundant compared to other subjects (director H;

<sup>189</sup> In most situations, the sociology chair already existed but there was a need to replace the previous teacher; due to a greater affinity with the area in question and / or the option of working with the existing faculty in the institution, they were invited to teach the discipline.

teachers H2, N1). Some of the respondents also point to the fact that, in certain cases, the presence of Sociology is not limited to subjects with this particular designation (teachers N1, N2).

When asked about whether students of these courses will have some advantage over students in similar courses, but in other institutions where Sociology is not taught, the majority of respondents consider that the courses in the same area also offer this type of subjects, so the scenario is not applicable. However, in the fields of Health and Welfare (director and teacher D; director and teachers B; director A), Engineering, Manufacturing and Construction (teachers O and P), Arts and Humanities (teacher L, directors K and J) and other areas (director Q), respondents tend to agree.

#### *4.2.3 Expectations of acquired skills and contribution to the employability and future tasks of students*

The main skills that teachers expect their students to acquire - besides the grasp of the key concepts of the subject - are the development of critical and reflective skills, and the break with common sense (teachers B1, B2, C, D, E, H1, I, L, M, N1, N2, N3). Also referred are the acquisition of a perspective of the study areas as social phenomena (teachers B1, B2, C, D, G, H2, O, Q), the development of writing and reading skills, group work skills and oral presentation skills (teachers D, K, N3, P). Less common, but also indicated, are the skills for the future professional activity (teachers A, B1). It is also a common remark that these courses are not training sociologists, so the expectations in terms of acquired skills at the sociological level are quite moderate (teacher I; director and teachers H). Also, the very notion of 'skills' is often questioned by respondents.

Putting the same question to directors, many do not know how to respond (directors F, J, L, Q). However, those who offer their opinion mainly refer to the development of a critical and analytical view of phenomena (directors B, C, H, K, M, N), as well as the development of inter-relational skills (directors C, D, E) and usefulness for the professional future (directors A, D) - which is nonetheless a vision a bit different from the teachers'.

Among the teachers, the opinions are divided on whether the sociological subjects may have some contribution to the employability of students. More commonly, they believe it could be important, even in an indirect way, by broadening horizons (teachers D, E, K, L, M, N2, O, P). Others are optimistic but warn that it depends on the employer (teachers B1, B2, H1, H2, N3). But there are also teachers who do not believe that sociology may have any importance in the professional integration of students (teachers C, G, N1).

For their part, the directors don't manifest themselves much, they usually do not have a concrete idea about this issue (directors A, B, F, J, N), or are pessimistic (directors C, E, H, L, M, Q). Only a few show a cautiously optimistic view (directors D, K).

As for the possible contribution of sociology to the professional functions that students may come to play in the future, for the most part, teachers and directors believe that the discipline is important, even indirectly (in a way that is simpler to enunciate those who don't have an opinion or consider that there is no significant contribution: directors F, L, N and teacher N1). However, some teachers have a very special stance in rejecting the utilitarian evaluation of the subject (teachers I, N2).

There were also references to the fact that often the alumni, after entering the labor market, give a positive feedback from the teachings they received in these classes, because often only later can they truly understand their relevance (director B and teacher B2; director and teacher D; teachers M, P).

### **4.3 Learning Sociology – the students' perspective**

The analysis of the survey responses is still ongoing. However, it is already possible to proceed with the respondents' characterization and also some of the results, which are enough to give us an idea of how Sociology is being perceived by students in these courses.

#### *4.3.1 Profile of respondents*

Of the 415 responses that were obtained (so far), the majority are of women (81.4% of total). A quarter of respondents said to have had previous contact with Sociology, especially at the secondary level (81.9% of these cases). The survey was sent to both students and ex-students, and a significant number of respondents have already completed the degree (30.8%); of these, the majority is working (72.7%). Among those who still attend the course, the proportion of those working is lower (18.8%). By areas of training, the sample is unbalanced, since half of the respondents belong to Health and Welfare courses (52.8%); the remaining are distributed in the areas of Business, Administration and Law (10.6%), Services (7.5%), Social Sciences, Journalism and Information (7.0%), Education (6.0%), Engineering, Manufacturing and Construction (5.8%), Other Areas (5.8%) and, finally, Arts and Humanities (4.6%).

### 4.3.2 The students' perspective on Sociology – a few results

One of the questions sought to know the extent to which respondents believe that having attended the sociological subject either harmed or benefited them, in comparison with the students of similar courses but without this valence (on a scale between 1 - “Harms very much” and 5 - “Benefits very much”). On average, the answers are positive, i.e., respondents tend to believe that there are benefits in attending this class, compared to other courses where this subject does not exist (average mean = 3.69; see table 7). Still, students of courses in the areas of Social Sciences, Journalism and Information, Education, and Arts and Humanities are the most optimistic, in contrast to the students of the Other Areas, and some of these differences are statistically significant<sup>190</sup> (see table 7).

**Table 7 – Level of harm / benefits of having attended Sociology subject(s) in relation to students of similar courses but without this valence (descriptive statistics)**

ISCED fields	Mean	n	Standard Deviation	Minimum	Maximum
Social Sciences, Journalism and Information	4,24	29	,872	2	5
Education	4,12	25	,781	2	5
Arts and Humanities	4,00	19	,816	3	5
Services	3,84	31	,735	2	5
Engineering , Manufacturing and Construction	3,75	24	,897	2	5
Health and Welfare	3,60	219	,964	1	5
Business, Administration and Law	3,59	44	,816	2	5
Other Areas	3,00	24	,659	2	5
<b>Total</b>	<b>3,69</b>	<b>415</b>	<b>,924</b>	<b>1</b>	<b>5</b>

Source: Own elaboration

The respondents were also asked to indicate what their opinion was (on a scale of 1 - “Strongly Disagree” to 5 - “Strongly Agree”), on a number of considerations on Sociology as a science. After performing a Principal Component Analysis, two new variables were computed: one regarding the “Scientific Validity of Sociology” (alpha = 0.862) and another regarding the “Multidisciplinary Usefulness of Sociology” (alpha = 0.835). After that, we sought to test whether the level of agreement with both variables depended on the ISCED fields of training of the respondents<sup>191</sup>.

Concerning the first variable, on average, respondents tend to agree (mean = 2.32; see table 8) with the validity of sociology as a science. However, students and ex-students of courses in the areas of Education and Social Sciences, Journalism and Information seem to agree with it more strongly than others, namely the students from Engineering, Manufacturing and Construction, and Other Areas (see table 8). Again, some of these differences are statistically significant<sup>192</sup>.

**Table 8 – Level of agreement with the validity of Sociology as a science, by ISCED field (descriptive statistics)**

ISCED fields	n	Mean	Standard Deviation	Minimum	Maximum
Health and Welfare	219	2,36	,82672	1,00	5,00
Business, Administration and Law	44	2,20	,76550	1,00	4,25
Social Sciences, Journalism and Information	29	1,89	,64982	1,00	3,25
Arts and Humanities	19	2,18	,67876	1,00	3,00
Education	25	1,80	,53141	1,00	3,38
Services	31	2,44	,62068	1,13	3,63

<sup>190</sup> Based on the Kruskal-Wallis test (KW=37,925; sig.=0.000). The pairs' comparison showed significant differences between the means of the responses given by the elements of the OA and all other groups ( $p < 0.005$ ), with the exception of BAL and EMC ( $p > 0.005$ ); and between the means of the responses given by the elements of the HW and SSJI groups ( $p < 0.005$ ).

<sup>191</sup> It must be brought to attention that in both these situations, the evaluation has to be interpreted reversing its meaning, since the items that composed the new variables were phrased in a negative way. In this sense, the closer the mean is to “1”, the more positive is the evaluation; and the closer it gets to “5”, the more negative it translates.

<sup>192</sup> Based on the Kruskal-Wallis test (KW=36,464; sig.=0.000). The pairs' comparison showed significant differences between the means of the responses given by the elements of the Education group and other four: HW, OA, EMC and Services ( $p < 0.005$ ); and between the means of the responses given by the elements of the SSJI group and other two: OA and EMC ( $p < 0.005$ ).

Engineering , Manufacturing and Construction	24	2,75	,77974	1,63	4,63
Other Areas	24	2,73	,87435	1,00	4,25
<b>Total</b>	<b>415</b>	<b>2,32</b>	<b>,80267</b>	<b>1,00</b>	<b>5,00</b>

Source: Own elaboration

Concerning the second variable, on average, respondents tend to agree (mean = 2.43; see table 9) with the multidisciplinary usefulness of Sociology. Once again, there are differences between groups, considering the ISCED field of studies<sup>193</sup>. Students and ex-students of courses in the areas of Education and Social Sciences, Journalism and Information seem to agree with it more strongly than others, namely the students from Business, Administration and Law and Other Areas (see table 9).

**Table 9 – Level of agreement with the multidisciplinary usefulness of Sociology, by ISCED field (descriptive statistics)**

ISCED fields	n	Mean	Standard Deviation	Minimum	Maximum
Health and Welfare	219	2,50	,97385	1,00	5,00
Business, Administration and Law	44	2,63	,95312	1,00	5,00
Social Sciences, Journalism and Information	29	1,79	,84004	1,00	3,50
Arts and Humanities	19	2,42	,85413	1,00	3,50
Education	25	1,86	,65383	1,00	3,00
Services	31	2,50	,56273	1,50	3,50
Engineering , Manufacturing and Construction	24	2,33	,73228	1,00	4,00
Other Areas	24	2,77	1,05273	1,00	5,00
<b>Total</b>	<b>415</b>	<b>2,43</b>	<b>,93529</b>	<b>1,00</b>	<b>5,00</b>

Source: Own elaboration

In order to understand what the opinion of the respondents about the presence of Sociology in the course is, they were asked to rank their level of agreement ranging from “1 – Totally Disagree” to “5 – Totally Agree” with a set of statements (see table 10). We find that it is generally very well received but there are also differences by ISCED fields. Again, on average, the students of Social Sciences, Journalism and Information and Education are the most receptive to Sociology, in contrast to the Other Areas’ students<sup>194</sup> (see Table 10).

**Table 10 – Level of agreement (mean) with statements related to the presence of Sociology in the course, by ISCED fields of training**

	ISCED fields of training								Total
	HW	BAL	SSJI	AH	E	S	EMC	OA	
There should not be any subject of sociology in this course	2.25	2.11	1.38	2.00	<b>1.12</b>	1.68	2.08	<b>3.17</b>	<b>2.09</b>
Sociology does not bring anything useful to those who study in this course	2.21	2.05	1.34	1.89	<b>1.20</b>	1.71	2.04	<b>2.79</b>	<b>2.04</b>
The presence of sociology in the course is appropriate and sufficient	3.14	3.07	3.59	3.11	3.08	3.03	<b>3.67</b>	<b>2.29</b>	<b>3.13</b>
The workload of sociology should be higher	1.77	2.05	2.55	2.11	<b>2.64</b>	2.13	1.83	<b>1.33</b>	<b>1.93</b>
There should be more curricular units in sociology in this course	1.83	2.27	2.90	2.26	<b>3.16</b>	2.29	2.29	<b>1.42</b>	<b>2.09</b>
Sociology should be replaced by another discipline in social sciences more suitable to this course	2.42	2.16	1.69	2.16	<b>1.20</b>	1.81	2.25	<b>2.92</b>	<b>2.23</b>

<sup>193</sup> Based on the Kruskal-Wallis test (KW=28,713; sig.=0.000). The pairs’ comparison showed significant differences between the means of the responses given by the elements of the Education group and other three: HW, BAL and OA ( $p<0.005$ ); and also between the means of the responses given by the elements of the SSJI group and the other three same as before: HW, BAL and OA ( $p<0.005$ ).

<sup>194</sup> Based on the Kruskal-Wallis test (KW = 47,294; sig.=0,000). For example, given the statement “There should not be any subject of Sociology in this course”, respondents in Education have significantly different opinions from respondents in the fields of BAL, HW and OA ( $p<0.005$ ); respondents in SSJI have significantly different opinions from respondents in the fields of HW and OA ( $p<0.005$ ); and respondents in Services courses also have significantly different opinions from respondents in the field of OA ( $p<0.005$ ).

Sociology should be replaced by another subject in the same field of this course	2.71	2.11	1.52	2.58	<b>1.16</b>	2.10	2.58	<b>3.38</b>	<b>2.45</b>
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Source: Own elaboration

Respondents who still attended the course ( $n = 287$ ) were also questioned on their expectations of contact with Sociology in their professional future. They were asked to rank their level of agreement ranging from “1 – Totally Disagree” to “5 – Totally Agree” with a set of statements (see table 11). Overall, the views are very moderate regarding the opportunity to come to work with a sociologist in the future or to put their knowledge in this area in practice. However, there are significant differences of opinion between areas of training<sup>195</sup>. Again, students in the fields of Social Sciences, Journalism and Information and in the fields of Education are the most optimistic, in contrast to those of Other Areas. However, it is worth to mention the opinion of students of Services as being the ones who least agree with the likelihood that they will collaborate with a sociologist, while Health and Welfare students are the ones who agree the most with the likelihood of never having contact again with Sociology in their professional context.

**Table 11 – Level of agreement (mean) with statements related to the presence of Sociology in the future professional context of students, by ISCED fields of training**

	ISCED fields of training								
	HW	BAL	SSJI	AH	E	S	EMC	OA	Total
It is likely that I come to work with a sociologist	2.59	2.50	<b>2.92</b>	2.29	<b>2.92</b>	<b>2.32</b>	2.38	2.70	<b>2.57</b>
It would be useful to come to work with a sociologist	2.87	2.86	3.23	3.12	<b>3.75</b>	2.60	3.14	<b>2.52</b>	<b>2.92</b>
It would be challenging to come to work with a sociologist	3.23	3.14	3.65	3.47	<b>4.00</b>	3.08	2.71	<b>2.65</b>	<b>3.21</b>
I hope to have the opportunity to apply my knowledge of sociology	3.05	2.86	3.69	3.29	<b>3.83</b>	3.12	3.43	<b>2.35</b>	<b>3.11</b>
I probably won't have contact again with sociology	<b>3.10</b>	2.68	<b>2.23</b>	2.88	2.42	2.40	2.86	2.87	<b>2.84</b>
Sociology I learned in the course can contribute to my professional insertion	3.13	2.64	<b>3.69</b>	3.06	3.50	3.12	3.38	<b>1.74</b>	<b>3.05</b>
Sociology I learned in the course can be useful for functions that I hope to play professionally	3.12	2.71	<b>3.96</b>	3.24	3.50	3.08	3.38	<b>1.65</b>	<b>3.08</b>

Source: Own elaboration

## 5. CONCLUSÕES

In recent decades, sociology has gained a lot of importance in both the higher education and research level, in Portugal. This growth, along with a gain in reputation, is found not only within the social sciences, but also in other areas of knowledge, fostering multidisciplinary scientific production.

This paper, resulting from a doctorate in Sociology still ongoing, has looked into sociology at the teaching level of undergraduate and integrated master's degrees in various training fields outside sociology itself. In addition to explaining the current situation, it was also possible to compare much of the collected information with a very similar survey carried out two decades ago by Resende and Vieira (1993).

The number of institutions and courses that offer a sociology subject in their curricula increased greatly in recent years, with the largest offer of courses at the level of public polytechnics. It is also concluded in this regard that the supply has increased greatly in all education sub-systems with the exception of public university, in which the increase was moderate. By ISCED area, we see that most of the courses are in the areas of Health and Welfare; Business, Administration and Law; and Social Sciences, Journalism and Information.

Interviews were conducted in order to understand how the discipline falls within the general scope of the course and what the advantages and disadvantages of this insertion are, and allowed us to know that the presence of Sociology on selected courses is, in general, quite old and consolidated. In many cases, their inclusion was due to the “vision” of the founders of the courses or to a particular tradition of the institutions that value the multidisciplinary aspect of higher education. The presence of the subject is thus seen to be important in the context of the courses, since it allows addressing the core subjects taught as social phenomena and develop critical thinking in students.

<sup>195</sup> After conducting Kruskal-Wallis tests, we find statistically significant differences between the views of at least one group in comparison to another, for all the statements in table 11 (sig. <.005), except the first one. For example, both in the situation of a possible contribution to the professional insertion, as in the use for future tasks, students of Other Areas have significantly different views than all other groups of students (sig <0.005.), excluding the BAL group. In regards to the statement “I probably won't have contact again with Sociology”, the only statistically significant difference is found when comparing the responses of HW students with students of SSJI (sig. = 0.023).

However, in the interviewees' perspective, sociology's presence has been declining, or is expected that it may be cut in the future, in many courses, possibly in favor of replacement by other social sciences such as psychology - this is a concern voiced almost exclusively by teachers. This perspective requires a more careful reading of the data previously collected; although there's a large presence of Sociology in courses of other training areas in higher education, it may be facing a declining period. More data must be collected for this to be assessed.

Respondents were also faced with the possible contribution of the discipline for the professional integration and future roles to play in this context by students. In general, the view is quite indicative of a positive contribution, albeit indirectly.

Comparing the opinions of directors and teachers on the same course, we see in fact that, in most cases, they are in tune - but when it does not happen it is quite revealing of some inner tension. Moreover, we can conclude that in this sample of respondents, teachers are a more homogeneous group than the directors; among the latter, we find both very interested and involved individuals in the organization of courses, who find importance in Sociology, as others who have shown great indifference and / or lack of knowing regarding the functioning of the discipline.

There are no significant differences in the answers given by respondents depending on the education subsystem in which they operate, except for the reference to the "theoretic" character of the discipline that seems to be more problematic in polytechnics, by their very nature. Also the scientific field does not seem to produce large differences in perspectives. It is however noted that even in areas of natural or technological sciences, Sociology is relatively well received, while in areas that could be assumed to be closer - the Arts and Humanities and the Social Sciences - a few cases of devaluation of its interest are found.

However, the study field seems to have some relevance when considering some of the answers given by the students and alumni who attended a Sociology discipline in higher education. Although one cannot extrapolate the data to the total Portuguese student population, data from this exploratory study show that, on average, Sociology is indeed valued and well received by students, although not foreseeing great usefulness in a future professional context. However, comparison of responses by ISCED fields shows that in almost all the analyzed situations, students and alumni of courses in the areas of Social Sciences, Journalism and Information and Education systematically evaluate more positively the presence of Sociology in the courses, contrasting with the more negative assessment of students and alumni of Other Areas courses.

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# THE ROLE OF LANGUAGE IN INTERNATIONAL TRADE: HOW DOES LANGUAGE AFFECT THE CHOICE OF FOREIGN TRADING PARTNERS?

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## ABSTRACT

In an increasingly global and networked economy, companies have a wider market at their disposal but also a number of barriers they have to overcome in order to expand their business internationally. When the decision of trading with another country is made, one of the key issues companies have to deal with is language: language barriers can hinder international trade, while language similarities can boost it due to the weight of communication costs. The economics of language is an interdisciplinary field of study that aims to bring together reflections on the role of language in the economy and conversely on how the economy affects language choices.

In this study we focus on the relationship between international trade and language barriers by analysing Portuguese exports of goods and find that language does play an important role in the choice of foreign trading partners although sharing Portuguese as the common language with a group of countries does not imply exporting more to those countries as one might expect. We therefore argue for the increase of multilingual policies in education and more investment in reaping the benefits that Portuguese as an international language might bring to our country.

Keywords: International Trade, Language Barriers, Multilingualism, Globalization.

JEL Classification: F140, F620.

## 1. INTRODUCTION

Globalization has been increasingly interconnecting people with a profound effect on the way companies do business. We know this is not an entirely new phenomenon - Friedman (2007), for example, goes as far as calling the phase from 2000 onwards 'globalization 3.0', considering that the difference in this new state of affairs lies in the power of the individual both in terms of global cooperation and global competition and not solely on the global nature of social interactions. However, the truth is that the world has become a global village (McLuhan, 1962) which thrives due to the construction of networks.

Networks are becoming the nervous system of our society, and we can expect this infrastructure to have more influence on our entire social and personal lives than did the construction of roads for the transportation of goods and people in the past (van Dijk, 2006 [1991]: 2).

Van Dijk talks about 'information highways' and Castells (2001), who has thoroughly provided a theoretical framework for the network society, stated at the beginning of the 21<sup>st</sup> century that the Internet has become the very tissue of our lives and that the new information technologies underlay the global economy. Finding trading partners in distant parts of the world is now much easier, which has obviously opened up the global market.

Having a wider market, however, also implies that companies have a number of barriers they have to overcome in order to expand their business internationally. Trade costs can assume a variety of forms, such as transportation costs, currency conversion, customs costs, information acquisition, communication costs, and many others. In this paper, we focus on communication costs, more specifically on language barriers: while trading with a partner that shares the same language (or a very similar one) can boost trade because it decreases communication costs, trading with a partner with whom there is no shared language will imply some sort of intermediary (e.g. translators and interpreters) that will



forcibly increase those costs. Language skills are necessary from the first stage of internationalization of a company, starting with the search for trading partners, and all throughout the negotiation stages and even later, if contracts are breached and legal actions must be taken. Ease of communication between trading partners is therefore of the utmost importance for the establishment of the relationship and for the maintenance of the commercial ties. As Fidrmuc & Fidrmuc (2016: 32) put it,

Speaking the same language facilitates communication and makes transactions easier and more transparent. In this, the effect of language is similar to that of common culture, legal norms or units of measurement: Engaging in mutually beneficial exchange is possible without them, but it is generally more costly and the outcome is less predictable.

Sharing a common language and the ease of communication it entails, although not indispensable, is therefore an important determinant to stimulate trade between two countries. Considering the current structure of society - namely the fact that people and companies alike try to establish profitable networks and many countries are 'eager to reap the benefits that such networks can bring, including trade- and investment-linked technological spillovers and stronger employment demand in manufacturing' (Arvis *et al.*, 2013: 3) - we posited two hypotheses that jumpstarted our study:

**H1** Portuguese exports are higher to countries that share the same language.

**H2** Portuguese exports are higher to countries that share a similar language.

Working within the field of the economics of language, we analysed trade data from the top 56 countries to which Portuguese companies export to test the two hypotheses. We found that, as expected, language is not the sole determinant to foreign trade and that although it does play a part in the choice of trading partners, the concepts of 'same language' and 'similar language' are not enough and foreign language acquisition must also be factored into this study.

We believe our study importantly contributes to the literature on Portuguese international trade by focusing on the relationship between Portuguese exports of goods and the language(s) spoken in the country of destination. Furthermore, we depart from commonly used language proximity indexes and base our language variable on etymological proximity, by classifying languages according to the linguistic family they belong. Although not entirely new - for example, Adserà and Pytlíková (2015) use a combination of three indexes, including the level of proximity between two languages within the linguistic family tree to explore the importance of language in explaining international migration flows - our measure is based strictly on linguistic criteria and does not rely on purely statistical data, such as the widely used Levenshtein's distance (see Isphording and Otten, 2013) that calculates the minimum number of changes necessary (additions, deletions, and substitutions) to transform one word into another (Wichmann, Müller & Velupillai, 2010).

The remainder of the paper is organized as follows: section 2 provides a very brief overview of the theoretical framework of the economics of language; section 3 explores the concepts of official and common spoken languages; section 4 describes the method we have used; in section 5 we present and discuss the findings of our study; and section 6 concludes the paper and provides some future research avenues.

## 2. LANGUAGE AND THE ECONOMY

The relationship between economy and language, albeit not very obvious at first sight, was established in the 1960s by Jacob Marschak (1965) who coined the term 'economics of language'. For Marschak, language was a fundamental tool for men to carry out their economic activities, and hence its definition as a resource with all it entails. The economics of language fundamentally studies the interconnection between language and the economy: how one influences the other and vice-versa. Studies on the economics of language range from immigration, to foreign direct investment (FDI), and international bilateral trade.

Several authors have shown that proficiency in the language spoken in the country of destination is part of the human capital of each immigrant worker (Breton, 1978; Chiswick & Miller, 1995, 2014). Hence the investment in acquiring the linguistic capital of the host country will be profitable for immigrants and will consequently decrease the gap between their personal income and the income of a native worker with similar characteristics. Language is necessary not only to find jobs, but also to communicate with employers, co-workers and, depending on the job,

customers as well. Therefore, proficiency in the host country's language naturally influences the choice of destination, since it reduces the costs associated with migrating and increases the probability of success in the destination country's labour market. Moreover, based on a large-scale study using data for thirty OECD countries between 1980 and 2010, Adserà & Pytliková (2015) show that when immigrants do not master the language of the host country, the degree of proximity between their native tongue and the host country's will be a decisive factor when the time comes to select a destination. This means that, given the choice, people who take the decision to leave their country in search for a better life will tend to choose a host country whose language they master or is sufficiently similar to their own language for them to acquire it fairly easily. Portuguese migration flows clearly mirror this choice: until the 1970s, Portuguese workers mostly moved to France and Luxembourg (taking advantage of the similarity between Portuguese and French, two Romance languages, and in a time when French was the dominant foreign language learned in Portugal), while currently they are mainly directed to Brazil, the United Kingdom, and Switzerland (Marques, 2010; Peixoto, 2012). The current choice of host country is a good illustration of our findings that we will explore later on this paper: Portugal shares the same language with Brazil and consequently the move implies virtually no costs in terms of language acquisition; while English is currently (and has been for some time) the most widely studied foreign language in Portugal - according to Eurostat (2015), 34.9% of the Portuguese children learn English at primary level and 93.4% learn it at lower secondary level - which clearly facilitates the move to the country without a large initial investment in its linguistic capital.

Similarly, the choice of a country to invest is also influenced by language, among other factors. Focusing on four major languages - English, French, Spanish, and Arabic - Oh, Selmier & Lien (2011) show that a common language is determinant for FDI, in fact even more so than in international trade. Kim *et al.* (2015) also find a significant correlation between language and FDI, but they tie it not only with language as a means of communication, but also as a vehicle for culture, which had already been suggested by Guiso, Sapienza, & Zingales (2009) who explored cultural biases, using the commonality between two languages as a proxy for common culture. Lameli *et al.* (2014) also followed this route, testing dialect interference in the choice of trading partners in Germany, a country with only one *de jure* and *de facto* language - German - whose ancient dialectal differences still matter today in terms of domestic trade flows. The authors interpret this correlation as a measure of cultural ties, implying that language is an expression of culture.<sup>196</sup> Basing their study on Switzerland, a multilingual country with very specific characteristics, given that the speakers of the four official languages - German, French, Italian, and Romansh (by order of speakers) - are located within well-established boundaries and are usually proficient in the other languages besides their own native one, Egger and Lassmann (2015) correlate common native language with an expression of common culture and find that it has an effect on extensive margins of trade rather than on intensive ones.

While these three aspects - immigrants' language skills, FDI, and international bilateral trade - are interconnected, empirical studies usually focus on one. In this paper, we analyse the influence of language in international trade, concentrating solely on Portuguese exports.

## 2.1 The influence of language in international trade

Half a century after Marschak first introduced the concept, language is now usually included in bilateral trade studies. Trade depends on the interaction between individuals and is therefore influenced by the ease of communication between them, which depends not only on technological factors but also, and more importantly, on sharing a language in which they are able to communicate. In order to trade, two individuals from two different countries can follow one of five strategies regarding language: (i) they can share the same language and obviously use it to communicate; (ii) they can each speak in their own language and be understood by the other (a phenomenon known as intercommunication and very widespread, for example, in Scandinavian countries); (iii) they can choose one of their two languages provided that one of them speaks their counterpart's language; (iv) they can choose a foreign language that both of them can speak; (v) they can hire the services of an intermediary, such as a translator or an interpreter. These solutions range from the least costly to the most costly in terms of the transaction, since sharing the same language will entail no costs whatsoever, while hiring the services of a third party can not only be costly but also introduce noise into the communication process.

Communication costs have significantly decreased since the last quarter of the 20<sup>th</sup> century with the development of new information technologies. The Internet, in particular, has brought together potential trading partners who would have been too geographically distant in the past to even be aware of each other's existence. A common shared language, much similarly to the effect of sharing the same currency explored by Rose (2000), can decrease the fixed costs of trade and thus influence the choice of export location, although Helpman, Melitz, & Rubinstein (2008) have found that it does not influence the volume of exports once that decision has been made.

<sup>196</sup> In a recent study involving Portuguese exporters and Angolan distributors, Alves, Raposo, & Antunes (2012) have found that sharing the language and the culture it entails is an determinant for bilateral trade between these two countries, since the respondents to their survey explicitly mention 'same language' and 'same culture' as important factors for the success of the relationship.

Gravity models used to explain bilateral trade flows frequently include some sort of language measure, typically represented by the country's official tongue. Some authors have found a correlation between common language and trade volumes (see, for example, Helliwell, 1998; Melitz, 2008; Egger & Lassmann, 2012), while others have shown that defining common language based solely on the country's official language is not enough to capture the several nuances of the influence of language in international trade (notably Melitz & Toubal, 2014). Therefore, some sort of measure of the linguistic similarity between languages must be found, because sharing a similar language may have a considerable positive impact on trade flows, although admittedly not as important as sharing a common one.

## 2.2 Measuring linguistic similarity

Trying to capture the role of language similarity as a facilitating factor for bilateral trade in a more detailed fashion than the simple variable 'common official language' could generate, some authors have devised forms to measure linguistic similarity between languages. Four methods of measuring linguistic similarity between two languages have gained particular support: the results of second language acquisition tests taken by American students (Chiswick & Miller, 2005), Language Barrier Index (Lohman, 2011), Levenshtein's distance (Ishphording & Otter, 2013), and open-circuit and direct-communication languages (Melitz, 2008).<sup>197</sup> We shall look very briefly into each of these methods before describing the method we have used in our study.

Chiswick & Miller (2005: 1) define linguistic distance as 'the extent to which languages differ from each other' and base their findings on the results of tests made by English-speaking American learners of forty-three different foreign languages that were submitted to two written assessments: the first test was written sixteen weeks after the course had started, and the second six weeks later. Following from the results of these assessment tests, the authors created a table of linguistic distances between English (the native tongue of the students assessed) and the forty-three foreign languages they were learning. According to the ranking presented by the authors, Afrikaans, Norwegian, Romanian and Swedish are the closest languages to English, while Korean and Japanese are the most distant ones. Besides purely linguistic issues that we will not go into here, Chiswick and Miller's classification is of limited applicability since it cannot be extrapolated to language pairs that do not include English (and even so only in relation to the forty-three languages surveyed).

Johannes Lohman created a Language Barrier Index (LBI) that 'quantifies international language barriers by measuring the dissimilarity between the main languages of trading partners' (Lohman, 2011: 159). The LBI was built based on the similarity between two languages, using linguistic data obtained from the *World Atlas of Language Structure* (WALS) (Dryer & Haspelmath, 2013), which presently provides detailed data on 2,678 languages, including the description of up to 144 linguistic features for each language (although not every feature is available for each language). Although based on linguistic criteria, and therefore more promising than Chiswick & Miller's proposal, the WALS is not an entirely reliable source when we look at the classification of Portuguese, due to the several inaccuracies we have found (Ferro & Costa, 2016 forthcoming).

In keeping with Lohman, Ishphording & Otter (2012) resort to linguistic data developed for the reconstruction of language families by applying lexicostatistics, which provides the quantitative comparison of lexical cognates, i.e., a word that has the same linguistic derivation of another word. This methodology was developed by the Max Planck Institute for Evolutionary Anthropology and uses a specific software entitled Automatic Similarity Judgement Program (ASJP). The main purpose of the ASJP is the automatic reconstruction of relationships between languages (Bakker *et al.*, 2009). As said before, the Levenshtein's distance measures the minimum number of additions, deletions, and substitutions to transform a word into another one (Wichman *et al.*, 2010), which, among other things, does not take into consideration diachronic change and does not account for loans, onomatopoeias, or any random changes.

Melitz (2008) does not suggest a measure to calculate linguistic distance as such, but classifies languages depending on the channels of influence of a common language, distinguishing direct-communication languages from open-circuit ones. Melitz introduces the important notion of a 'widely spoken' language in a given country, i.e., used by at least 20% of the population, and does not base his calculations solely on the official language(s) of a country.

We suggest a method for classifying linguistic similarity based on linguistic criteria, specifically etymological ones, and organized languages according to the linguistic family they belong. Since our set of data refers to Portugal exports only, we had a small number of languages to work with and found that the simple classification of languages into Romance, Germanic, and Other would be enough for our purposes. Moreover, building on Melitz's work, we also included in our study two common spoken languages in Portugal, considering that cultural and other incentives for learning a language seem to be more important than its similarity to Portuguese.

<sup>197</sup> For a comprehensive overview of these methods and a critique regarding their linguistic accuracy see Ferro & Costa (2016, forthcoming).

### 3. OFFICIAL LANGUAGES AND COMMON SPOKEN LANGUAGES

Traditionally, gravity models relied on the official language of the country for their common language variable, sometimes counting up to three official languages depending on the linguistic diversity of the country. However, over time, researchers found that basing their models on the concept of official language alone would not yield accurate results, because the linguistic capital of a nation includes much more than that - we have to consider the possible influence of significant immigrant communities who possess a different language, together with the stock of foreign languages learned in that country.

Immigrants have an important influence on bilateral trade between the host country and their country of origin. They establish informal networks through which it is easier to find trading partners in both countries. The importance of the immigrants' language is not negligible when we consider the aggregate linguistic capital of a country. Fidrmuc & Fidrmuc (2016) include Russian in the set of the most widely spoken languages in the European Union (EU), although it is not an official language of any EU member-state and therefore it is not an official language of the EU. The high number of Russian speakers in some EU countries has to do with migrant communities and historical reasons. In a recent Special Eurobarometer survey co-ordinated by the Directorate-General for Communication of the European Commission (2012), respondents from all the 27 member-states at the time provided information on a variety of topics related to their language proficiency. Interestingly, a significant part of the respondents from former East-block countries reported that Russian was their first language - e.g. in Latvia (27%) and Estonia (19%). In fact, in those two countries, only 71% and 80% of the population, respectively, are likely to use the official language of the country.

Proficiency in a foreign language is therefore an important determinant to trade and not only the official language(s) of the countries (Melitz & Toubal, 2014; Egger & Toubal, 2015; Fidrmuc & Fidrmuc, 2016). Basing their studies on the 2005 edition of the Eurobarometer Survey on languages in Europe, Fidrmuc & Fidrmuc (2016) show that not only is the widespread capacity to communicate in a foreign language an important determinant to foreign trade, but also that taking into consideration all the EU member-states English plays a particularly important role in conducting business. The authors define what they call 'conduit languages' in the EU as languages spoken at least in three different countries by at least 10% of the population in each, which leaves them with English, German, French and Russian. While including a language that is not official in the EU (Russian), this measure paradoxically leaves out Spanish and Portuguese, which although widely used outside Europe - 2<sup>nd</sup> and 6<sup>th</sup> respectively largest languages worldwide in terms of first-language speakers (Lewis, Simons, & Fennig, 2013) - have a relatively small number of speakers within the EU.

#### 3.1 Portuguese as an international language

Portuguese is a pluricentric language, i.e. it possesses various standard versions, and is currently spoken by 208,525,450 people. It is the official language in nine countries (Angola, Brazil, Cape Verde, East Timor, Equatorial Guinea, Guinea-Bissau, Mozambique, Portugal, São Tomé and Príncipe), that span four continents. Apart from these nine countries that make up the Community of Portuguese Language Countries (CPLP), CIA's *World Factbook* also lists speakers of Portuguese in seven other states: Andorra, Bermuda, Gibraltar, Jersey, Luxembourg, Macau, and Switzerland - probably connected with migrant communities or former colonial ties, and lists Portuguese as the sixth most widely spoken language in the world, after Mandarin Chinese, Spanish, English, Hindi and Arabic.

Portuguese is therefore an important language in the global world, which led us to question whether that importance would be reflected in the volume of Portuguese exports. However, as we have stated before, the role of the foreign languages spoken in a country is also relevant, and therefore we also included that in our study.

#### 3.2 Foreign language learning policies

Learning a language implies time, effort and often money. The harder a language is to learn, the higher those transaction costs will be. Within the framework of the game theory, Selten & Pool (1991) construct a game in which learners choose their language portfolio based on a cost/benefit analysis endeavouring to maximize benefits while minimizing costs. Building on that work, Ginsburgh, Ortuño-Ortún, & Weber (2007) conclude that the larger the population that speaks a given language, the less those speakers are inclined to learn a new one and simultaneously, due to network externalities, the more speakers a language has, the more additional learners it will attract.

The most widely learned foreign language in Portugal is currently English. And although language learning is a dynamic affair that depends on the strategic view of the government of the country, based on what the respondents to the Eurobarometer (EC, 2012) stated, English will continue to be the first option as regards foreign language learning in Portugal. Portuguese respondents answered that English is the most useful language for their personal development (53%), while 87% of the respondents stated that English is the most useful language for children to learn for their future. The latter question is interesting because French (the most widely studied language in Portugal three generations ago) still comes second (32%), followed by Spanish (10%), German (5%), and Chinese (4%).

However, linguistic competences do not come high in the priorities of Portuguese respondents - 61% answered that they do not speak any foreign language well enough to have a conversation. From those that answered that they do speak at least one foreign language, the ranking is the same as above: English (27%), French (15%), Spanish (10%), and German (1%). These linguistic skills are not as developed as in other countries (Portugal comes third from the bottom together with the UK when considering the percentage of people that are able to maintain a conversation in at least one foreign language) but need to be taken into account when we consider the role of language in international trade from Portugal's standpoint.

#### 4. METHOD

For this study, and in line with several authors, we chose the most widely used econometric tool to study international trade, i.e., the gravity model. This model has been used since the 1960s, initially by Tinbergen (1962), but subsequently improved over the years and expanded with several variables that intend to explain trade flows between two countries. This model initially considered that exports between two countries are positively associated with the size of their economies and negatively related with factors that indicate the existence of barriers to trade, most prominently the distance between them. Thus, the basic gravity model relates the volume of exports between two countries  $T_{ij}$  with the economic weight of those two countries, measured using the GDP of exporter and importer ( $GDP_i, GDP_j$ ) and the cost of trade between them, represented by the distance between them  $D_{ij}$  (models (1) and (2)), where  $i$  and  $j$  indicate countries.

Therefore, the initial model was represented by:

$$T_{ij} = f \left[ \frac{(GDP_i \cdot GDP_j)}{D_{ij}} \right] \quad (1)$$

$$T_{ij} = \beta_0 (GDP_i \cdot GDP_j)^{\beta_1} \cdot D_{ij}^{\beta_2} \cdot e^{\varepsilon} \quad (2)$$

Initially the theoretical foundations for the gravity model were explored in the work of Anderson (1979), Helpman & Krugman (1985), and Kalirajan (1999). Over time, the basic variables considered by the model (GDP and distance) were augmented with other variables, such as population, GDP per capita (Bergstrand, 1990), country size and set of countries (Azevedo, 2004). Binary variables that intended to represent the specific characteristics of the countries have also been added, such as cultural proximity, language (Endoh, 1999; Breuss, & Egger, 1999; Nitsh, 2000; Feenstra, 2002), cultural similarity, belonging to the same trade bloc - in the 1990s this effect was also considered as existence of preferential trade agreements (Breuss & Egger, 1999) - common borders, colonial relationship (Glick & Rose, 2002), among others.

Most international trade models based on the generalized gravity model study existing exports between two countries as a function not only of the variables considered on the basic model but also of their incomes (measured by GDP), their population, the distance between them, as well as a set of dummy variables in order to measure 'qualitative factors'.

Considering that the equation always implies a log-log transformation, we present the possible representation for the augmented gravity model:

$$\ln(T_{ij}) = \beta_0 + \beta_1 \ln(GDP_i \cdot GDP_j) + \beta_2 \ln D_{ij} + \beta_3 \text{Lang}_{ij} + \beta_4 \text{Cont}_{ij} + \beta_5 \text{RTA}_{ij} + \beta_6 \text{ComCol}_{ij} + \varepsilon_{ij} \quad (3)$$

Where  $i$  and  $j$  indicate countries and the variables are defined as follows:

$T$  – trade volume (either imports or exports and imports) between two countries:

$GDP$  – real GDP

$D$  – Distance

$\text{Lang}$  – dummy variable that is 1 when  $i$  and  $j$  share a common language and 0 otherwise

$\text{Cont}$  – dummy variable that is 1 when  $i$  and  $j$  share a common land border and 0 otherwise

$\text{RTA}$  – dummy variable that is 1 when  $i$  and  $j$  belong to a free trade agreement area and 0 otherwise

$\text{Comcol}$  – dummy variable that is 1 when  $i$  and  $j$  had a colonial relationship and 0 otherwise

There are currently many theoretical studies and empirical analyses on this topic. Most studies work with the analysis of trade volumes between pairs of countries in a  $N \times N$  format and few apply the model to a specific country.

This type of study is fairly recent: Wall (1995) first studied trade flows between the US and 85 countries from 1994 to 1996 in order to estimate the costs of protectionism. Sohn (2005) later used the gravity model to explain South Korean trade flows and the idea of using the model to study a particular country took hold.

In line with these authors, we based our study on the data available for international trade flows from 2014, i.e., real data regarding 2013. We use the multiple linear regression of the gravity model since it has been extensively used in the past forty years and has shown to have empirical robustness and explanatory power (Kepaptsoglou *et al.*, 2010). The Ordinary Least Squares (OLS) method is the most usual technique for estimating the coefficients of the gravity model specification in its log-log form. The present study uses OLS considering the variable explained as an economic variable translating the logarithm of export volume between Portugal and a trading partner.

The variables used in the regression are economic (such as export volume between Portugal and a trading partner), linguistic (official language of the country, language family and/or language proximity), and geographical (distance between Portugal and a trading partner). Based on these data we study the relationship between the volume of exports from Portugal to its 56 main trading partners worldwide in 2013 and the language family/language used in those countries in order to find evidence for the hypotheses stated before. We chose the 56 main trading partners because in this study we wanted to analyse solely the relations that Portugal establishes with its main trading partners. Since we needed to have a sufficient number of observation to obtain a fair degree of quality of the model and, at the same time, analyse only the main partners we chose 56 out of the 211 that represent the total number of countries to which Portugal exports.

We also considered distance in order to add more quality to the analysed relationship. This is represented by the kilometres that separate Lisbon and the capital of the country. Since we consider the variable logarithm, this will represent the elasticity of trade regarding an absolute geographical distance. We expect the coefficient of this variable to be negative since it constitutes a barrier to trade given that the larger the distance between the countries the larger the barrier to the commercial relationship. Building on Lohmann (2011), we expect to find empirical evidence of the inverse effect of language commonality or similarity.

## 5. RESULTS AND DISCUSSION

We posited that Portuguese exports are higher to countries that share the same language (H1). To draw a conclusion on that, we studied the following model:

$$\text{Ln}(T_{ij}) = \beta_0 + \beta_1 P_j + \beta_2 \text{Ln}D_{ij} + \varepsilon_{ij} \tag{4}$$

Where  $T_{ij}$  represents exports between Portugal and country  $j$ ,  $P_j$  is a dummy variable that is 1 when country  $j$  has Portuguese as an official language and  $D_{ij}$  is the distance between Portugal and country  $j$ .

**Table 1 - Results of the estimation of model (4)**

Explanatory variables	Ln Exports	
	OLS Coefficient	Standardized coefficient (Beta)
Constant	18.667 (1.601)	-----
$P_j$	0.403 (0.519) 0.095	
$\text{Ln}D_{ij}$	-0.764 (0.197)	-0.476
$F = 7.599$		
$R^2 = 0.22$		

Notes:

Numbers in parentheses are standard deviations

Significance level 5%

Table 1 shows that in spite of the model being explanatory overall, only the variable  $D_{ij}$  has explanatory capacity. This result is consistent with the fundamental hypotheses of the gravity model highlighting a decrease in trade with a given country due to an increase in distance. Thus, we found no support for H1 given that the variable  $P_j$  has no

explanatory capability, i.e., there is no direct relationship between the volume of Portuguese exports and the fact that the destination country has Portuguese as an official language. This conclusion is hardly surprising in part, we believe, because companies might not be taking full advantage of the network of Portuguese-speaking countries to expand their business.

Extending the analysis and organizing countries according to the language family of the official language of the country, we studied model (5). Combining a threefold approach to the influence of language in trade, we grouped the 56 countries according to their language families. The criteria underlying our classification were:

- linguistic criteria: languages were classified according to an etymological principle, based on their language family;
- similarity between languages: given that Portuguese is a Romance language we decided to include the languages belonging to this family in our analysis to account for the similarity between them;
- foreign languages: the most common foreign language studied in Portugal is currently English, a Germanic language, followed by two Romance languages (French and Spanish) and then another Germanic language, German; this led us to include in our analysis Germanic languages as well.

Since at this stage we were interested in isolating these two language families - Romance and Germanic languages - we classified all the remaining languages as belonging to the Other group. We considered the dummy variables  $R_j$ ,  $G_j$ , and  $O_j$  to identify respectively Romance, Germanic and Other language families. Our aim was to analyse whether belonging to each of these language families has a direct relationship with Portuguese exports for that country. Thus, the variable  $R_j$  is 1 when country  $j$  has a Romance official language (and 0 otherwise) and  $G_j$  when country  $j$  as a Germanic official language. In case one of these variables is 1, the variable  $O_j$  is 0, conversely the latter would be 1 when the country has an official language that does not belong to any of these two families. However, econometrically this cannot be used together with the other two variables because it would entail multicollinearity given the linear relation that exists between the three independent variables.

$$\text{Ln}(T_{ij}) = \beta_0 + \beta_1 R_j + \beta_2 G_j + \beta_3 \text{Ln}D_{ij} + \epsilon_{ij} \quad (5)$$

**Table 2 - Results of the estimation of model (5)**

Explanatory variables	Ln Exports	
	OLS Coefficient	Standardized coefficient (Beta)
Constant	17.999 (1.611)	-----
$R_j$	0.682* (0.391)	0.243
$G_j$	0.447 (0.382)	0.163
$\text{Ln}D_{ij}$	-0.723 (0.192)	-0.450
$F = 6.026$		
$R^2 = 0.258$		

Notes:

Numbers in parentheses are standard deviations

Significance level 5%

\* Significance level 10%

Table 2 shows that the model is explanatory overall and only variable  $G_j$  does not have explanatory capacity. Thus we found support for H2 (Portuguese exports are higher to countries that share a similar language) given that  $R_j$  has explanatory capacity, i.e., there is a direct relationship between Portuguese volume of exports and the fact that the destination country has a Romance official language. Since this is also Portugal's language family, this result was expected given that when the countries share the same language the linguistic barrier is erased and when they share a similar one communication costs tend to be lower.

In order to strengthen the analysis of H2, we introduced a new variable named ProxLing that intends to capture the language proximity between two countries. We defined this variable taking into consideration the official language of the destination country, which had to be Portuguese, Spanish, or English. Our aim was to capture a threefold

effect: with this variable we identified the countries that share a common language with Portugal but also included those that have Spanish as their official language to reflect language similarity, and those that have English as their official language to capture the effect of the most widely studied and spoken foreign language in Portugal.

Based on European Commission (2012), French is the second most widely spoken foreign language in Portugal and therefore we initially included French in our model as well. However, the analysis did not provide any statistical relevance to that fact, which we understood as being a consequence of the shift that happened some decades ago from French into English as the first foreign language studied by Portuguese children. Nowadays, although older generations still speak French, younger generations, those currently in charge of establishing commercial relationships with foreign partners, will most probably be fluent in English and not French.

Thus, the dummy variable  $ProxLing_j$  is 1 when country  $j$  has Portuguese, Spanish, or English as its official language and 0 otherwise.

$$\ln(T_{ij}) = \beta_0 + \beta_1 ProxLing_j + \beta_2 \ln D_{ij} + \epsilon_{ij} \tag{6}$$

After reaching a conclusion regarding the impact of language on Portuguese exports and solely with the aim of improving the quality of our model, we added the fact that a country might belong to the EU. Both effects together form the variable  $UEProxLing_j$ , which intends to combine the effect of a country simultaneously having one of the three aforementioned languages as its official language and belonging to the EU. We would like to highlight the fact that although Norway and Switzerland do not belong to the EU, they were considered as such given the free trade agreements that exist between Portugal and these countries.

$$\ln(T_{ij}) = \beta_0 + \beta_1 UEProxLing_j + \beta_2 \ln D_{ij} + \epsilon_{ij} \tag{7}$$

Table 3 presents data on the analysis of these models.

**Table 3 - Results of the estimation of models (6) and (7)**

Explanatory variables	Ln Exports (6)		Ln Exports (7)	
	OLS Coefficient	Standardized coefficient (Beta)	OLS Coefficient	Standardized coefficient (Beta)
Constant	18.107 (1.546)	-----	15.578 (1.835)	
$ProxLing_j$	0.726 (0.318)	0.243	-----	
$UEProxLing_j$	-----	-----	0.757 (0.271)	
$\ln D_{ij}$	-0.722 (0.187)	-0.450	-0.450 (0.210)	
F = 10.475			F = 12.144	
R <sup>2</sup> = 0.283			R <sup>2</sup> = 0.314	

Notes:

Numbers in parentheses are standard deviations

Significance level 5%

After analysing Table 3, we can conclude that both models are explanatory overall and that every variable has explanatory capacity. We would like to stress that the quality increases with the introduction of the fact that the country belongs to the EU together with what we called language proximity. Thus, we strengthened the positive effect of language proximity on Portuguese exports, which increases when both countries belong to the EU.

## 6. CONCLUSION

Trade costs are an important determinant of a country's capacity to benefit from regional and global production and distribution networks, and consequently bear a great importance from a policy perspective (Arvis *et al.*, 2013). As we have seen, language barriers can impose significant costs on bilateral trade between countries that do not share some sort of common spoken language - either official or acquired foreign languages. Kim *et al.* (2015) argue that governments have the capacity to manipulate the population's linguistic skills regarding foreign languages, by implementing language policies that either introduce a different language in the educational systems, virtually erasing



the native tongue from school and teaching all subjects in the new language. Or then can take a less effective step, but also much more common since it offers less controversy, introducing the desired foreign language in the school curriculum. Portuguese governments have decided to take the latter path and have gradually introduced English into the school curriculum from an increasingly earlier age. Spanish and Chinese (Mandarin) have lately been introduced as well, undoubtedly in the expectation of spurring a generation of potential speakers of those languages, who are expected to boost international trade and FDI. Foreign languages undoubtedly should play an important role in the school curriculum.

Fidrmuc & Fidrmuc (2016) argue for a causality relation between trade and language proficiency that can work either way: if enough people in two countries can communicate easily in a given language, trade will be more intensive between those two countries; but if two countries trade a lot, they will have an incentive to learn each other's language. Looking at Portuguese data, and the total volume of exports to Spain (the 1<sup>st</sup> country in terms of greatest exports from Portugal), one would think that Portuguese and Spaniards alike would have an incentive to learn each other's languages. If that holds true for Portugal, since Portuguese respondents to the Eurobarometer Survey on languages (European Commission, 2012) place Spanish as the third most useful foreign language currently and in the future and believe that they speak it well enough to have a conversation (10%), it does not for Spain, given that Portuguese does not appear in the Spanish factsheet at all. However, Italian a much less spoken language throughout the world comes sixth and seventh in the Spaniards' language preference, respectively regarding the present and the future.

Multilingualism is still not widely promoted in Portugal. Although younger generations are more language-aware much has to be done to stir the population into effectively investing in linguistic skills. In 2013, only 35% of primary pupils studied a foreign language in Portugal, a ridiculously low number when compared with the 81.7% average of the EU (Eurostat, 2015). The literature states that significant gains can arise from learning foreign languages, both to the individual, and the society at large by means of facilitating bilateral trade. Fidrmuc & Fidrmuc's (2016) research suggests that if EU countries had a higher level of multilingualism - similarly to the Netherlands, for example, where 37% of the population speak at least three foreign languages, as opposed to Portugal at only 4% - trade would be 30-60% higher than what is attributable to geographic and economic factors.

Conversely, more should be done to promote Portuguese learning abroad. With dismal figures in the EU - according to the Special Eurobarometer, Portuguese is spoken as an additional language (i.e. not first-language) by only 1% of EU population (European Commission, 2012) - Portuguese surprisingly ranks 12 in the number of foreign languages learned in the United States (Reto, 2014) and was identified as one of the ten language for the future in the United Kingdom (British Council, 2013), which constitutes a measure of the importance attributed to Portuguese.

Regarding future work, we intend to expand our analysis to all the 211 countries to which Portugal exports, and also to consider other languages besides the official language of the destination countries. For the time being we are only considering exports of goods, but we intend to include total exports and imports as well and thus provide a comprehensive analysis of Portuguese commercial relations.

## ACKNOWLEDGEMENTS

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## APPENDIX

**Table A1 - Data for the Gravity Estimation**

Exports (thousands euros)	2013 LnExport	Distance (km)	Ln Distance	
Algeria	527404	13.1757221	2285	7.7341213
Angola	3112688	14.9509972	6240	8.7387354
Argentina	89533	11.4023625	10329	9.2427107
Australia	90067	11.4083091	16150	9.6896753
Austria	257034	12.4569636	2037	7.6192334
Belgium	1343285	14.1106286	1583	7.3670770
Brazil	738946	13.5129801	7486	8.9207898
Bulgaria	55343	10.9213054	2831	7.9483852
Canada	213133	12.2696716	6918	8.8418819
Cape Verde	201995	12.2159982	3020	8.0130121
Chile	77421	11.2570133	10570	9.2657750
China	657484	13.3961757	9157	9.1222738
Czech Republic	285491	12.5619657	2190	7.6916568
Denmark	314982	12.6602707	2280	7.7319307
Egypt	65520	11.0901107	3859	8.2581633
Equatorial Guinea	65758	11.0937366	5000	8.5171931
Finland	216751	12.2865045	3391	8.1288801
France	5496752	15.5196679	1138	7.0370276
Germany	5508688	15.5218370	1951	7.5760973
Gibraltar	342334	12.7435421	442	6.0913098
Greece	192696	12.1688691	2576	7.8539930
Guinea-Bissau	69787	11.1532030	3144	8.0532511
Hong Kong	130726	11.7808588	10904	9.2968849
Hungary	181123	12.1069316	2389	7.7786301
India	116801	11.6682269	8339	9.0286985
Ireland	154050	11.9450325	1558	7.3511582
Israel	98986	11.5027337	3982	8.2895394
Italy	1564826	14.2632851	1771	7.4792996
Japan	139006	11.8422723	10993	9.3050139
Korea	87058	11.3743298	10448	9.2541658
Kuwait	57577	10.9608784	5152	8.5471402
Luxemburg	67562	11.1208009	1617	7.3883278
Mexico	196456	12.1881937	8717	9.0730304
Morocco	732595	13.5043483	852	6.7475865
Mozambique	327778	12.7000918	7894	8.9738582
Netherlands	1892131	14.4532142	1786	7.4877337
Nigeria	61390	11.0250022	3766	8.2337687
Norway	106897	11.5796210	2613	7.8682542

Poland	440110	12.9947799	2518	7.8312202
Romania	301725	12.6172712	2787	7.9327210
Russia	263046	12.4800842	7310	8.8969985
São Tomé and Príncipe	50344	10.8266347	4614	8.4368504
Saudi Arabia	151612	11,9290799	5250	8.5659833
Senegal	53133	10.8805534	2835	7.9497972
Singapore	57092	10.9524192	11782	9.3743282
Slovakia	89151	11.3980868	2440	7.7997533
South Africa	160894	11.9885010	8419	9.0382463
Spain	11176719	16.2293435	300	5.7037824
Sweden	440625	12.9959494	2964	7.9942949
Switzerland	419110	12.9458886	1565	7.3556411
Tunisia	166195	12.0209170	1631	7.3969486
Turkey	381111	12.8508459	3709	8.2185175
United Arab Emirates	101711	11.5298907	6067	8.7106195
United Kingdom	2612563	14.7758422	2100	7.6496926
USA	1997743	14.5075286	5974	8.6951720
Venezuela	190114	12.1553791	6863	8.8338999

# SKY IS THE LIMIT – ESPORTS AS ENTREPRENEURIAL INNOVATOR FOR MEDIA MANAGEMENT

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SKY IS THE LIMIT

## ABSTRACT

Media companies are still struggling with the challenge of positioning themselves on the global and digital market. They are often failing of be entrepreneurial and innovative at the same time. The concept of entrepreneurial innovation is therefore fitting, however, this type of person is scarce. Currently, the field of eSports and competitive gaming is growing quickly and many (media) companies are snapping the big eSports companies. This buying binge is especially in 2015 observable. The reason for that is not only, to buy-in into eSports, but to get this certain mix of entrepreneurial drive as well as innovational drive. In addition the field of eSports is also capable of bridging local markets with the global market. Those people within eSports are trained in balancing out an ambidextrous organization. They are exploring new ideas but also exploiting new ideas, especially in the context of monetization.

In a field where media companies are failing to make money with digital products, there is a whole industry surrounding the digital product video games. In this paper, we show that eSports will give several implications for media companies, how to be an entrepreneurial innovator, how to balance exploration and exploitation as well as making a global product fit for a local market and vice versa. The world of eSports is driven by the motto sky is the limit and that would be beneficial for media management, too.

Keywords: eSports, Entrepreneurial Innovator, New Media.

JEL Classification: L26, L82, O30.

## 1. INTRODUCTION

In todays world many organizations are talking about “think global, act local” (Levitt 1983) and especially media companies are struggling with this strategic direction (Sánchez-Taberner 2006). Especially in times where the media sphere (Butsch 2007) is constantly shifting and evolving (e.g. Küng *et al.* 2008) as well as facing permanent change (Picard 2015). Developments like usergenerated content like citizen journalism (Goode 2009) or binge-watching (Sung *et al.* 2015) reveal new types of media user and obstacles for modern media companies. It is therefore crucial for any media company to deal with those changes and present new products for their consumer.

Media companies need to be innovative in order to survive within this new media sphere.

They need to ignite their entrepreneurial drive (Armstrong and Hird 2009). There are several ways to be incorporating such entrepreneurial drive and the most common way is by acquiring an innovative company (Madhok and Keyhani, 2012). Such development can be currently observed in the field of eSports (competitive gaming). Many companies are in a buying frenzy and crested by the acquisition of Twitch through Amazon for \$970 million dollar.

The field of eSports can be compared to sports on a professional level. Teams and players

compete against each other in leagues, tournaments and battle for prize money. Superdata Research (2015a) state that the total worldwide market for eSports will grow from \$747 million to \$1,929 million. At the ESL One Cologne 2015 the video stream peaked at over 1.3 million users (ESL 2015) and analysts state that eSports could be “the next big thing in media and entertainment” (Takahashi 2015) and therefore “resistance is futile” (Casselmann 2015). Although,

such claim was given often in the short history of eSports (Topalov 2007), the scene kept their entrepreneurial drive and constantly reinvented itself. People within the eSports industry act as entrepreneurial innovator (Gray 1978) and it seems that only the sky is the limit for them.

This entrepreneurial drive and innovational strength seems interesting for modern media companies, not only for tackling this new and emergent market, but also for its innovations. Not only do companies can explore this new market by acquiring such eSports companies, in addition they can exploit the innovational drive of those companies. Modern media companies could follow the logic of ambidexterity (Duncan 1976) as well as exploration vs. exploitation (March 1991).

In this paper, we want to shed light on the phenomenon of eSports and its impact on media management. Building on the current acquisition trend of eSports companies, we show how eSports act as entrepreneurial innovator and, furthermore, act as a natural bridge between local and global media spheres.

## 2. THEORETICAL BACKGROUND

### 2.1 eSports

Many researcher and journalist state that eSports or competitive gaming is a young phenomenon that only recently became popular. However, the earliest eSports competition was in 1972 at the Stanford University (Taylor 2012; Hiltcher 2015). In the recent ten years eSports grew from a niche industry into a respectable player in the field of media. However, due to its uniqueness, it is defining eSports precisely. A prominent definition for eSports originates from Wagner (2006: 3): “eSports is an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies.” Another definition is: “Passion, training, reflex, intelligence and teamwork ...if it’s not sport it really has its taste” (Arnaud, 2010: 11). It can be stated that there are parallels towards sports (Adamus 2012; Hebbel-Seeger 2012). However, the sports question is intensively debated (e.g. Hutchins 2008; Jonasson and Thiborg 2010; Witkowski 2010; Taylor 2012; Franke 2015). Interestingly some actors in the eSports field do not like the sports-label as well: “eSports is something that we have not seen before. In many ways competitive gaming seems, at least at first glance, to resemble traditional sports. But to think that a new phenomenon like eSports can be described in terms of the old is to misunderstand it entirely” (Superdata 2015b: 3). The media sphere of eSports differs to the media sphere of traditional sports and, although, eSports is inspired by the old media world, they try to go unique and novel ways in establishing an own eSports media sphere. Topics like should eSports strive to be on televisions (Onofrio 2011) led to a complete unique infrastructure of streaming over the Internet as we saw with Twitch. So unique in its way that Amazon acquired Twitch for \$970 millions and Youtube is still struggling to establish a similar streaming experience (Conditt 2015).

Beside the alignment to the sports world, eSports is also aligned with the gaming culture (Jonasson and Thiborg 2010; Franke 2015) or gamer culture (Shaw 2010). Borders between amateur level and professional level are not clearly defined (Taylor 2012) and all people involved are adapting a certain way of living within the eSports media sphere (Chee 2006). It seems a bit bizarre, that playing video games competitively, includes all actors far better into the media sphere than any other sports or cultural phenomenon. “All together, professional gamers, audience members, and commentators present a dynamic understanding to video games as a performative medium” (Randhawa 2015:16). It is interesting to see, that player know are aware of the need of amateur players as an audience. Schenkhuizen, as one of the most successful player over a long time, states: “We need casuals playing games we (the hardcore players) don’t necessarily care about, so that they can watch us now & then and enjoy themselves” (2013: 31). Furthermore, “a significant majority considers eSports to be more interesting to watch, more exciting and more engaging when compared to traditional sport” (Franke 2015: 134).

A flame of participation and action drives the whole industry. Statements like “[...] everywhere I look I see passion and spirit and inspiration [...]” (Shields 2011: 22) can be found all over the industry, be it as an editor-in-chief like Shields, photographers, coaches or aspiring amateur player. That spark originates through the love for video games and the dedication towards those video games. This can be seen that “they devote hours upon hours to mastering it, endlessly fascinated by the intricacies of the system, its characters, its weapons, its properties.” (Taylor 2012: 89).

**Table 1 Excerpt of acquisitions and investments in eSports in 2015**

eSports Company	Field	Buyer/Investor	Value of Acquisition/ Investment
Twitch TV	Streaming Platform	Amazon	\$970 million
Virtus.pro	Community Platform and Professional Team	USM Holding	\$100 million
Turtle Entertainment	Tournament Operator	Modern Times Group	\$87 million
Multiplay	Community Platform and eSports Arena	GAME	\$30 million
AlphaDraft	Betting Platform	FanDuel	\$10 million
World Gaming	Community Platform	Cineplex	\$10 million
Team Dignitas	Professional Team	Follow eSports	\$1 million
Dreamhack	Tournament Operator	Modern Times Group	\$28 million
ESEA	Tournament Operator	Modern Times Group	Undisclosed
Global eSports Management	Agency	WME/IMG	Undisclosed
GoodGame	Agency	Twitch (Amazon)	Undisclosed
Nextgen + MVPs	Sponsorship Consultancy	rEvolution	Undisclosed
NRG eSports	Professional Team	Andy Miller and Mark Mastrov (Co-Owner Sacramento Kings)	Undisclosed
Team 8	Professional Team	Investors (amongst others Brian Lee Honest Co.)	Undisclosed
Unikrn	Betting Platform	Investors (amongst others Ashton Kutcher and Mark Cuban)	Undisclosed
MLG	Tournament Operator	Activision Blizzard	\$46 million

That vivid energy within the eSports media sphere and the unique approach towards mediarelated problems make eSports an interesting industry. Furthermore, the recent growth within eSports led to a buying frenzy. It seems that in 2015 nearly every professional eSports company is “for sale”. However, only one traditional media company is trying to get into the eSports business. The Swedish media company Modern Times Group bought one of the biggest tournament operator (Turtle Entertainment) as well as a big US tournament operator (ESEA). In addition, there are rumors that they want to acquire another tournament operator (Dreamhack). Other companies like Amazon or Cineplex invest into eSports. A current overview about the acquisitions in 2015 can be found in the table 1.

## 2.2 Entrepreneurial innovator

Most of the standard literature in management is talking about the essential need of innovation (e.g. Porter 1980; Hamel and Prahalad 1996) and especially the recent years showed that innovations in any way are crucial for the survival of an organization. In the field of media management this is the same case. Mainly because of the increase in digitization, traditional media companies are struggling with adapting to those new markets and monetize them (Hayes and Graybeal 2011; Ulin 2013). Those media companies depend on innovations, although, they are still highly rooted in their old world. Even the prime example for a dynamic newspaper in the digital ages “New York Times” state that they are “not moving with enough urgency” (New York Times 2014: 81). However, most of those companies are not capable of going digital on their own, or doing it inadequately (Mitchelstein and Boczkowski 2009). They are lacking an innovational potential and are not capable of transform the organization fundamentally (Holm *et al.* 2013).

It can be stated that those organizations are lacking an entrepreneurial drive (Carland *et al.* 2002) and are less intuitive for new ideas (Armstrong and Hird, 2009). Furthermore, the innovational drive is also staggering. Media companies in context of digitization are moving as slow as a behemoth (Jenkins 2006). Therefore, it is crucial, especially in those turbulent times, to have people that are entrepreneurial as well as innovational. In addition, people are needed that are not shackled by existing organizational structures and capable of creative destruction (Schumpeter 1943). In this paper, we are focusing on the “entrepreneurial innovator” (Gray 1978). The author states that such person is more than an innovator and brings additionally “business to the organization” (Gray 1978: 86). Therefore, focusing more on the place of an innovation within a market or more precisely within any market.

Such entrepreneurial innovator will make the innovations work and is eager to prove this capability. Another key characteristic is the “over-energetic, over-enthusiastic, over-dynamic” (Gray 1978: 88) nature of this person. It is



evident, that an entrepreneurial innovator will have an impact on any organization and will lead to tensions. Those tensions can be used to increase the innovational potential and furthermore, increase the strategic agility (Doz and Kosonen, 2010).

Tensions in this context are mostly between the adaptability and the efficiency of an organization. In the field of organizational research, this phenomenon is known as organizational ambidexterity (Duncan 1976; Gibson and Birkinshaw 2004). There are a variety of research streams related to organizational ambidexterity. Raisch and Birkinshaw (2008) connect the concept to organizational learning, technological innovation, organizational adaptation, strategic management and organizational design. One concept, that is relevant for the entrepreneurial innovator is the balance or trade-off between exploration and exploitation (March 1991). Exploring new ideas, new methods and new innovations tackle one important aspect of the entrepreneurial innovator. The exploring aspect, however, is typical for any innovator and will solely focus on this aspect. But the entrepreneurial innovator will also look at the exploitation aspect. How can innovations be used efficiently within the organization and placed efficiently on the market? Is it possible to use the innovation to generate revenue? As a result of the definition of an entrepreneurial innovator is a personification of the trade-off discussion within exploration & exploitation. Such person within any organization is capable of finding new innovations and integrates them within the organization. Furthermore, jolt the organization in the sense of creative destruction and in the case of traditional media companies act as a counter-part for the powerful and conservative force based on habits and traditions (New York Times 2014).

### 3. ESPORTS AS ENTREPRENEURIAL INNOVATOR

#### 3.1 From local to global

One relevant aspect of eSports is the potential of any local entrepreneur to act globally. Anything needed is a computer and an Internet connection. In the short history of eSports, it is observable that the big eSports companies started in a local environment and grew naturally into a global player. For example, Turtle Entertainment, one of the biggest eSports tournament operators, started as a German league operator. A recent example is the story of Take TV (Scholz 2013). In 2010 Dennis “Take” Gehlen started to commentate Starcraft games from his home apartment. Over the years, he expanded into bigger accommodations and became a new independent tournament operator. He expanded into new video games and now has a studio with a gaming bar in Krefeld Germany with space for 200 spectators at the location. We chose a recent example to strengthen the permeability within eSports for a person or team with entrepreneurial drive.

Furthermore, eSports is a decentralized phenomenon. People play the video games through the Internet and it is possible to play against anybody on the Earth. Gamers can play in their homes against players from any different continent. That led to virtual teams throughout the world. Although, especially in the competitive gaming field, top players need to stay at one place (e.g. gaming house) everybody else in the organization can work decentralized. Companies like Turtle Entertainment have subsidiaries in over eleven countries and employees all over the world (Stein and Scholz, forthcoming). Especially in the journalistic field of eSports, it is quite common, that these teams are highly decentralized. Already in the beginning of 2000s those news sites and news magazines were driven by a decentralized spirit. People from all over the world worked together and published their news content from home. For example, the first German eSports magazine eMAG (2003 – 2005) had no headquarter and all journalists were spread throughout Germany. Through, constant virtual collaboration and a customized content management system it was possible to produce a monthly magazine. Such system may be standard today; ten years ago this was a process innovation. This led to a virtual organization with local employees.

Another aspect of moving beyond a local media sphere is the branding of players and teams.

Players can interact with their fan base in a more direct way than in any other sports. Due to the fact, that players are truly digital, they are constantly online. It is no difficulty to stream through Twitch training sessions and add a Webcam to the stream. Furthermore, players can interact with fans through chat, Twitter and other social media. Some players are even celebrating events or marathons (Scholz 2013). Although those players are far away from their fans geographically or separated in the tournaments, they seem approachable. They create a connection between player and fan base in a more intimate way than any other sports at the moment. Fans can watch their player train and act casual at home or gaming house. It is possible to work on the brand of a player in more depth and position them far better on the market. Nearly every eSports spectator knows the name Dario “TLO” Wunsch or Carlos “ocelote” Rodríguez Santiago, because they were successful in branding their names and build up a loyal fan base, although, they are not extremely successful in being pro-gamer.

All those examples show that eSports is still permeable for new and innovational ideas. Furthermore, the eSports sphere allows people to work locally and still attract a global audience. Therefore, the product is crucial for the success on the eSports market. Interestingly many success stories within eSports have a focus on a sustainable market growth.

Competitive teams like SK Gaming (founded in 1997), Fnatic (founded in 2004) or Cloud 9 (founded in 2013) grew naturally over time and always with capital and income to sustain such growth. Similar picture can be found in the field of tournament operators. The Electronic Sports League (ESL) or Dreamhack grew over time and became bigger and bigger. Other tournaments like the World Series of Video Games had only short time of success. They started big and collapsed even bigger. Any successful entrepreneurial innovator in eSports has a good product and a big idea but can also manage the growth of their organization. Although it is easy to act on the global market, it is difficult to be competitive on a global market.

### 3.2 From global to local

Within an industry that happens mostly on computers and can be described as a virtual product (Weiss and Schiele 2013) it is interesting to see how much is happening on a local level. First of all, major tournaments are always happening “offline” at an arena or stadium. At the beginning, the major reason was to level the playing field. Ten years ago Internet connections weren’t as good as today and Internet speed was distributed disparate. That means, players with a good Internet connection had an unfair competitive advantage. On professional level such advantage could decide matches. Therefore, meeting up at a certain location was necessary. At the beginning, only few people came to watch those players so the ratio was one player to one spectator. However, over time this changed and tournament operators strived to make eSports events a happening. In addition, the eSports community was spurred by the dream of filling a stadium (Thompson 2015). A study by Eventbrite (2015) surveyed for reasons and the top reasons were: “to be part of the gaming community, to watch their favorite players and teams, to connect with friends they play with and met online, to meet the pro players” (Eventbrite 2015: 3). Today eSports events fill a variety of stadiums, for example the Staples Centre in Los Angeles, the Wembley Arena in London or the Commerzbank Arena in Frankfurt (Nino De Guzman 2015). Furthermore, designated eSports Arenas are build in Los Angeles (Dave 2015) and London (Williams-Grut 2015).

Another aspect of bringing the global eSports phenomenon into a local context is the phenomenon of BarCraft (Kow and Young 2013; Scholz 2013; Harris 2014). BarCrafts are similar to public viewing and most of them are in, as the name anticipates, bars. Similar to the tournaments within the stadium, people are able to meet up with other community members and sometimes even with local professional players. Those players also use BarCrafts to mingle with their fan base. Tournaments and video game developer (e.g. Blizzard) support and embrace those BarCrafts with event platforms or live-relays. At the moment there are nearly over 240 BarCrafts all over the world only for the game StarCraft (Reddit BarCraft 2015). This movement even spawned permanent BarCrafts or dedicated eSports bars. For example, the franchise of Meltdown eSports Bars has currently 25 bars in France, Germany, USA, Canada and so on.

The world of eSports is still embracing their local environment. “One of the interesting things about e-sports is the way it is constructed across national lines but still quite rooted and shaped by local contexts” (Taylor 2012: 243). Teams and players are still seen from a national or continental perspective. In some tournaments it can be even seen, that teams or players have a home field advantage. For example, the polish audience frenetically celebrated the polish Counter-Strike team Virtus Pro at the IEM Katowice. In addition, there are still significant differences between South Korea, Europe and U.S.A. (Jacobs 2015). Especially in a digital world, in which avatars are fighting against each other, a strong brand is crucial (Warr 2014) and furthermore the fan base need to identify with players or teams. And it seems to work well as Franke states: “What makes eSports so valuable for marketing is the level of involvement of consumers with the product” (2015: 139).

## 4. IMPLICATIONS

Being global and local at the same time is an aspect that is integral part of eSports. Taylor summarizes it as follows: “Neither one nor the other vector predominates but instead there is a complex interplay between a construction of the global and local” (2012: 244). Both worlds are blurred, and everybody in sports seems to understand this complex interplay. Innovations within eSports are general going from global to local as well as local to global in a seemingly natural way. Such behavior is beneficial in the traditional media sphere, as any content can compete on a global market. However, there are still typical reactions like geo-blocking (Newman 2012), pay-walls or other restrictions for the users. The entrepreneurial innovators within eSports are tackling those questions in a different way and are able to produce revenue.

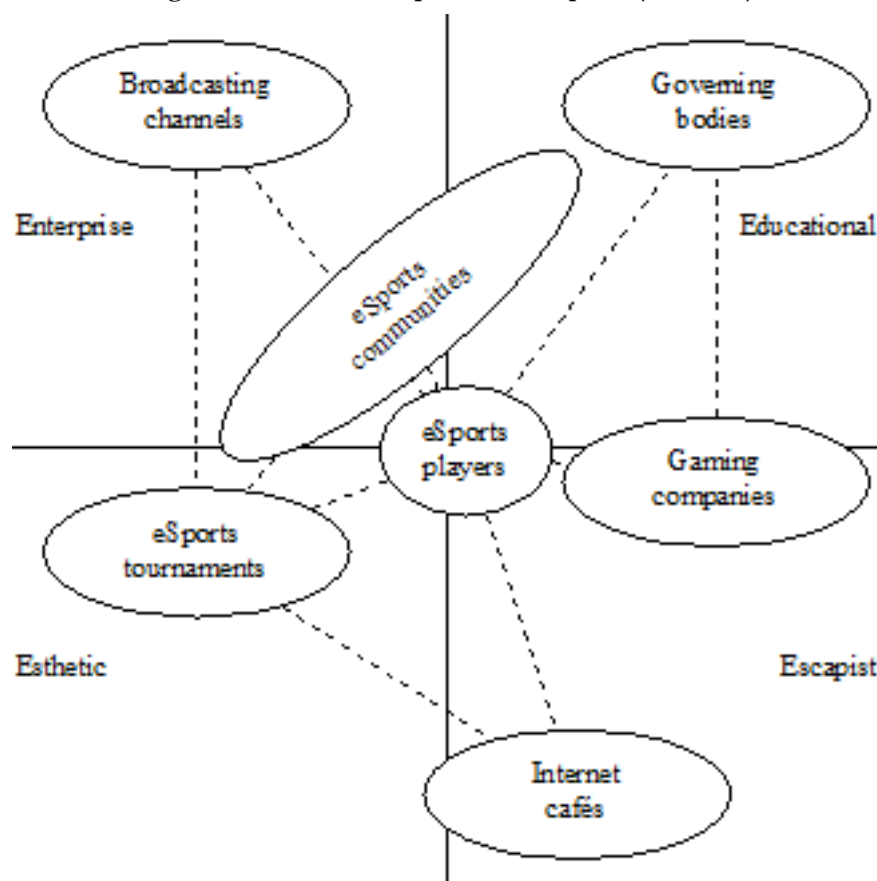
Interestingly there is an article on what are key characteristics for an eSports entrepreneur (Nolte 2015). The author mentions that perseverance, passion, networking skills and visionary are crucial. Although, those characteristics seem relatively normal for entrepreneurship, passion is the most critical one. Nolte states that taking love of gaming and turning into a career is essential. As stated earlier love for the game drives the industry and people within eSports are willingly investing a major part of their time and life to make eSports grow. Players train for hours up to 14 hours per day

(Donahue 2013). The workload for the crew of tournaments or commentators is also similar exhaustive. For example, the finals of the League of Legends World Championship spread over a complete month and travelled from Paris, London, Brussels to Berlin. Building stages, installing technology, catering players and audience as well as streaming the tournament means a much work for the complete crew. The whole team is mostly infused by the love and passion for their game and making something special. The goal is to make the event happen and after the event try to make it bigger and better. Strive to constantly rise the bar (Scholz 2015) is within the DNA of eSports. Such motivation is mostly intrinsically and is, therefore, often expected by the colleagues. Exploitation is a normal aspect within eSports and the scene can be seen as highly exploitative. For example, the Take TV example is highly driven by the community and volunteers. Those volunteers are contributing freely towards those projects and contribute their manpower as well as their innovational power. That contributes to the exploitation from a business perspective. The costs are relatively cheap, but eSports companies are seeking for a variety of ways to monetize their products. It is often a mix of sponsoring, advertisements, donations (especially crowdfunding), promotions, merchandise or even in-game items.

Concerning the ambidexterity, we see that exploitation is high, but also exploration is also high. The field of eSports seems to constantly evolve. Tournament stages grow and change over time (Kelly 2011; Horstmann 2015, Taylor 2015). Products like Twitch transformed the field of streaming and many popular streamers follow those innovations. Making a profit from a digital product is something the traditional media sphere is still struggling, however, eSports is capable of making money from broadcasting (Scholz 2013) without investing in expensive studios. Interestingly, as every media company is moving towards the Internet (or broadcasting in general) and neglecting their local product, as we can see in Football in the UK and the rise of ticket prices (Sheen 2014), eSports has a strong focus on the offline experience in arenas or stadiums. Why should you watch a video game live in an arena, although, you could watch it at home whenever you want? That is an interesting question and the traditional media sphere should explore those innovations in eSports.

Both exploration and exploitation are high in eSports and therefore it is an interesting investment for media companies to buy such companies. Sure, they have knowledge about eSports and often have a working infrastructure or a great product. But also, they have passionate people; those people are willingly dedicating a great amount of time and are highly passionate (Giannacco 2015). Furthermore, those people are adventurer, tinkerer and constantly explore new ideas (Scholz, 2015). In a relatively short time, eSports build a self-sustaining media sphere and value network without influence of any other media company or other media sphere as depicted in figure 1.

Figure 1. Network of eSports consumption (Seo, 2013)



Subsequently, any entrepreneurial innovator would be beneficial for media management, due to the reason they are trying to balance between exploration and exploitation. Furthermore, they are not trying to uphold a system, if it is no longer efficient anymore. By the time change is needed, they will try to enforce creative destruction. This behavior characteristic can be called “Built-In Schumpeters” (Scholz and Reichstein 2015) and is especially needed in the fast-paced media sphere. In addition, the entrepreneurial innovator is capable of bridging global media and local entrepreneurship.

## 5. CONCLUSION

Only time will tell, how much eSports will grow in future. Maybe it will stay a niche industry or it will become a global phenomenon. As stated in the title sky is the limit, but that is not the crucial point of the paper. The scene of eSports grew over time into a unique media sphere and raised a special type of person in that time. The combination of entrepreneurial spirit as well as innovational drive was and still is necessary in order to establish growth in the eSports industry. Due to the fast-paced nature of eSports both aspects are essential for the survivability of any eSports company. Those people seem to be the archetype for an entrepreneurial innovator, a type is still lacking in many media companies.

Therefore, companies that are acquiring eSports organization are not only buying into the industry but also get a special type of people that are more balanced than risk-taking star-up entrepreneurs and risk-averting traditional companies. It will be interesting to observe, how those entrepreneurial innovators are influencing and shaping outside the eSports media sphere and within the general media sphere. In the end, traditional media companies should try to take a look at the playbook of eSports companies as they are trying to reach for the stars, but grow sustainable from a business perspective and settle for the sky as the limit.

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# EMOTIONAL LABOR E SATISFAÇÃO DO TURISTA COM A EXPERIÊNCIA DE CONSUMO NO ESTABELECIMENTO DE RESTAURAÇÃO: UM MODELO CONCEPTUAL DE ANÁLISE

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## RESUMO

A expressão de certas emoções é, muitas vezes, algo requerido aos trabalhadores de empresas prestadoras de serviços. De facto, vários estudos têm sublinhado a importância do chamado *emotional labor* na satisfação dos clientes. A presente comunicação é um primeiro esforço de tentar estabelecer a relação, ainda pouco explorada, entre *emotional labor* e satisfação do turista com a experiência de consumo vivenciada no estabelecimento de restauração. Para tal, propõe-se um modelo conceptual de análise em contexto laboral exigente de encontro de serviço e processo de interação. Este modelo será empiricamente testado no Restaurante Alecrim, localizado no destino turístico de Estremoz (Alentejo), para (a) compreender a percepção do turista sobre *emotional labor* em cada tarefa e procedimentos operacionais que permitem proporcionar a experiência em cada momento de elevado contacto e (b) estabelecer a relação entre *emotional labor* e a satisfação global do turista com a experiência vivenciada.

Palavras-chave: *Emotional Labor*, Satisfação do Turista, Experiência de Consumo, Estabelecimento de Restauração.

## ABSTRACT

Service employees are often required to express certain emotions to their customers. Indeed, several studies have been pointing out the importance of the so-called emotional labor on customer's satisfaction. This paper is a first attempt to investigate the underexplored relationship between emotional labor and tourist satisfaction with the consumption experience provided by the restaurant facility. A conceptual model of analysis in labor demanding context of service encounter and interaction process will be hereby presented. Moreover, this conceptual model of analysis will be empirically tested in the *Restaurante Alecrim*, a restaurant located in the Portuguese tourist destination of Estremoz (Alentejo). The goals of this model are twofold: (a) understand the tourist perception of emotional labor in each moment of direct contact with the restaurant employees during his consumption experience; (b) establish the relationship between emotional labor and the overall tourist satisfaction with the consumption experience.

Keywords: Emotional Labor, Tourist Satisfaction, Consumption Experience, Restaurant Facility.

JEL Classification: M310, M540.

## 1. INTRODUÇÃO

As pessoas de negócios muitas vezes falam de “boas práticas” quando desenham sistemas, formulam estratégias e definem soluções (Arussy, 2010). Segundo Arussy (2010), medir o que interessa não é um “conceito” novo para as empresas que procuram envolver-se na experiência do cliente.

Conhecer o que interessa na experiência do cliente é um novo território, o que apela à mudança, ou seja, à procura de métricas que permitam medir a experiência de serviço composta por fases, tal como Jüttner, Schaffner, Windler and Maklan (2013) as designam em contexto de restauração. Estas fases são a tomada de decisão, a reserva, a chegada ao estabelecimento de restauração e *check-in*, a ocupação de mesa, as experiências no local, o *check-out* e a partida, e o tempo após a experiência gastronómica e de vinhos.

Pode-se então considerar que a criação de uma experiência memorável (Lindgreen, Vanhamme and Neverland, 2009), como suplemento de um produto ou de um serviço, abrange o processo mental, um estado da mente (podendo ser uma sensação ou uma emoção) que é valorizado na combinação de um produto ou serviço com um momento considerado único de consumo, cuja vivência se torna memorável, por constituir uma experiência emocionalmente rica.



Daqui decorre que a experiência do cliente é originada em um conjunto de interações entre o cliente e o produto ou serviço, a empresa ou uma parte da sua organização, interações essas que provocam reações (Gentile, Spiller and Noci, 2007).

Por exemplo, Lindgreen *et al.* (2009) obtiveram resultados da sua investigação empírica que interpretam em reações geralmente positivas das pessoas, muito embora a maioria destas não tenha tido uma experiência anterior às situações hedônicas associadas aos encontros de serviço nos quais essas pessoas participam com expectativas relativamente vagas. Significa que estas expectativas formadas estarão relacionadas com as experiências anteriormente vivenciadas e serão comparadas com as memórias que resultam de uma experiência emocionalmente rica. Numa avaliação holística, a experiência como um todo, na sua avaliação geral, tem mais significado do que a soma das partes.

A investigação de Lindgreen *et al.* (2009) incide sobre a análise das reações dos clientes na avaliação das suas experiências de jantar, recorrendo à análise de conteúdo em três sites: citysearch.com, epinions.com e tripadvisor.com, e abrangendo quatro restaurantes, cada um com três estrelas Michelin, incluídos numa lista do top 50 do mundo, em que a atmosfera e a qualidade do serviço ajudam a criar uma imagem de luxo.

Por sua vez, Meyer and Schwager (2007) definem a experiência como uma resposta interna e subjetiva do cliente a qualquer contacto direto ou indireto deste com a empresa. Neste sentido, os mesmos autores entendem que as empresas devem identificar as componentes das experiências que resultam em satisfação do cliente, realçando que a maioria das experiências não é consequência das ofertas das empresas, o que requer um reexame das suas iniciativas.

Deste modo, torna-se necessário enquadrar os encontros de serviços, entre clientes e prestadores (Voss, Roth and Chase, 2008), pois não só compreendem múltiplas interações de serviço e canais de distribuição, como também envolvem a componente temporal significativa e a estratégia de operações da empresa. Esta estratégia consiste em lidar com cada vez mais encontros de serviços e mais complexos. Chauhan and Manhas (2014) verificam que a experiência do cliente é um constructo multidimensional.

Autores como Gil (2001) têm salientado a importância do pessoal das empresas de serviços na satisfação do cliente com a sua experiência de consumo. O encontro de serviço é caracterizado por um processo de elevada participação do cliente (Chathoth, Altiney, Harrington, Okumus and Chan, 2013). Neste contexto de encontro de serviço, a performance do *emotional labour* envolve mostrar uma emoção desejada ao nível do empregador, tal como a afabilidade, pelo pessoal de contacto nas suas interações com os clientes (Anderson, Provis and Chappel, 2002).

Relativamente à gestão das emoções em contexto organizacional (*emotional labor*), Carvalho, Serra, Silva and Figueiredo (2011) salientam que ao longo do tempo, vários autores (e.g. Briner, 1999; Morris and Feldman, 1996) procuraram compreender a relação das emoções com o comportamento organizacional, apontando-as como um tópico central não só da vida de cada individuo, como da vida das organizações.

Mas uma questão se levanta: **Qual a natureza do efeito do resultado da performance de *emotional labor* em termos de satisfação do turista com a experiência vivenciada no estabelecimento de restauração?**

## 2. ENQUADRAMENTO TEÓRICO E CONCEPTUAL

### 2.1 Emotional labor

Goleman (1997:310) interpreta “emoção como referindo-se a um sentimento e aos raciocínios daí derivados, estados psicológicos e biológicos, e o leque de propensões para a ação.” Este autor entende que há centenas de emoções, incluindo as respetivas combinações, variações, mutações e tonalidades, e apresenta algumas categorias: ira, tristeza, medo, prazer, amor, bem-estar, surpresa, aversão e vergonha.

Por sua vez, Goleman (1998) entende que a inteligência emocional determina o potencial para a aprendizagem das aptidões práticas que se baseiam em cinco elementos: autoconsciência, motivação, autodomínio, empatia e talento nas relações. Assim, de acordo com este autor, a competência emocional mostra até que ponto se traduz esse potencial nas capacidades profissionais, pelo que é uma capacidade aprendida, suportada na inteligência emocional, que resulta num desempenho extraordinário no trabalho. Por exemplo, significa que ser bom no atendimento de clientes é uma competência emocional baseada na empatia.

Deste modo, Goleman (1998) refere que no cerne da competência está a empatia, enquanto capacidade para a leitura dos sentimentos dos outros, e as aptidões sociais, sendo estas traduzidas na capacidade que permite lidar com esses sentimentos com mestria.

Goleman (1998) apresenta um quadro da competência emocional composto por competência pessoal (autoconsciência emocional, autoavaliação precisa, autoconfiança, autodomínio, inspirar confiança, ser consciencioso, adaptabilidade, inovação, vontade de triunfar, empenho, iniciativa, otimismo) e competência social (compreender os outros, desenvolver os outros, orientação para o serviço, potenciar a diversidade, consciência política, influência, comunicação, gestão de conflitos, liderança, catalisador da mudança, criar laços, colaboração e cooperação, capacidades de equipa).

Não obstante, no contexto de encontro de serviço, a performance de *emotional labour* envolve mostrar uma emoção desejada ao nível do empregador, tal como a afabilidade, pelo pessoal de contacto nas suas interações com os clientes, sendo reconhecido que o estado de esgotamento, enquanto síndrome da exaustão emocional, é uma das consequências negativas da *performance* que depende da maneira como o trabalho é realizado (Anderson *et al.*, 2002).

O conceito de *emotional labour* introduzido por Hochschild (1983) refere-se à dimensão afetiva no trabalho de prestação do serviço. Este autor explica que o estilo emocional da prestação do serviço faz parte do próprio serviço e que o *emotional labour* requer um estilo para induzir ou suprimir sentimentos que permitam sustentar o semblante exterior capaz de produzir o bom estado da mente nos outros. Para Hochschild (1983), a comercialização da emoção tem, muitas vezes, consequências negativas para os trabalhadores do serviço, concluindo que o *emotional labour* produz dissonância emocional, consistindo esta na diferença entre o sentimento e fingimento, o que leva os trabalhadores a sentirem determinada tensão.

Por sua vez, Godwyn (2006) demonstra na sua investigação que a dissonância emocional não é necessariamente uma consequência da *emotional labour* na realização da prestação do serviço, mas pode ser contingente ou circunstancial, dependendo ainda se o trabalhador utiliza uma abordagem relacional ou transaccional.

O sucesso da gestão de *emotional labor* resulta na satisfação do cliente e da sua fidelização (Ashkanasy, Härtel and Daus, 2002) e o cliente deteta as expressões emocionais autênticas ou não autênticas através da comunicação não verbal (Van Dijk, Smith and Cooper, 2011).

Não obstante, vários autores consideram o constructo *emotional labor* multidimensional (e.g. Brotheridge and Lee, 2003; Zapf and Holz, 2006), por estar relacionado com fatores individuais e organizacionais (e.g., afetividade, autonomia na execução das tarefas, rotina das tarefas) e com dimensões que podem ter efeitos positivos ou negativos no bem-estar pessoal e profissional (e.g. satisfação no trabalho, envolvimento no trabalho, comprometimento organizacional; desmotivação no trabalho, stresse, *burnout*).

Por outro lado, o *emotional labor* é avaliado de acordo com os processos de regulação e controlo de emoções do pessoal de contacto, que tentam modificar as suas expressões emocionais por exigências do trabalho (Grandey, 2000; Pugliesi, 1999). Estes processos têm estratégias associadas que se designam por estratégias individuais de regulação e controlo emocional no trabalho, as quais abrangem a modificação de expressões emocionais (*surface acting*), modelando respostas de maneira a fingir emoções, e a modificação de sentimentos e pensamentos (*deep acting*), de maneira que aquilo que se sente e pensa deve corresponder ao que é exigido (Brotheridge and Lee, 2003; Montgomery, Panagopolou, Wildt and Meenks, 2006).

A literatura também identifica uma associação entre a satisfação do pessoal de contacto com o trabalho e a satisfação do cliente, uma vez que o pessoal de contacto e o cliente são emocionalmente ligados no processo de interação, pelo que as suas atitudes e emoções tendem a convergir (e.g. Hur, Moon and Jung, 2015; Schneider and Bowen, 1985). Durante o encontro de serviço, as perceções de qualidade do serviço e de valor gerado pela interação entre o pessoal de contacto e o cliente permitem o suporte para a ligação entre a satisfação do pessoal de contacto com o trabalho e a satisfação do cliente (Hur *et al.*, 2015).

O resultado da prestação do serviço (perceção de orientação para o cliente e de qualidade do serviço), em termos de satisfação do cliente, é influenciado de maneira diferente pelas estratégias individuais (*deep acting* e *surface acting*) de regulação e controlo de emoções no trabalho (Groth, Henning-Thurau and Walsh, 2009). Assim, segundo Hur *et al.* (2015), *emotional labor* tem efeitos no cliente, dado que a efetiva regulação das emoções do pessoal de contacto desempenha um papel chave no encontro de serviço por afetarem as emoções, as atitudes e comportamentos do cliente, influenciando a satisfação deste com o serviço prestado.

Significa que as emoções exibidas pelo pessoal de contacto têm um forte impacto na avaliação dos eventos de serviço (i.e. eventos emocionais) por parte do cliente, o que permite que este tenha a perceção sobre se as suas expectativas e necessidades são satisfeitas pelo produto ou serviço (Zeithaml, Bitner and Genier, 2009). Neste sentido, vários autores (e.g. Hur *et al.*, 2015; Tsai, 2001) salientam que o processo de interação, o qual assume uma natureza emocional, entre o prestador do serviço e o cliente, influenciará a experiência de consumo e a perceção da qualidade do serviço. Não obstante, Hur *et al.* (2015) entende que a regulação das emoções do pessoal de contacto (*estratégias de emotional labor*) durante o encontro de serviço tem impacto na satisfação do cliente, por via da satisfação no trabalho e da exaustão profissional, que moderam o efeito indireto que se verifica de *deep acting* (pessoal de contacto expressa emoções genuínas no trabalho, resultando um impacto positivo) ou de *surface acting* (pessoal de contacto não expressa emoções negativas, modificando o que é visível, para expressar emoções positivas não genuínas, resultando um impacto negativo), sendo, deste modo, essencial para o sucesso da prestação do serviço.

## 2.2 Satisfação do turista com a experiência de consumo vivenciada

Tanto a perceção após a vivência da experiência de consumo como a variação da perceção devido à vivência da experiência conduz à satisfação do turista. Deste modo, a perceção de qualidade do serviço após a vivência da experiência gastronómica e de vinhos, com a variação de perceção de qualidade durante a vivência, quando comparado

com a respetiva expectativa, conduz à satisfação do cliente com a experiência vivenciada no restaurante. Significa que o cliente encontrou melhor do que esperava (Zeithaml *et al.*, 2009).

A economia da experiência bem como o sistema de produção da experiência, ou seja, a maneira de produzir e entregar a experiência, abrangem várias indústrias (Sundbo and Darmer, 2008). Segundo Sundbo and Darner (2008), o referido sistema inclui o modelo geral de negócio, a estrutura de organização e gestão da produção da experiência, a gestão estratégica dos recursos humanos e das capacidades necessárias, para criar a experiência, a maneira como a empresa inova, e a maneira como a experiência é entregue.

Não obstante, em vez de produção da experiência e sua entrega, assume-se a utilização dos termos “proporcionar” a experiência pela empresa (oferta económica) e “revelador” enquanto a experiência dura (abastecimento ou entrega pela empresa), os quais são utilizados por Pine II and Gilmore (1998) e Gilmore and Pine II (2002).

Para Schmitt (1999), uma experiência é um acontecimento individual que ocorre como resposta a um estímulo, o qual provoca diferentes sensações, emoções, comportamentos e valores relacionais que substituem os valores funcionais. E Bigné, Andreu and Gnoth (2005) referem que existe uma relação entre as emoções, a satisfação e a experiência. Na sua investigação, estes autores concluem que na experiência turística as emoções podem ser elementos explicativos da satisfação do turista.

Variadas vezes, as experiências são proporcionadas e também cocriadas através da interação entre o cliente e o prestador do serviço, numa perspetiva de cocriação de valor, tal como sugerem Prahalad and Ramaswamy (2003) e Chathoth, Altinay, Harrington, Okumus, and Chan (2013). Segundo Heinonet, Strandvik, Mickelsson, Edvardsson and Sundström (2010), o cliente do serviço é considerado o foco da atenção no processo de interação e cocriação de valor, numa lógica dominante do cliente de serviço, e não tanto na lógica dominante do serviço. Sabe-se que a lógica dominante do serviço tem sido defendida por Vargo and Lusch (2004) e Lusch and Vargo (2011).

Também Lusch, Vargo and O'Brien (2007) defendem que a lógica dominante do serviço fornece a *framework* para o pensamento com mais clareza sobre o conceito de serviço e o seu papel na troca de valor e na competitividade da empresa através do serviço. Neste processo de troca, a prestação do serviço e o consumo do mesmo ocorrem em simultâneo, o que traduz a natureza interativa das atividades de serviço.

Assim, segundo Grönroos and Ravald (2011), a lógica de serviço deve permitir a criação recíproca de valor, sendo esta a base do negócio. Significa, então, que o fornecedor é um facilitador da criação de valor do cliente com recursos e processos interativos (bens, atividades de serviço, informação, etc.) e, durante as interações com o cliente, o fornecedor torna-se um cocriador de valor.

Nesses processos interativos, o pessoal de contacto deve expressar as emoções consideradas desejáveis e adequadas pelas organizações (Zapf and Holz, 2006). Deste modo, e uma vez que as expressões emocionais do pessoal de contacto com o cliente podem ter efeito em termos de resultados obtidos pelas organizações, então estas tendem a considerar cada vez mais importante a maneira como esse pessoal de contacto se interage com os clientes, o que implica a definição de regras explícitas e ou implícitas, para a expressão das emoções (Hochschild, 1983). Nestes termos, segundo Zapf (2002), o pessoal de contacto deve preocupar-se com a gestão das suas manifestações emocionais, que fazem parte de uma exigência do seu trabalho, para além de concretizar a execução eficaz das suas tarefas.

Por outro lado, a experiência do cliente, como um constructo, deve ser concetualmente validado, o que é aliás proposto na investigação concetual de Palmer (2010). De facto, Palmer (2010) aborda a experiência do cliente no âmbito da gestão da experiência do cliente (CME), matéria que tem vindo a assumir importância na literatura, cuja evidência é corroborada pelo autor ao afirmar que muitas empresas abordam a gestão da experiência do cliente como sucessor da gestão da relação com o cliente (CRM).

Não obstante, Frow and Payne (2007) defendem que a experiência necessita de ser considerada ao longo do ciclo de vida da relação com o cliente. Ora, Palmer (2010) conclui que a experiência pode ser formada dentro de qualquer parte do processo de prestação do serviço, mesmo na que não é controlada pela empresa.

Ainda segundo Frow and Payne (2007), a relação do cliente com o fornecedor do serviço pode englobar centenas de experiências que se manifestam em diferentes pontos de contacto, envolvendo a memória do cliente. Os mesmos autores defendem que a memória na experiência de serviço é objeto de debate, pelo que se questiona o efeito da memória. Por outro lado, a memória presume “respostas aprendidas,” podendo estas serem inconsistentes com a definição de experiência do cliente, que enfatiza as respostas a estímulos da empresa, tal como Jüttner *et al.* (2013) referem, também citando os autores atrás referidos.

Para medir a experiência de serviço do cliente, Jüttner *et al.* (2013) propõem uma métrica que integra duas técnicas estabelecidas no comportamento do consumidor e no marketing de serviços, isto é, a *laddering technique* (Reynolds and Gutman, 1988 e Reynolds and Philips, 2008) e a *sequential incident technique* (Gremler, 2004 e Strauss and Weinlich, 1997). De salientar que Jüttner *et al.* (2013) consideram que tais técnicas são acessíveis às pequenas empresas.

Por outro lado, é relevante que Jüttner *et al.* (2013) assumam que a experiência do cliente é composta por quatro vias (forte influência do processamento cognitivo, processamento maioritariamente cognitivo, processamento maioritariamente emocional e forte influência do processamento das emoções) de interação em contínuo entre o

processamento cognitivo e as emoções. Contudo, não é possível perceber qual das quatro vias ocorre em primeiro lugar. Tal constitui um interesse de investigação futura, exatamente por não se saber, em concreto, a que via se dirigem os estímulos da empresa e qual dos processamentos é atingido em primeiro lugar e os restantes, numa certa ordem, se tal for possível. Consequentemente, não é perceptível à empresa a direção das respostas, pela intensidade das reações dos clientes, aos estímulos.

Através de investigação anterior, verifica-se que as respostas cognitivas e emocionais predizem a satisfação do cliente (e.g. Homburg, Koschat and Hoyer, 2006; Phillips and Baumgartner, 2002). Também a definição de estímulos de natureza cognitiva e emocional, para a experiência do cliente, tem sido um tema que tem conduzido a literatura sobre o desenho da experiência de serviço (e.g. Berry, Carbone and Haeckel, 2002; Laros and Steenkamp, 2005; Mattila and Enz, 2002).

Por sua vez, Woodruff *et al.* (1983) entendem a satisfação como uma resposta emocional positiva ou negativa à desconfirmação entre o que se espera e o que se encontra numa determinada zona de diferença. Já Hunt (1977) tinha entendido que o prazer retirado da experiência de consumo é a avaliação de que a experiência foi, no mínimo, tão boa como se esperava que fosse. Isto implica avaliação cognitiva.

Giese and Cote (2000) encontraram na literatura uma definição unânime que considera a satisfação como um tipo de resposta, é emocional, baseada numa avaliação cognitiva de expetativas, produtos, experiências de consumo, entre outros, que ocorre num período específico, tal como antes da compra, depois do consumo ou depois da experiência alargada.

Por outro lado, a Organização Mundial de Turismo (OMT, 1985) define satisfação do cliente de turismo como um conceito psicológico que envolve o sentimento de bem-estar que resulta da obtenção do que alguém deseja e espera de um produto ou serviço. Sendo a satisfação um estado emocional do turista, o levantamento da questão das emoções e da sua importância no processo de decisão de compra, tal como abordado por Holbrook and Hirschman (1982), tem perfeito enquadramento. Estes autores introduziram o conceito de consumo hedónico, no qual o comportamento do consumidor é influenciado por estímulos sensoriais (visão, audição, olfato, tato e paladar) e por emoções positivas ou negativas, tal como o prazer ou mau humor, e ainda por fantasias do consumidor sobre aspetos que nunca experienciou. Também Parasuraman, Zeithaml and Berry (1988) entendem a satisfação como o conjunto das emoções que resultam da confirmação ou não das expetativas e sentimentos formulados previamente em relação à experiência de consumo. Por isso, as emoções positivas têm efeito na satisfação.

### 3. PROPOSTA DE MODELO DE ANÁLISE

Os estudos prévios não abrangem a definição e operacionalização do *emotional labor* de maneira a integrar o efeito dos estados emocionais do pessoal de contacto em termos de emoções do cliente em contexto de experiência de consumo proporcionada pelo estabelecimento de restauração, em ambiente de encontro de serviço e processo de interação. A escolha da estratégia de *emotional labor* e o seu impacto na gestão das emoções quando a interação com o cliente requer que o pessoal de contacto do estabelecimento de restauração procure mostrar certas expressões ao cliente pode relacionar-se com as emoções associadas com a experiência de consumo que influi na satisfação do turista (consumidor de serviço turístico de restauração).

A literatura apresenta vários modelos de *emotional labor* (e.g. Ashforth and Humphrey, 1993; Grandey, 2000; Hochschild, 1983; Morris and Feldman, 1996), mas nenhum integra a investigação do processo de satisfação de atividades turísticas específicas, como seja a de prestação do serviço em estabelecimento de restauração.

As dimensões consideradas do *emotional labor*, da experiência e da satisfação encontram-se na Figura 1 a seguir apresentada e cujo significado e relação de cada uma também se encontra representado no modelo concetual de análise que se propõe e que consta da referida Figura 1, considerado em contexto laboral exigente de encontro de serviço e processo de interação. Este modelo acolhe uma adaptação dos vários modelos de *emotional labor* antes referidos, mas é fundamentalmente suportado no modelo de Grandey (2000). Integra quatro dimensões: estratégias de regulação e controlo de emoções do pessoal de contacto, com os seus antecedentes (expetativas de interação com o cliente, eventos emocionais no trabalho, fatores individuais e fatores organizacionais), bem como os seus efeitos (estados emocionais de satisfação no trabalho e exaustão profissional / stress); experiências do turista (Pacheco, 2014; Schmitt, 1999) e satisfação do turista (Martins, Mendes and Guerreiro, 2011) com a experiência de consumo vivenciada no estabelecimento de restauração. Com este modelo de análise procura-se encontrar resposta para a questão da natureza do efeito do resultado do *emotional labor* em termos de satisfação do turista com a experiência vivenciada no estabelecimento de restauração.

#### 3.1 Expetativas de interação com o cliente

Grandey (2000) refere que poucos investigadores as diferentes expressões emocionais requeridas pelo trabalho

na organização. Geralmente, do pessoal de contacto na restauração é esperado que expressem as emoções de alegria e de simpatia, suprimindo as emoções diferentes. Estas expectativas de emoções são controladas pelas *display rules* da organização (regras e normas para expressões emocionais desejáveis), as quais podem ser normas informais ou processos formais (Hochschild, 1983). Ainda segundo Hochschild (1983) e Morris and Feldman (1996), certas características do trabalho (i.e. a natureza da interação com o cliente, a frequência de contacto, a duração da interação e a variedade e intensidade das expressões emocionais) podem requerer um elevado nível de *emotional labor* do pessoal de contacto. Também Diefendorff and Gosserand (2003) se referem às *display rules* da organização, considerando desejável que o pessoal de contacto mantenha contacto no olhar, sorria e fale com tom amigável.

### 3.2 Eventos emocionais no trabalho

Um evento emocional pode conduzir a mais regulação e controlo de emoções no trabalho quanto o evento resulta em emoções discrepantes das regras e normas para expressões emocionais desejáveis pela organização (Grandey, 2000). Por exemplo, o evento pode envolver um cliente que se irrita e culpa o empregado por uma falha no serviço, requerendo uma regulação de emoções para manter a aparência apropriada do empregado no trabalho, dado que o evento criou uma emoção negativa.

### 3.3 Fatores individuais e organizacionais

Estes fatores afetam o *emotional labor* e, por isso, devem ser considerados na investigação, uma vez que existem diferenças individuais e organizacionais significativas (Grandey, 2000). Em relação às diferenças individuais, realça-se o sexo, as expressões emocionais, a inteligência emocional e a afetividade. Relativamente aos fatores organizacionais considera-se a autonomia na execução das tarefas, a supervisão, a ajuda de colegas de trabalho e a formação.

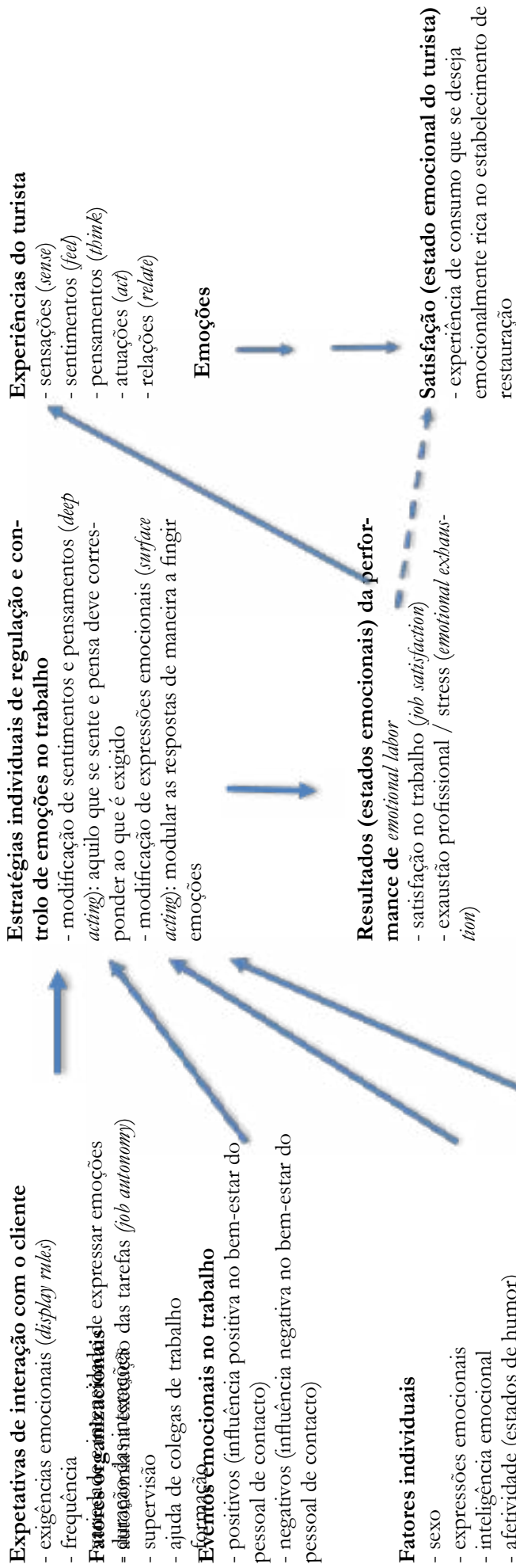
#### 3.3.1 *Deep acting e surface acting*

São duas estratégias individuais de regulação e controlo de emoções do pessoal de contacto que influem na satisfação no trabalho (*job satisfaction*) e na exaustão profissional / *stress (emotional exhaustion)*, traduzindo, deste modo, a performance de *emotional labor*. Vários autores defendem que com a estratégia de *deep acting* o pessoal de contacto procura modificar os sentimentos e pensamentos, para aquilo que sente e pensa corresponda ao que é exigido (e.g. Brotheridge and Grandey, 2002; Panagopolou *et al.*, 2006). Assim, o pessoal de contacto implementa a estratégia de *deep acting* quando a de *surface acting* parece ser demasiado contruído para satisfazer as expectativas dos clientes (Zapf, 2006).

#### 3.3.2 *Satisfação do turista com a experiência de consumo vivenciada*

Hur *et al.* (2015) concluem que a satisfação no trabalho medeia a relação entre *emotional labor* e a satisfação do cliente na interação de serviço. Estes autores defendem que as estratégias de regulação emocional, através de *deep acting* ou de *surface acting*, durante o encontro de serviço têm impacto direto na satisfação do cliente e por via da satisfação no trabalho. Na perspectiva destes autores, interessa também considerar o impacto da regulação emocional na satisfação do cliente, por via da exaustão profissional / *stress*, enquanto variável mediadora.

Figura 1 – Proposta de modelo conceitual de análise em contexto laboral exigente de encontro de serviço e processo de interação



Qual a natureza do efeito do resultado da performance de *emotional labor* em termos de satisfação do turista com a experiência vivenciada no estabelecimento de restauração?

Fonte: Adaptado de Grandey (2000) e Pacheco (2014)

#### 4. CONSIDERAÇÕES FINAIS E INVESTIGAÇÃO FUTURA

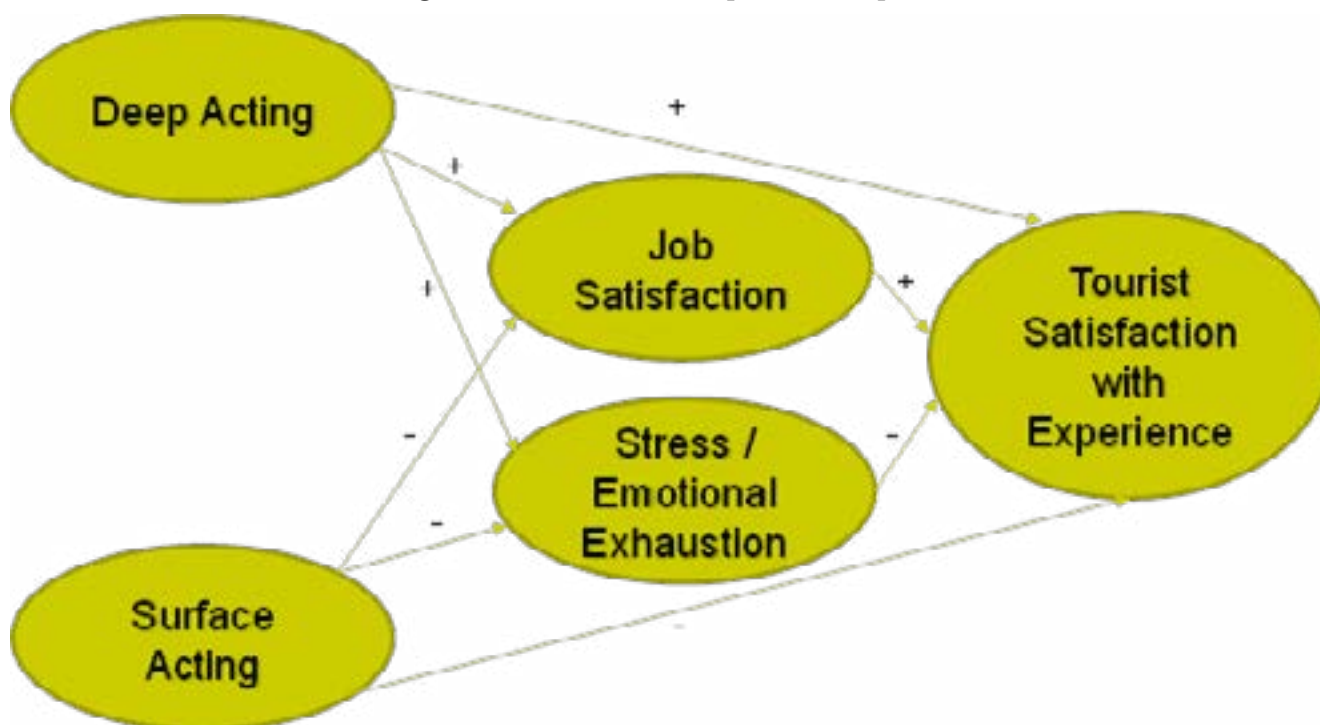
No seguimento do enquadramento teórico, verifica-se que a resposta à questão levantada na “Introdução,” apenas pode ser analisada ao nível da proposta de modelo de análise antes desenvolvido, não significando que este seja a resposta, como se fosse a resolução de um problema de investigação formulado. Mas, pode constituir a explicação de um caminho a seguir.

Na restauração e outras indústrias a qualidade do serviço e a satisfação do cliente com a experiência de consumo vivenciada são determinados pelo pessoal de contacto no encontro de serviço e processo de interação com o cliente. Assim, a emoção inerente às relações sociais envolvidas nessas interações são muito importantes, uma vez que podem influenciar a percepção de qualidade do serviço e esta, por sua vez, influir na satisfação com a experiência de consumo vivenciada pelo cliente, a qual se deseja única e memorável.

O modelo conceitual de análise proposto será empiricamente testado no Restaurante Alecrim, um investimento recente no Alentejo com o conceito de experiência gastronómica e de vinhos apoiado no âmbito do Portugal 2020 e que emprega um número significativo de pessoas em regime de estágio – emprego, o que coloca um desafio interessante para testar o modelo.

Na Figura 2 a seguir apresentada pode-se resumir o modelo de análise antes proposto na Figura 1 a um modelo que permite operacionalizar o teste empírico.

Figura 2 – Modelo de análise para teste empírico



Os procedimentos associados ao teste empírico do modelo abrangem inquéritos para recolha de dados imediatamente após a transação de serviço com a escala de resposta tipo Likert de 1=fortemente em desacordo a 7=fortemente de acordo (Groth *et al.*, 2009). Os questionário aos colaboradores com as variáveis idade, sexo, tempo de serviço e com os itens das duas estratégias de emotional labor (deep e surface acting) no fim de cada encontro de serviço, abrangendo o período diário durante 6 semanas, sem repetições, com início em 01 de junho de 2016, usando as medidas de Grandey (2003). Estes questionários serão elaborados em Português, Inglês e Castelhana aos clientes não residentes, abrangendo o mesmo período, com as variáveis idade e sexo, para avaliar a percepção das estratégias de emotional labor (deep e surface acting) do colaborador, seguindo o método de Groth *et al.* (2009) e usando os mesmos itens do questionário aos colaboradores adaptados para refletir a perspetiva do cliente.

Por sua vez, os questionários aos colaboradores inclui ainda os itens para avaliar o constructo job satisfaction, usando as medidas de Hur *et al.* (2015), emotional exhaustion, usando as medidas de Brotheridge (2002) e Hwa (2012), e os itens para avaliar a satisfação com a experiência de consumo vivenciada, usando as medidas de Hur *et al.* (2015) e Tsai (2001).

O Encontro de serviço constitui-se como unidade de análise) com elevada interação entre colaborador e turista.

Procede-se á analisar da validade das escalas multi-item, para as variáveis do colaborador e do cliente com a análise fatorial confirmatória (CFA), usando o procedimento adotado por Groth *et al.* (2009).

Para testar o modelo teórico recorre-se ao modelo de equações estruturais, possibilitando o teste das hipóteses.

Esta investigação permitirá compreender a percepção do turista sobre emotional labor e estabelecer a relação entre emotional labor e a satisfação global do turista com a experiência gastronómica e de vinhos vivenciada. Para além de se tratar de um estudo exploratório, permite ainda fornecer alguns contributos essenciais: formulação de estratégias e definição de práticas de gestão de recursos humanos conducentes ao melhor nível de qualidade das relações entre pessoal de contacto e clientes na restauração, beneficiando as regras de comportamento organizacional para regulação e controlo de emoções no trabalho; permitir a aquisição de competências relacionais do pessoal de contacto com o cliente na função de atendimento de maneira a desenvolver a eficácia das interações, o que tem implicações para o Marketing; política de formação e definição dos seus conteúdos formativos; adequação dos perfis individuais aos perfis de competências nos processos de recrutamento e seleção.

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## ADAPTATION TO CLIMATE CHANGE AND WELL-BEING SAFEGUARD – A CONCEPTUAL AND EMPIRICAL INTERDISCIPLINARY APPROACH

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### RESUMO

O desenvolvimento recente das ciências sociais tem sido obtido através de dois percursos distintos, embora complementares. Por um lado, vai-se consolidando um desenvolvimento teórico autónomo que visa o progresso de cada ciência dentro dos seus campos disciplinares próprios, tal como foram sendo estabelecidos. Por outro lado, assiste-se a um crescente trabalho partilhado entre cientistas provenientes de diferentes áreas do conhecimento, não exclusivamente da área das ciências sociais.

Existem motivos epistemológicos e científicos que justificam esta dupla via, mas existem igualmente estímulos exteriores que são decisivos para que tal aconteça. A relação entre a indústria do turismo e o bem-estar dos clientes e das populações é um exemplo real que propicia um exercício interdisciplinar, que não se esgota no seu interesse científico porque tem grande alcance para a sociedade.

Os autores apresentam os resultados parciais de um projeto em curso (AdaPT AC:T), cuja estrutura pressupõe a contribuição das ciências sociais e das ciências da construção, tendo como objetivo o desenvolvimento de um modelo integrado que funcione como uma ferramenta técnica para enfrentar as alterações climáticas, salvaguardando o bem-estar dos clientes, das populações e a viabilidade económica da atividade turística. A comunicação evidencia a relação entre o serviço hoteleiro, o seu desempenho energético, o seu modelo de organização e a avaliação dos clientes.

Palavras-chave: Turismo, Abordagem Interdisciplinar, Alterações Climáticas, Desafios Societais.

Classificação JEL: Z320.

### ABSTRACT

The recent development of social sciences has been obtained through two separate routes, although complementary. One way is through an autonomous theoretical development, which seeks the progress of each science within its own disciplinary boundaries, as established long time ago. On the other hand, collaborative scientific work from different areas of knowledge, not exclusively in the area of social sciences, is increasing.

Epistemological and scientific reasons explain this double track. But there are also external stimuli that are decisive for this to happen. The relationship between the tourism industry and the well-being of customers and locals is a real example that provides an interdisciplinary exercise, which is not exhausted in its scientific interest because it has great significance for society.

The authors present partial results of an ongoing project (AdaPT AC:T), which framework assumes the contribution of the social sciences and the sciences of construction. AdaPT's goals seeks the development of an integrated model that works as a technical tool for tackling climate change, while safeguarding the well-being of customers, local populations and the economic viability of tourism industry. The communication highlights the relationship between

the hotel service, their energy performance, the model of organization and the (on line) evaluation of customers.

Keywords: Tourism, Interdisciplinary Approach, Climate Change, Societal Challenges.

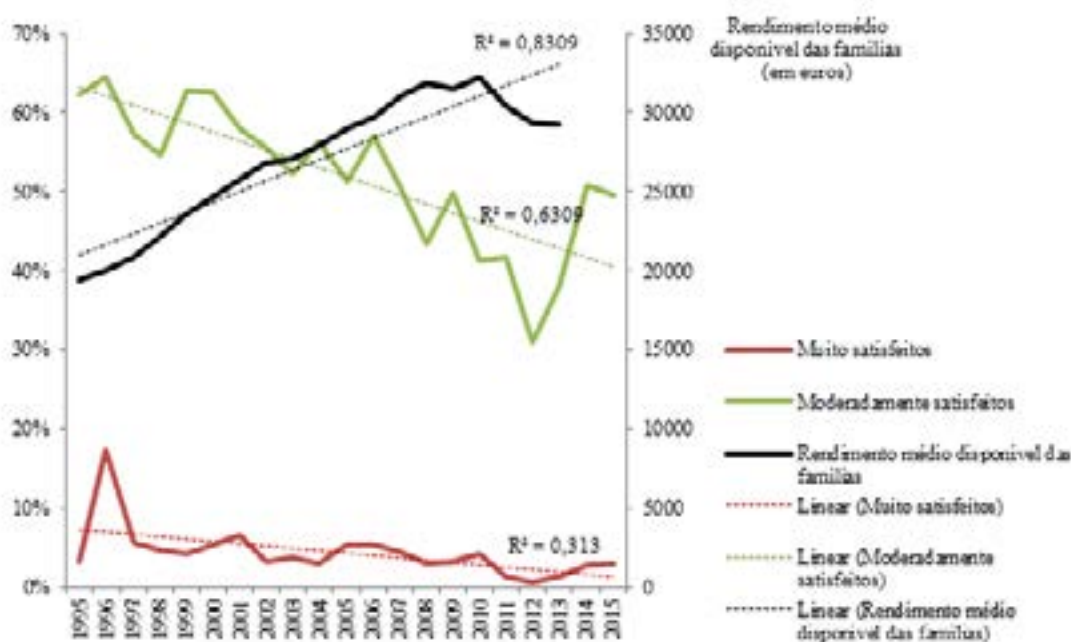
JEL Classification: Z320.

## 1. FELICIDADE, BEM-ESTAR, CONFORTO, QUALIDADE DE VIDA: CONSTRUTOS DESAFIADORES PARA A PESQUISA INTERDISCIPLINAR

A expressão bem-estar beneficiou nas últimas décadas de uma generalização alargada e saltou, definitivamente, o perímetro dos conceitos científicos de *bem-estar subjetivo* (Herzog *et al.*, 1982) e de *bem-estar psicológico* (Ryff & Keyes, 1995), distintos entre si mas, ainda assim, relacionados. O *bem-estar subjetivo* parece mais confinado às respostas emocionais das pessoas, aos domínios de satisfação individual (sobre a competência pessoal, contacto com amigos, participação em atividades gratificantes) e aos julgamentos globais de satisfação com a vida (*affect balance*). O *bem-estar psicológico* remete para construtos como autoaceitação, relações positivas com outros, autonomia, domínio sobre o ambiente, propósito na vida e crescimento pessoal (Machado & Bandeira, 2012). Um e outro bem-estar (subjetivo ou psicológico) estabelecem fortes correlações com dimensões psicossociais e sociodemográficas dos sujeitos (Herzog *et al.*, 1972; Machado & Bandeira, 2012), nomeadamente com a saúde mental, o estatuto social, o capital social, o género e a idade.

A colagem do conceito de bem-estar ao de felicidade é frequente e faz sentido, pese embora, como sugere Lipovetsky (2006), a *civilização da felicidade paradoxal* em que vivemos não permita encontrar uma correlação perfeita entre a condição de bem-estar e o sentimento (ou emoção) de felicidade, sobretudo se a primeira for entendida num sentido maximamente material. Os resultados do Eurobarómetro (2015) e os dados sobre o rendimento médio disponível das famílias (INE, 2014) reforçam o paradoxismo das sociedades ocidentais contemporâneas, ilustrado com o exemplo português (Gráfico 1). Como se percebe pela observação do Gráfico, a evolução do rendimento médio disponível das famílias<sup>198</sup> não foi acompanhada do aumento da satisfação com a vida, e a tendência nas duas últimas décadas parece ser até inversamente proporcional. Os últimos quatro anos indiciam uma alteração a este padrão, mas é ainda prematuro falar-se de um novo quadro de relações entre a felicidade e o poder aquisitivo das famílias.

Gráfico 1 – Evolução do rendimento médio disponível as famílias e do nível de satisfação com a vida

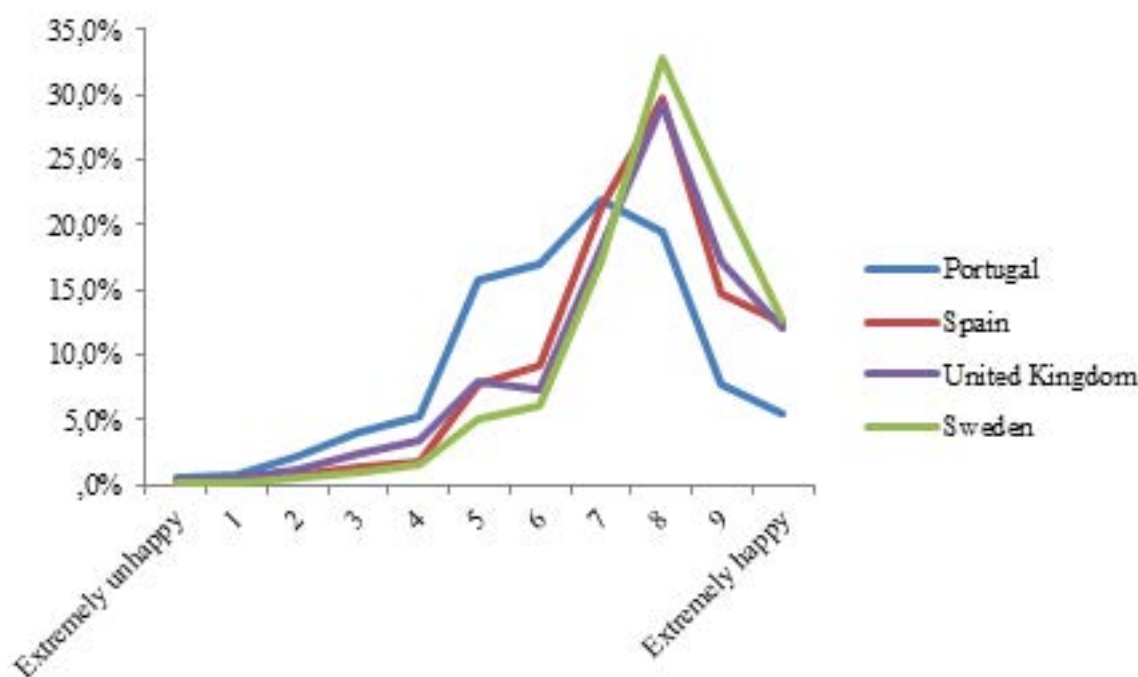


Fontes: Eurobarómetro (2015) e INE (2014). Elaboração própria

<sup>198</sup> O rendimento disponível bruto das famílias é o dinheiro que elas têm à disposição para gastar ou poupar. O rendimento disponível aumenta com o recebimento de rendimentos, tais como salários, juros ou pensões, e diminui com o pagamento de impostos, de contribuições sociais e de outros encargos que diminuem o orçamento familiar.

Com objetivos próximos aos do Eurobarómetro, mas com uma consistência aparentemente mais sólida, o European Social Survey publica regularmente, de dois em dois anos e desde 2002, dados sobre os níveis de felicidade para cada um dos 29 países que integram o seu painel. Os últimos dados disponíveis para Portugal (2012) dão conta de níveis de satisfação com a vida inferiores aos níveis obtidos para o conjunto destes 29 países. Quando confrontamos diretamente os resultados nacionais com aqueles que respeitam a alguns dos países tradicionalmente consumidores do mercado turístico português, verificamos que em Portugal até ao ponto médio da escala [valor = 5] se obtêm 28,5% das respostas, contra 8,6% para a Suécia, 9,2% para Espanha e 15,9% para o Reino Unido; ou seja, em Portugal uma maior percentagem de respostas concentra-se nos valores mais baixos da escala. A distribuição por cada ponto da escala (Gráfico 2) não deixa dúvidas sobre as diferenças sensíveis que podemos sinalizar sobre os níveis de felicidade declarados. A ideia universalista de uma felicidade transversal às sociedades e radicada no indivíduo não resiste, assim, a uma simples variável ordinal.

**Gráfico 2 – Distribuição percentual das respostas à pergunta “quanto feliz você é”, do Inquérito Social Europeu**



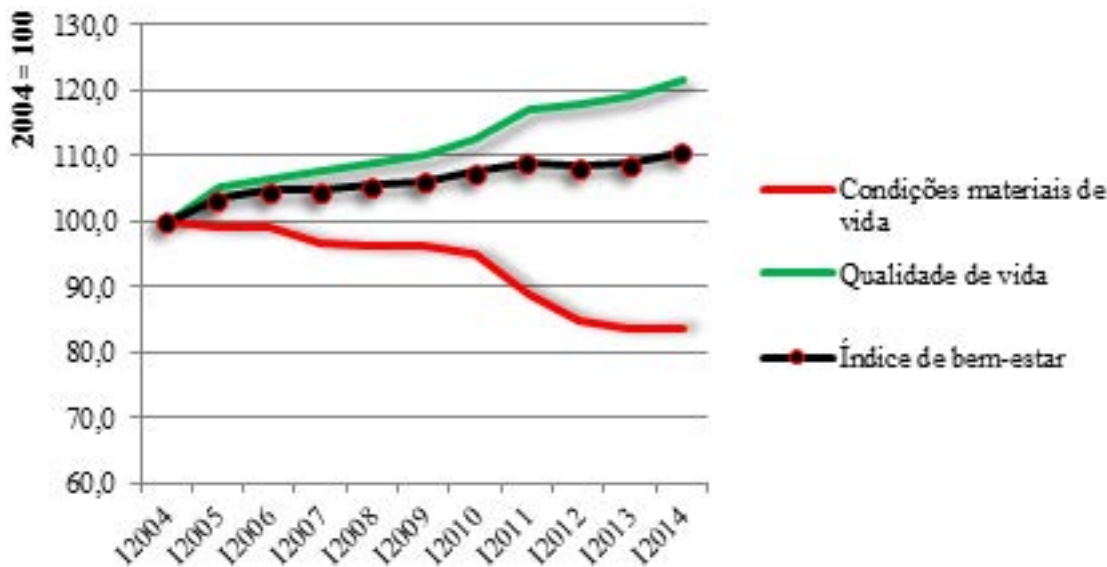
Fonte: European Social Survey, 2012. Elaboração própria

Como refere Dantas (2012), a felicidade, enquanto produto de uma construção social, “*resulta de influências de vários sistemas que se sobrepoem e interagem, consolidando-se em representações que orientam e condicionam as nossas práticas e modelos de interpretação*” (página 16). Antecipando o desenvolvimento de um campo científico interdisciplinar exigível – e porventura incontornável – para o estudo da felicidade, a autora convoca um argumento proveniente da neurobiologia, pela mão de Damásio (2003), e que se refere a terem os sentimentos – e a sua estrutura, as emoções – um papel decisivo na orientação da ação social. Por conseguinte, a felicidade e os elementos emocionais, simbólicos e materiais de que se alimenta e reproduz não podem ser alheios à construção dessa outra categoria social que é o bem-estar. Por outro lado, pela sua relevância e centralidade na vida das pessoas, a felicidade e o bem-estar têm-se assumido, progressivamente, como bens mensuráveis.

A medida do bem-estar não escapou, com efeito, ao esforço das estatísticas oficiais. O Instituto Nacional de Estatística (INE, 2015) publica anualmente, desde 2013 (mas com séries temporais reconstruídas até 2004), dados sobre o bem-estar da população residente em Portugal, suportados em metodologia internacional. No Gráfico 2 pode observar-se a evolução do índice composto de bem-estar e dos respetivos domínios (ou índices sintéticos).

O índice sintético denominado ‘condições materiais de vida’ (nas quais se incluem o bem-estar económico, a vulnerabilidade económica e o trabalho e remuneração) tem sido na última década o mais penalizado pela crise económica global, à qual o País não escapou. Inversamente, e talvez um pouco surpreendentemente para quem tome o pulso das transformações sociais pelo registo estreito da economia, no índice sintético denominado ‘qualidade de vida’ os ganhos de bem-estar têm sido possíveis, com taxas de variação média anual consistentes, arrastando o índice de bem-estar para valores mais elevados do que uma década antes. Na dimensão de qualidade de vida cabem indicadores como ‘saúde’, ‘balanço vida-trabalho’, ‘educação, conhecimento e competências’, ‘relações sociais e bem-estar subjetivo’, ‘participação cívica e governação’, ‘segurança pessoal’ e ‘ambiente’.

Gráfico 2 – Evolução do índice de bem-estar e dos respetivos domínios



Fonte: INE (2015). Elaboração própria

A dimensão qualidade de vida é, por outro lado, aquela que mais nos interessa relevar na presente comunicação, pela sua forte relação com dimensões que serão exploradas na vertente empírica do nosso estudo, porquanto exerce uma influência mediadora sobre os aspetos a que os turistas, sujeitos a experiências hedonísticas (i.e., de prazer, satisfação, felicidade) valorizam. Num estudo recentemente publicado (Machado, Rebelo & Pedro, 2014), incidindo sobre turistas idosos que estiveram hospedados em hotéis no Algarve, encontrou-se na resolução fatorial para explicar a atratividade desse destino duas dimensões centrais, com elevado valor explicativo, que se designaram por ‘aprazibilidade’ e ‘funcionalidade’ (ver Tabela 1).

Tabela 1 – Estrutura fatorial da avaliação da satisfação com a estadia para uma amostra de turistas seniores no Algarve

Fatores	Aprazibilidade	Funcionalidade	
	(F1)	(F2)	
Valor próprio	2,95	2,69	
Variância explicada	32,74	29,83	
Consistência interna	0,84	0,87	
1. Conforto	0,83		} F1
2. Dimensão e funcionalidade	0,80		
3. Decoração e estética	0,79		
4. Características físicas do hotel e serviços	0,64		
5. Competência e profissionalismo do pessoal	0,55		
6. Serviços		0,85	} F2
7. Lazer		0,74	
8. Fitness e bem-estar		0,73	
9. Acolhimento e F&B		0,61	

Fonte: Machado, Rebelo & Pedro (2015)

Obtida a partir de uma AFPC de 2º nível com todos os fatores resultantes do bloco de questões correspondentes à satisfação (9 fatores), a versão definitiva dessa estrutura fatorial apresentou uma resolução em 2 fatores, os quais são responsáveis por 62,6% da variância total. O Fator 1, responsável por 32,74% da variância total, dotado de um elevado índice de consistência interna ( $\alpha = 0,84$ ), engloba os fatores ‘conforto’, ‘dimensão e funcionalidade’, ‘decoreção e

estética', 'características físicas hotel e serviços' e 'competência e profissionalismo do pessoal', decorrentes da avaliação da satisfação com o quarto e com o hotel. Considerado o conteúdo dos fatores e as dimensões que os integram, este fator foi designado por 'aprazibilidade'. A qualidade de um local apazível remete para a condição de uma pessoa se sentir satisfeita, agradada. Os elementos constituintes deste fator foram considerados, nessa análise, como condições indispensáveis para que a satisfação, globalmente entendida, seja algo que não resulta apenas do cumprimento das exigências funcionais expectáveis para unidades hoteleiras classificadas com 4 ou 5 estrelas, como se se tratassem de requisitos, mas acima de tudo como resultante de uma experiência superlativa. O Fator 2, responsável por 29,83% da variância total, apresentou também um índice elevado de consistência interna ( $\alpha = 0,87$ ) e reuniu os fatores 'serviços', 'lazer', 'fitness e bem-estar' e 'acolhimento e F&B', decorrentes da avaliação dos inquiridos sobre a satisfação relativamente aos serviços, atividades e espaços do hotel. Face ao conteúdo dos fatores que o integram, o fator foi denominado por 'funcionalidade'. Este fator remete para o desempenho funcional da unidade hoteleira, e diferentemente do Fator 1 (mais experiencial), o Fator 2 tem um sentido mais avaliativo da operacionalidade do hotel. Dir-se-ia, por conseguinte, que a satisfação das exigências técnicas só parcialmente corresponde às necessidades sociais de bem-estar.

O conforto, componente integrante do bem-estar, é um dos fatores por demais relevantes na abordagem que se pretende desenvolver, tomando o desempenho das unidades hoteleiras como objeto privilegiado no quadro do projeto AdaPT AC:T, cuja caracterização se fará na Secção 3 desta comunicação. A perceção de conforto envolve uma componente subjetiva (influenciada por fatores intrapessoais e culturais), uma componente fisiológica (o balanço térmico de cada sujeito com o ambiente em que se encontra, muito influenciado, por exemplo, pela idade), e a componente propriamente física (as condições ambientais de temperatura, luz, ruído, qualidade do ar, relacionada com o desempenho energético do edifício e do alojamento, por sua vez condicionados pelo modelo organizacional da entidade gestora de uma unidade hoteleira). A definição técnica de conforto térmico - "*o estado de espírito que expressa satisfação relativamente ao ambiente térmico*"<sup>199</sup> (cit in Matias, 2010) é, em si mesma, elucidativa desse emaranhado de influências e processos com os quais se pretende gerar conforto. Parâmetros psicossociológicos como a expectativa relativamente a um dado ambiente térmico, o tempo de exposição, a perceção de controlo (sobre as condições de temperatura e humidade do alojamento onde se encontra), são variáveis que ajudam a elucidar a variabilidade que a sensação de conforto pode assumir entre um conjunto de pessoas, mesmo que estas estejam sujeitas às mesmas condições físicas (temperatura, humidade, velocidade do ar) (Matias, 2010). Idêntica problematização poderia ser avançada para o conforto acústico, conforto visual e qualidade do ar. Para entender o significado de conforto, o capital social e cultural de um sujeito pode ser decisivo para incrementar a sua capacidade discriminativa e assim fazer julgamentos diferenciados, acionando informação que possui por via desses mesmos capitais.

A indústria do turismo, sobretudo na sua fase contemporânea de forte crescimento, desenvolveu-se em larga medida através da criação de produtos turísticos<sup>200</sup> (destinos e experiências) que pretendem ter como resultado efetivo para o consumidor a obtenção de níveis elevados de bem-estar subjetivo e de felicidade, desejavelmente durante a estadia no destino e com alguma capacidade para perdurar depois desta - e que se admite que serão tão mais facilmente atingidos quanto maior for o bem-estar psicológico desses consumidores. De tal modo assim é que o turismo integra o *cluster* de outras indústrias do bem-estar, como os *Health Centers*, os produtos alimentares saudáveis, os desportos de manutenção, os produtos culturais (teatro, música, dança, cinema, museus, outros); todos eles subordinados a um conceito supraordenado de qualidade de vida, em que o conforto deverá ser uma componente imanente.

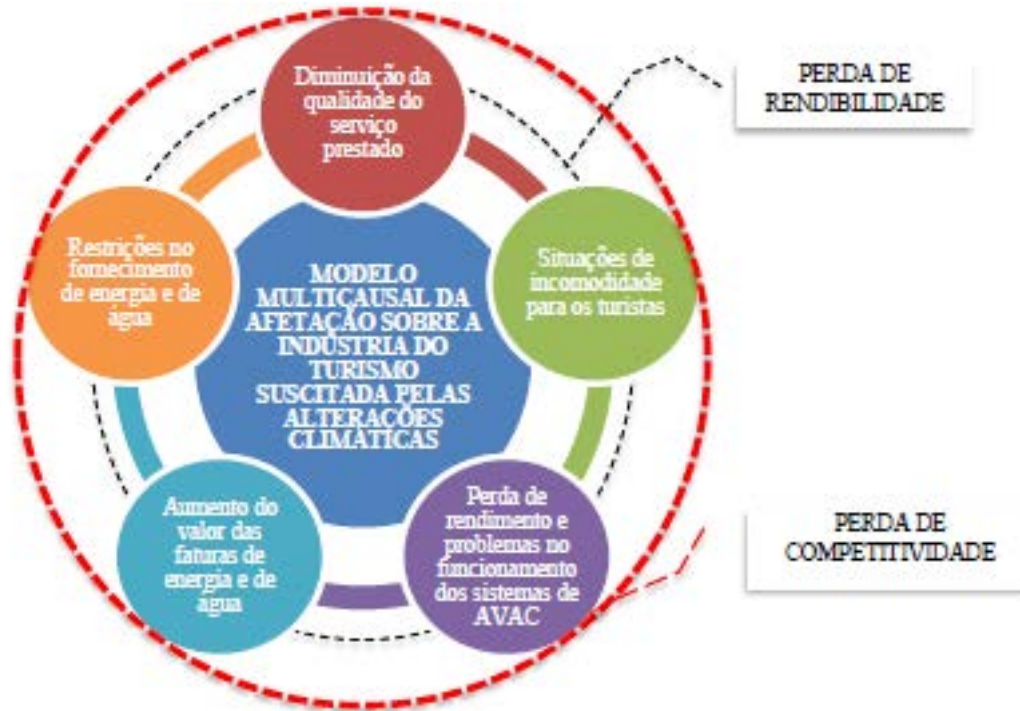
O bem-estar parece, assim, transversal e colado a dimensões perfeitamente distintas. É algo bastante complexo, não redutível a um conjunto de métricas, por mais sofisticadas que possam ser. Todavia, a indústria do turismo tem como desiderato a produção desse bem-estar, e este pode ser afetado pelas alterações climáticas (AC), sejam estas traduzidas pela alteração gradual dos valores médios de temperatura e de precipitação, bem como pela alteração da frequência e a intensidade de eventos meteorológicos extremos, como ondas de calor ou secas, por exemplo. O bem-estar produzido pela indústria do turismo pode ser afetado e causar dois tipos de impactos muito negativos na saúde das empresas e na economia das regiões e dos países (Bernardino & Espírito Santo, 2015):

- As perdas de rendibilidade (pelo aumento dos custos de produção) e
- As perdas de competitividade (face a destinos concorrentes menos afetados pelas AC).

<sup>199</sup> ISO 7730:2005 Ergonomics of the thermal environment -- Analytical determination and interpretation of thermal comfort using calculation of the PMV and PPD indices and local thermal comfort criteria.

<sup>200</sup> O produto turístico integra recursos naturais (e.g., valor paisagístico), culturais (e.g., os processos de cultivo próprios de uma região, a sua gastronomia), equipamentos turísticos e respetivos serviços, serviços complementares (e.g., de transportes, de saúde, bancários, de comunicações), infraestruturas básicas e equipamentos coletivos (e.g., abastecimento de água e aeroportos). Todos estes elementos que integram o produto turístico, entendido como um composto com um valor económico determinável, encontram-se interligados de modo singular (i.e., não existem dois produtos turísticos iguais) e são proporcionados com base numa ordem jurídica precisa (variando de país para país) e suportados numa estrutura social única (porque não existem duas sociedades de acolhimento iguais).

Figura 1 – Modelo multicausal da afetação sobre a indústria do turismo suscitada pelas AC



Fonte: Elaboração própria

Ora, as AC de origem antropogénica provocadas pelas emissões para a atmosfera de GEE irão acentuar-se ao longo do século XXI (IPCC, 2013). Essas alterações manifestar-se-ão num ciclo temporal longo, e correspondem a uma descaracterização progressiva do perfil climatérico como hoje o conhecemos (com reflexos sobretudo na temperatura e na precipitação). Percebe-se a importância de que se reveste conhecer o desempenho ambiental dos estabelecimentos hoteleiros. A utilização eficiente da energia, da água, a gestão cuidada de resíduos, são, afinal, formas racionais de bom desempenho ambiental que podem ter consagração através de certificação legal e, superlativamente, impacto na imagem corporativa das empresas, enquanto entidades ambientalmente responsáveis. Os dados do oitavo inquérito dirigido a todos os estabelecimentos hoteleiros, aldeamentos e apartamentos turísticos do País<sup>201</sup>, que se reporta à atividade no ano de 2013, revelam incrementos interessantes no tocante à maioria dos indicadores considerados e que se orientam para compreender a resposta da indústria do turismo ao chamado desenvolvimento sustentável do setor. A sustentabilidade é considerada pelo regulador (Turismo de Portugal) como elemento basilar das políticas públicas de turismo, e a consciência ambiental dos atores públicos e privados que operam na atividade turística torna-se imperativa. A nossa experiência de terreno, decorrente de entrevistas em profundidade com diretores de unidades hoteleiras, chefes de manutenção, responsáveis da área de *housekeeping* e da *food & beverages*, revelou, globalmente, um cepticismo manifesto em relação ao papel das boas práticas para a sustentabilidade do setor, uma generalizada denegação das AC no presente e no futuro imediato, e uma adesão consciente ao princípio da subordinação do desempenho da unidade hoteleira às exigências dos clientes, muitas delas em contraciclo com um desempenho ambiental mais eficiente.

Aparentemente, as consequências decorrentes das AC far-se-ão sentir temporalmente muito para lá da vida útil dos atuais empreendimentos turísticos. Esse desfasamento temporal, não considerando aspetos tão relevantes como a ética e a responsabilidade ambientais das empresas, é enganoso e não pode deixar alguém descansado, porquanto até que uma mudança de padrão climatológico ocorra, muitas manifestações disruptivas – como sejam o aumento da frequência das ondas de calor, as precipitações atípicas, as variações bruscas de temperatura – precederão esse novo cenário, e bastarão estas para que o clima desvalorize os nossos *asset* turísticos, sendo relevante ter presente que Portugal é descrito pelos turistas, antes e após a sua viagem, como um país com bom clima. Nunca é de mais recordar que o turismo português representou em 2014 mais de 16 milhões de hóspedes, aproximadamente 46,1 milhões de dormidas e 10,4 mil milhões de euros de receitas turísticas (Fazenda, 2015). Portugal é, de acordo com o ranking mundial da OMT, o 26º país em receitas turísticas; no *Travel & Tourism Competitiveness Index*, do Fórum Económico Mundial, situa-se no top 20 dos destinos mais competitivos no mundo; e representa 14,8% das exportações de bens e serviços do País. Mas aqui chegados, o estudo das representações sociais que vinculam respostas mais ou menos adaptativas aos cenários das AC tornam-se um “observável” da maior importância.

<sup>201</sup> Trata-se do inquérito “Impacte Ambiental e Responsabilidade Social dos Empreendimentos Turísticos”, realizado pelo Turismo de Portugal, através da Direção de Planeamento Estratégico/ Departamento de Estudos.



## 2. AS DIMENSÕES SOCIAIS DA CIÊNCIA, TECNOLOGIA E SOCIEDADE E OS SISTEMAS SOCIOTÉCNICOS COMO ARGUMENTOS PARA O TRABALHO INTERDISCIPLINAR

Como se depreende do anteriormente exposto, a relevância das questões suscitadas pela afetação decorrente das AC no desempenho das unidades hoteleiras não se pode focar exclusivamente no exercício da análise retrospectiva e prospectiva (cenários) sobre como os dispositivos tecnológicos destinados ao conforto ambiental interior de um edifício de hotelaria se comportam (sistemas de aquecimento, ventilação e ar condicionado, denominados AVAC) sob condições viáveis de instalação, operação e manutenção. Nem tão-pouco essa relevância é redutível à relação entre custo energético por área ( $m^2$ ) ou volume ambientalmente modificado ( $m^3$ ), ou se se preferir, à dimensão económica do conforto e bem-estar. Pelo contrário, a abordagem dos fenómenos científico-tecnológicos que enfatiza o contexto social (Cerezo & Verdadero, 2003) parece ser a mais indicada, traduzida por uma matriz da interdisciplinaridade convergente e interdependente. Esta matriz parece ser incontornável, sem prejuízo da autonomia conceptual - e da elevada autonomia procedimental - das componentes disciplinares que são convocadas em cada processo de pesquisa.

Para tal, o conceito de *sistema sociotécnico* pode ser bastante útil. Por ele se entende a inter-relação recíproca entre a ação humana e a tecnologia (Ropohl, 1999), ou se se preferir, entre o subsistema técnico e o subsistema social, tendo em vista a articulação adequada entre os desempenhos técnicos e as condições sociais (de trabalho e de usufruto do produto tecnológico). Este conceito exige, com efeito, tanto o conhecimento do desempenho dos sistemas tecnológicos (por exemplo, um AVAC, uma rede de armazenamento e distribuição de água), como dos sistemas de ação social organizacional que conferem maior ou menor eficiência ao uso da tecnologia e, não menos importante, o conhecimento da procura e das suas especificidades e idiossincrasias. A premissa básica é a de que a eficiência de um sistema de produção (por exemplo, a oferta turística) depende em larga medida do modo como o subsistema social se comporta em face das características (desempenho, limitações, modo de funcionamento, manutenção e atualização) dos subsistemas técnicos que compõem esse mesmo sistema de produção e das exigências impostas pelo consumidor (turista). Por conseguinte, o uso ineficiente de um equipamento (por exemplo, um forno elétrico) resultará – salvaguardada a qualidade do mesmo – do entendimento que dele fizer o cozinheiro na ausência das normas de utilização (entendidas como sistema de regras) ou no incumprimento destas.

Inversamente, uma adequada utilização de um equipamento tecnológico de pouco servirá se existirem erros de conceção do mesmo, da sua aplicação ou manutenção técnica. Por outro lado, e no que aos consumidores respeita, soluções aparentemente amigas da sustentabilidade – como é o caso dos sistemas de climatização com intensidade regulável pelo cliente – podem revelar-se exatamente contrárias a essa sustentabilidade, sempre que as exigências dos clientes, seja por inércia em alterar comportamentos do passado, seja por convicção em relação aos fins que se prosseguem, assim o determinam.

Do trabalho de campo realizado sobre os 9 hotéis estudados, resultaram inúmeros exemplos do que se poderia entender por uma desconformidade entre o que se diz e o que se pratica. Destacariamos apenas dois outros exemplos. Os interruptores automáticos nos quartos acionados com cartão são, de acordo com os testemunhos dos nossos interlocutores, frequentemente subvertidos pela prática, aparentemente comum, de usar um dos (dois) cartões do quarto como dispositivo fixo para que a energia continue a ser consumida, mesmo na ausência do hóspede no alojamento. Outro exemplo prende-se com as frequentes reclamações sobre os sensores automáticos nas luzes dos quartos e áreas comuns, alegadamente porque escurecem esses mesmos espaços, afetando a apreciação positiva que é feita sobre o estabelecimento hoteleiro. Gifford (2011) sistematizou eloquentemente as barreiras psicológicas que limitam a mitigação e adaptação às AC: cognição limitadora; ideologias; comparações com outros; custos irreparáveis (e o seu corolário, a aversão à perda); descrença; riscos percebidos e comportamento limitador. Mais recentemente (Gillingham *et al.*, 2015), na mesma linha de Gifford, reforçam a importância do chamado efeito ricochete (*rebound effect*, também mencionado por este autor) nas políticas de eficiência energética, e pelo qual se entende a proporção da redução prevista na utilização da energia que é perdida devido à soma das respostas dos consumidores. Entendemos que este efeito ricochete pode alimentar outras barreiras psicológicas, como a descrença ou as ideologias mais conservadoras sobre o alcance do desenvolvimento sustentável, e vários testemunhos obtidos nas entrevistas por nós realizadas parecem confirmá-lo.

Metodologicamente, o estudo dos sistemas sociotécnicos pressupõe a análise dos processos de trabalho e de consumo, tomando como “observáveis”, quer as normas da organização, quer a estrutura funcional, quer os processos formais e informais da organização, nomeadamente a cultura organizacional (os seus valores, crenças, rituais), conjugando integradamente esses “observáveis” com outros que resultam da aplicação de metodologias específicas para a medição do desempenho da tecnologia disponível e avaliação (subjetivada pelo cliente) do seu produto.

Este é o terreno fértil em que nos movemos: uma prática interdisciplinar convergente (Pombo, 2004), que não implica modificações estruturais nas disciplinas envolvidas (física das construções, engenharia mecânica, engenharia sanitária e ambiental, sociologia das organizações, psicologia social, estatística aplicada), mas que é simultaneamente

uma prática de comprometimento a partir de um problema comum: as AC e o exercício de crítica científica e de auto-reflexividade coletiva sobre o que podem significar essas alterações numa sociedade como a nossa e numa economia tão dependente da amenidade climática. Em trabalhos anteriores (Machado, 2007) decidimos acolher o conceito de *transdisciplinaridade* para designar uma prática simultaneamente convergente e de comprometimento, porquanto ela se materializa, afinal, num processo pelo qual “*os investigadores trabalham em conjunto, usando uma estrutura conceptual partilhada (ativada a partir de teorias, conceitos e abordagens específicas), para estudar um problema comum*” (Stokols, 1998). Na tradição norte-americana, bastante mais escorreita semanticamente, estes processos de trabalho são frequentemente designados por *applied research to community problem-solving*, embora não sejam necessariamente interdisciplinares na sua conceção, ainda que se revelem como tal na sua elaboração – dir-se-ia, mais próximos das práticas de importação e de cruzamento, como refere Pombo (2004).

Outra das características salientes da prática interdisciplinar convergente e de comprometimento, e muito acentuadamente neste projeto AdaPT AC:T, consiste em recorrer a diferentes tipos de dados como requisito para satisfazer uma pesquisa multi-estratégica (Brannen, 2005). A autora esclarece que a *mixed method research* consiste em adotar uma estratégia de investigação utilizando mais do que um tipo de métodos de pesquisa. Pelas condições em que se manifesta, e atentos os objetivos a que se propõe, o recurso a diferentes métodos pode ser entendido como um requisito de complementaridade e em larga medida incontornável. Por outro lado, o interesse crescente por este tipo de estratégias compagina-se com uma tendência epistemológica mais contemporânea, inspirada numa racionalidade mais próxima da ciência pós-moderna (Sousa Santos, 1987), em que as questões da cientificidade não se aferem exclusivamente pelo tipo de medição dos dados reais, mas introduzindo novas lógicas menos lineares, mais criticistas e compreensivas – sem rejeitar o rigor, a quantificação e o princípio da verificabilidade. Exemplificando, e como havíamos mencionado anteriormente sobre o conceito de conforto, o balanço térmico não deixa de ser uma boa métrica, mas reconhecidamente insuficiente, para se aferir se um determinado ambiente se encontra confortável, porquanto a imposição do estado de espírito do utilizador, ou a sua expectativa, introduzem a contingência e variação não explicada. Dar voz aos utentes será, pelo menos, tão justificado quanto recorrer aos parâmetros ambientais, nomeadamente: temperaturas do ar e média radiante, humidade absoluta do ar e velocidade do ar.

### 3. O PROGRAMA ADAPT E O PROJETO ADAPT AC:T - AC:T – MÉTODO PARA INTEGRAÇÃO DA ADAPTAÇÃO ÀS ALTERAÇÕES CLIMÁTICAS NO SETOR DO TURISMO

Brannen (2005) fala-nos em *substantive fields* para se referir às oportunidades criadas pelos fundos de financiamento da ciência, em torno de temáticas societais ou de questões técnico-científicas transversais, que mobilizam respostas interdisciplinares pela sua própria natureza. Parte do atual programa europeu de financiamento à ciência (Horizon 2020) constitui um exemplo de um certo ecletismo que este programa pretende incentivar. A Comissão Científica da Ciência Europeia para as Humanidades e as Ciências Sociais (CSH) expressou claramente esta posição em novembro de 2013, quando defendeu uma genuína interação entre todas as disciplinas, assumindo que:

*“The integration of SSH into joint research projects can only work if all scientists are equal partners. Too often, SSH research is still seen as having an ancillary role – for example as investigating the reception of technological innovation among the public, or translating scientific results and improving their acceptance among skeptical audiences, or supplementing fundamental, causal explanations with some cultural finesse. Notwithstanding the importance of these roles, this is a simplistic view as SSH research has demonstrated a more crucial role in understanding the complexity of the world we live in (...) Of particular importance is the formulation of joint research questions (...) Also, the formulation of integrated research questions must have priority in the assessment of proposals where appropriate, and the novelty in the combination of disciplines and methods should be evaluated”* (página 3).

Felt (2013) corrobora esta nova atitude diante das CSH e não hesita em afirmar que a novidade no Horizon 2020 radica mais no papel mais ativo que é atribuído a estas e menos na ideia de inovação como motor europeu. Por razões históricas, políticas e sobretudo culturais – e muito particularmente pela sua enorme diversidade cultural - Felt considera que o espaço europeu é um palco privilegiado para a inovação sociotécnica, destacando a necessidade de uma *epistemologia comparativa*, quer nas CSH quer nas ciências/engenharia, capaz de suportar sistemas sociotécnicos mais responsáveis e mais resilientes, pelo facto de se tornar possível perceber como as inovações são socializadas, adaptadas e estabilizadas e como adquirem diferentes significados em diferentes contextos.

Mas Felt apresenta ainda outro interessante argumento, que designa por *experimentação coletiva responsável*, pela qual entende a oportunidade de estimular uma produção progressivamente inter e transdisciplinar, acolhendo a diversidade

de modelos e racionalidades do conhecimento gerado pelas CSH e pelas ciências/engenharia, e integrando as CSH como parceiros *knowledge-able* e *value-able* com uma posição igual no centro das inovações técnico-científicas (página 6).

Talvez possamos encarar o programa AdaPT, da Agência Portuguesa do Ambiente (APA), apoiado pelo Fundo Português de Carbono, pelo Directorate for Civil Protection and Emergency Planning e pelas EEA Grants, como um desses *substantive fields* de que nos fala Brannen. O objetivo supraordenado do programa AdaPT é claro: reduzir a vulnerabilidade humana e dos ecossistemas às AC, e os resultados esperados não o são menos:

- Aumento da capacidade para avaliar vulnerabilidades às AC;
- Aumento da consciencialização e educação sobre as AC (APA, 2014).

No programa AdaPT os setores prioritários decorrem da Estratégia Nacional de Adaptação às Alterações Climáticas (ENAAAC)<sup>202</sup>. No Turismo, os objetivos específicos contemplam *a)* a requalificação dos empreendimentos turísticos através de ações de relocalização, proteção, reconversão e recuperação de infraestruturas vulneráveis às AC; *b)* a redução da pressão sobre recursos naturais afetados pelas AC; e *c)* a adequação dos espaços verdes às condições edafo-climáticas e ao clima futuro. No seu Relatório de Progresso sobre a ENAAAC, de setembro de 2013, a APA dedicou ao Turismo um capítulo autónomo, no qual identifica as principais vulnerabilidades deste sector produtivo em face dos impactos esperados pelas AC. É todo um programa de investigação que se pode alicerçar sob o campo substantivo das AC. Estas desempenham uma função de referência para o trabalho científico interdisciplinar: uma espécie de *leitmotiv* que mobiliza variadíssimos conhecimentos e sugere uma convergência estratégica evidente.

Desde logo, no domínio das vulnerabilidades e dos seus prováveis efeitos (ver Figura 2) encontramos um campo de análise privilegiadamente interdisciplinar, suscitado pela interpenetração das transformações do território e das condições da sua utilização pelas comunidades locais ou ainda pelos desafios que se colocam a diferentes sistemas sociotécnicos. A cadeia de efeitos é complexa e extensa, e estes efeitos, como já anteriormente se referiu, não se manifestam de supetão num momento *t*, sem que antes várias transformações se insinuem com recorrências irregulares.

**Figura 2 – Vulnerabilidades do sector do turismo às AC e alguns dos seus prováveis efeitos**

SETOR	VULNERABILIDADES	EFEITOS PROVÁVEIS
TURISMO		Aumento dos períodos secos e consequentes efeitos no ambiente
		Variabilidade (expectável aumento) do consumo de água / maior pressão / maiores gastos e custos
		Variabilidade (expectável aumento) do consumo de energia / maior pressão/ maiores gastos e custos (ex: ar condicionado)
		Crescente dificuldade na manutenção dos espaços exteriores (incluindo campos de golfe) / Gastos / custos acrescidos (ex: rega)
		Variabilidade (expectável aumento das concentrações de partículas poluentes) dos índices de poluição atmosférica aliada a uma menor tolerância à mesma
		Maior vulnerabilidade física (saúde pública) e maior probabilidade de ocorrência de problemas de saúde e consequente aumento da procura à rede hospitalar/saúde
		Maior suscetibilidade de contaminação dos aquíferos e cursos de água
		Diminuição acentuada do teor em matéria orgânica e salinização dos solos
		Destruição e alteração das orlas costeiras/estuarinas por força das marés
		Destruição de habitats e ecossistemas (fauna e flora) mais sensíveis
		Riscos para pessoas e bens face à localização nas orlas costeiras ou estuarinas
		Maior fragilidade na qualidade dos recursos hídricos
		Alteração dos habitats e ecossistemas (fauna e flora) mais sensíveis
		Alteração da qualidade dos solos e consequentes efeitos na biodiversidade
		Maior fragilidade de algumas localizações face à topografia do território

Fonte: APA (2013). Relatório de Progresso ENAAAC. Adaptado

Um dos efeitos comuns sublinhados para todas as vulnerabilidades indicadas pela APA respeita à provável alteração dos destinos face às regiões mais afetadas, o que deveria suscitar séria ponderação e análise prospetiva aprofundada. É por demais evidente que a verificar-se, essa rotação da procura teria efeitos económica e socialmente devastadores

<sup>202</sup> Adotada através da Resolução do Conselho de Ministros n.º24/2010, de 1 de Abril.

em termos regionais e mesmo nacionais.

O Relatório da APA menciona, ainda, algumas das barreiras à adaptação às AC, designadamente o desconhecimento da informação pelos agentes do setor, a falta de sensibilidade para o impacto resultante das alterações climáticas, a falta de ferramentas e a capacitação dos técnicos e decisores, a legislação desadequada (APA, página 187). Por último, os relatores apresentam um conjunto de medidas de adaptação subordinadas a quatro objetivos estratégicos, sistematizados na Figura 3.

Figura 3 – Objetivos estratégicos e respetivas medidas de adaptação às AC



Fonte: APA (2013). Relatório de Progresso sobre a ENAAC. Adaptado

De entre as medidas de adaptação identificadas pela APA – mencionando que este processo envolveu um número muito elevado de *stakeholders* – destacamos aquela que corresponde à premissa de raiz desta comunicação, a saber, o desenvolvimento de um projeto científico multidisciplinar (um *substantive field*) no âmbito do setor do turismo e AC. As necessidades de monitorização, ainda no objetivo estratégico nº 1, tornam evidente a importância de recorrer a uma observação indireta, por inquérito, a lançar junto dos turistas e junto dos produtores turísticos. São estes atores aqueles que desejavelmente convergirão (na lógica da procura e oferta) respetivamente para um produto turístico mais bem aceite porque mais bem adaptado. A divergência entre ambos resultaria num insucesso.

O projeto AdaPT AC:T<sup>203</sup> - Método para integração da adaptação às Alterações Climáticas no Setor do Turismo - inscreve-se prioritariamente no objetivo estratégico nº 2 do Programa (Figura 3), e muito especialmente nas medidas que visam incorporar nas estratégias específicas do turismo, respostas adequadas aos potenciais impactes das alterações climáticas. De entre os exemplos de medidas que tal objetivo estratégico aponta, este projeto do LNEC, em parceria com o Instituto Português do Mar e da Atmosfera (IPMA), a Agência para a Energia (ADENE) e a Associação de Hotelaria de Portugal (AHP), orienta-se para a promoção do uso eficiente dos recursos naturais, e para tal pretende desenvolver um método que permita a avaliação da vulnerabilidade de empreendimentos turísticos às AC e apoiar o desenvolvimento de planos de adaptação. Este método baseia-se no desenvolvimento de indicadores de desempenho e de vulnerabilidade a determinar com base na informação de nove hotéis (situados em Lisboa e no Algarve). O pressuposto fundamental do projeto – cuja finalização termina em julho de 2016 - consiste, pois, em reconhecer que é necessário criar metodologias para identificar as vulnerabilidades das infraestruturas do sector às AC, e caracterizar a eficácia de medidas de adaptação para permitir o planeamento das intervenções.

<sup>203</sup> Para conhecer este projeto com maior detalhe sugere-se a consulta da respetiva documentação em <http://adapt-act.lnec.pt/>

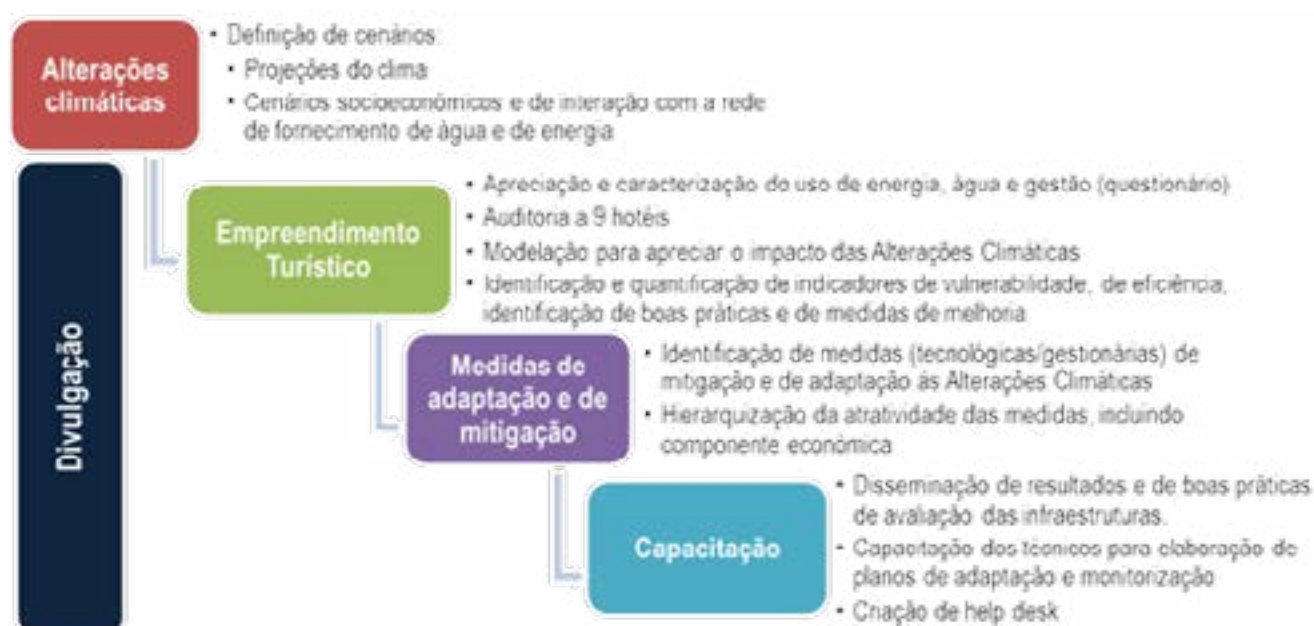
Os principais objetivos definidos para o projeto AdaPT AC:T são (ver Figura 4):

- Estabelecer um método para avaliar a vulnerabilidade dos hotéis face às AC.
- Estabelecer indicadores de desempenho e da vulnerabilidade dos hotéis face aos cenários de AC.
- Identificar medidas de mitigação e de adaptação para hotéis em uso, sujeitos a renovação e construção nova, para se obter um uso eficiente de água e de energia, com medidas tecnológicas mas também organizacionais e comportamentais.
- Identificar e disseminar boas práticas do setor do turismo no âmbito da mitigação e da adaptação às AC.
- Identificar indicadores úteis para a gestão e monitorização do impacto das AC e das medidas de adaptação (efetividade).
- Desenvolver conteúdos para políticas e planos de adaptação às AC com os parceiros do projeto.

Existem questões científicas a que o modelo analítico procura dar resposta, a saber:

- Que cenários climáticos e socioeconómicos usar para avaliar a vulnerabilidade às AC?
- Que indicadores de vulnerabilidade dos empreendimentos turísticos face às AC utilizar nos domínios das amenidades, água e energia?
- Qual o desempenho atual dos empreendimentos turísticos em termos de consumo de água e de energia?
- Qual o grau de vulnerabilidade aceitável para o setor do turismo?
- Quais as medidas de adaptação (tecnológicas e organizacionais) mais eficazes, mais eficientes e com maior efetividade para reduzir a vulnerabilidade às AC?
- Como comunicar e promover a adoção das medidas de mitigação e adaptação junto das empresas do setor e do utilizador final (turista)?

Figura 4 – Esquematisação do processo de investigação adotado para o projeto AdaPT AC:T



Fonte: Elaboração própria

Os produtos do projeto AdaPT AC:T correspondem a um alinhamento clássico de investigação-para-a-ação, muito característico deste Laboratório de Estado, e são os seguintes: *Decision support tool* com Manual de Boas Práticas de adaptação/mitigação das AC; *Booklet* de medidas de mitigação e de adaptação para cada um dos nove empreendimentos estudados.

Na presente comunicação, e por evidentes limitações de espaço, circunscrevemo-nos à apresentação de resultados provenientes da análise estatística das respostas dos clientes destes empreendimentos (de 4 e 5 estrelas) através da plataforma Booking®. Esses dados foram integrados num ficheiro contendo outros elementos sobre o desempenho energético destes 9 hotéis<sup>204</sup>. Esta análise inscreve-se na estratégia analítica traçada para o projeto e pretende explorar relações convincentes e relevantes sobre as dimensões operativas e avaliativas inerentes ao funcionamento hoteleiro.

<sup>204</sup> Por motivo de confidencialidade, a que equipa deste projeto está vinculada, omite-se a identidade destas unidades hoteleiras.

Ela não esgota o campo de relações que se podem estabelecer entre as avaliações dos clientes e o desempenho dos hotéis, mas o seu primordial objetivo consiste em validar a utilização deste tipo de dados, pouco utilizados (para mais, obtida sem custos acrescidos inerentes à realização de operações de inquérito).

## 4. RESULTADOS

### 4.1. Modelo de análise

A plataforma Booking® regista comentários e avaliações de clientes hospedados em estabelecimentos hoteleiros e que tenham feito a respetiva reserva nessa mesma plataforma. Existem outras plataformas para o mesmo efeito – nomeadamente a TripAdvisor®, com parâmetros avaliativos semelhantes, cuja informação foi igualmente registada pela equipa deste projeto – mas a análise agora apresentada baseia-se, unicamente, nos 2581 turistas que, entre julho de 2014 e novembro de 2015, responderam à solicitação do Booking® para que avaliassem e comentassem a sua estadia em um desses 9 hotéis. Em termos metodológicos, procedeu-se à recolha integral dos registos de informação existente em cada *post*, nomeadamente dados sociodemográficos (nacionalidade, sexo, tipo de cliente), de ocupação (duração da estadia, época da estadia, tipo de estadia, tipo de alojamento), e de avaliação (pontuação expressa geral, tipo de comentários positivos, tipo de comentários negativos) - ver Figura 5. Os comentários foram objeto de um processo de categorização que atendeu às áreas de trabalho na hotelaria (AHP, 2015), e considerou duas dimensões complementares (comentários orientados para aspetos Exteriores à unidade hoteleira; comentários orientados para o funcionamento no interior da unidade hoteleira). A partir destas dimensões foi possível gizar uma estrutura analítica (Figura 6).

Figura 5 – Estrutura de informação dos dados do Booking®, por dimensão de análise



Fonte: Elaboração própria

Figura 6 – Eixos interpretativos para os dados do Booking®

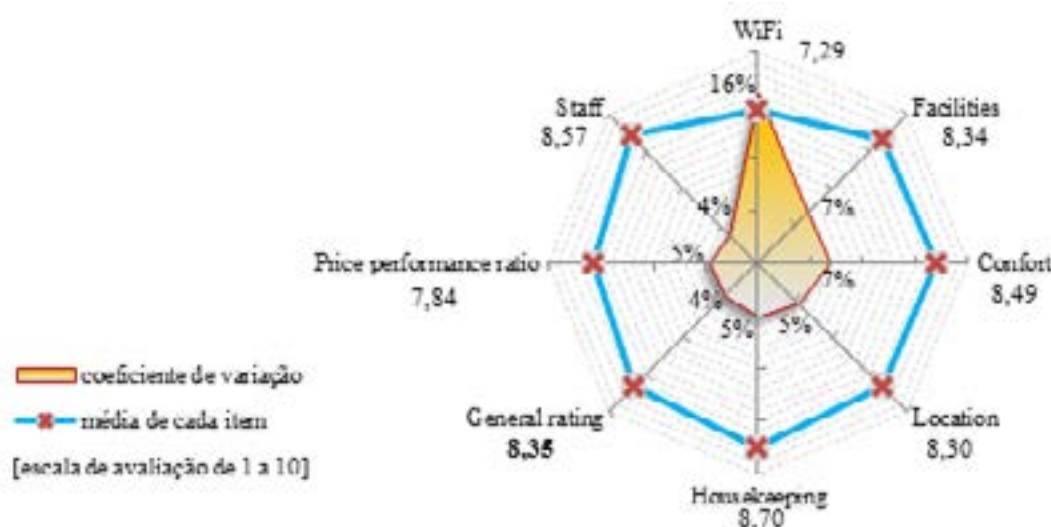


Fonte: Elaboração própria

Os dados agregados sobre a avaliação global geral dos 9 hotéis (*general rating*) e sobre as dimensões que se encontram em avaliação nesta plataforma podem ser observados no Gráfico 3. A avaliação global foi de 8,35 e a dissensão (medida pelo coeficiente de variação) de 4%. Considerando o tipo de escala (de 1 a 10), esta avaliação global

é bastante positiva – e a sua fundamentação pode ser compreendida pela leitura dos comentários positivos escritos pelos avaliadores (turistas).

**Gráfico 3 – Valores médios de avaliação e índice de dissensão para as dimensões avaliadas (resultados para os 9 hotéis estudados)**



Fonte: Booking®. Elaboração própria

Recorrendo aos valores médios e aos coeficientes de variação (tomados como indicador de dissensão das avaliações)<sup>205</sup> para cada uma das 7 dimensões obtiveram-se valores de dissensão bastante baixos para a maioria, exceto para o *'wifi'* (16%). As *'facilities'* (7%) e o *'comfort'* (7%) obtiveram valores intermédios. Quanto à pontuação obtida, em cada dimensão, os valores foram elevados, tendo-se registado a mais baixa avaliação no *'wifi'* (com 7,29), mas ainda assim bem acima do ponto médio da escala: ou seja, os hotéis por nós estudados obtiveram uma nota alta atribuída pelos hóspedes.

Estes hotéis, (cinco de 5 estrelas e quatro de 4 estrelas), são organizações distintas no que respeita ao perfil acionista e gestor das respetivas empresas<sup>206</sup>. Dos 9 hotéis estudados, 5 pertencem a grupos hoteleiros nacionais com tradição no setor, 3 a fundos de investimento internacionais e 1 é um *franchising* de uma cadeia internacional de hotelaria. Esta gama de situações dita processos gestórios muito diferentes, tendo os Diretores das unidades hoteleiras graus de autonomia não coincidentes, mas em geral bastante baixos, sobretudo em termos de capacidade de investimento em bens de capital fixo e no domínio da manutenção. De igual modo, em todos eles as restrições à contratação de pessoal e à política de remunerações são elevadas. Com efeito, o perfil destes gestores de unidade hoteleira, sendo coincidente com o descritor do conteúdo funcional da classificação portuguesa das profissões (CPP 2010) pareceu, todavia, muito restritivo.

Quanto ao procedimento analítico adotado para caracterizar a opinião dos turistas que frequentaram estas unidades hoteleiras e comentaram a sua estadia, optou-se por recolher a informação sobre todos eles, tendo sido obtida uma amostra intencional alargada (n= 2581). Pelo facto dos respondentes serem voluntários e necessariamente clientes da plataforma, não é possível pressupor que cada uma das 417029 ocupações estimadas<sup>207</sup> para o conjunto destes 9 hotéis no período acima mencionado tenha a mesma chance de pertencer à amostra alargada, pelo que esta não se pode considerar probabilística. Todavia, em função da dimensão das subamostras (cfr. Tabela 2), e calculando a dimensão necessária para cada uma delas para obter margens de erro de 5% e intervalos de confiança de 95%, concluímos que 4 dessas subamostras acidentais estão adequadamente dimensionadas e as restantes só o estariam com margens de erro superiores a 5%. Comparando os valores obtidos para as variáveis *'nacionalidade'* (percentagem de Portugueses), duração da estadia (média), tipo de estadia (percentagem do motivo lazer), tipo de época (percentagem turistas época alta) com os valores de referência para o mercado turístico de 2015, disponibilizados pelo Turismo de Portugal para estabelecimentos hoteleiros de igual classificação (4 e 5 estrelas), verificamos que a nossa amostra alargada apresenta

<sup>205</sup> Quanto maior é o coeficiente de variação maior é a dissensão e menor o consenso.

<sup>206</sup> Estes dados mais qualitativos foram obtidos através de entrevistas realizadas em cada uma das unidades hoteleiras entre junho e outubro de 2015, tendo-se privilegiado, como interlocutores, e em cada uma dessas 9 unidades, o diretor do hotel e os responsáveis pelas áreas de *housekeeping*, *food&beverage* e *maintenance*. As entrevistas foram ainda completadas com alguma observação direta do funcionamento da unidade hoteleira.

<sup>207</sup> Assumiram-se taxas de ocupação diferenciadas, de hotel para hotel, em função dos valores mensais por estes fornecidos para o período considerado. A unidade de contagem é a ocupação do quarto, e não o PAX, porquanto uma estadia (independentemente do número de ocupantes do quarto) só dá lugar a um *post* no Booking.

distribuições coincidentes com as do universo de turistas que se hospedaram nesses hotéis. A Tabela 2 resume as principais características sociodemográficas dos respondentes, da ocupação e a avaliação geral.

**Tabela 2 – Principais características da amostra do Booking®, segundo as dimensões consideradas**

Dimensão de análise	Variável	Categorias	Frequências/ valores	% em coluna	
SOCIODEMOGRÁFICA	UNIDADE HOTELEIRA	Valor amostral para E= 5%; Z= 95%			
		Hotel A	383	364	14,1%
		Hotel B	383	25	1,0%
		Hotel C	383	213	8,3%
		Hotel D	381	192	7,4%
		Hotel E	382	182	7,1%
		Hotel F	382	250	9,7%
		Hotel G	383	459	17,8%
		Hotel H	383	517	20,0%
		Hotel I	376	379	14,7%
		Σ de registos	384	2581	100,0%
	NACIONALIDADE	Portugueses		927	35,9%
		Europeus (ñ portugueses)		1287	49,9%
		Outros (ñ Europeus)		367	14,2%
	SEXO	Masculino		1299	65,8%
		Feminino		676	34,2%
		<i>Missing value</i>		606	
	TIPO DE CLIENTES	Casal		1438	55,8%
		Família		555	21,5%
		Grupo de amigos		229	8,9%
		Individual		357	13,8%
		<i>Missing value</i>		2	
OCUPAÇÃO	DURAÇÃO DA ESTADIA	1 noite		663	25,7%
		2 noites		512	19,9%
		3 noites		459	17,8%
		4 noites		341	13,2%
		5 ou mais noites		606	23,4%
	TIPO DE ÉPOCA	Alta		1352	52,4%
		Baixa		1229	47,6%
	TIPO DE ESTADIA	Lazer		2142	84,4%
		Negócios		395	15,6%
		<i>Missing value</i>		44	
	TIPO DE ALOJAMENTO	Apartamento		198	7,7%
		Standard		1256	48,7%
		Superior		1127	43,7%
	AVALIAÇÃO	PONTUAÇÃO [1-10]	Quartil inferior		7,50
			Mediana		8,80
Quartil superior			9,60		
APRECIÇÃO TOTAL		Sem comentários		1056	40,9%
		Só comentários negativos		165	6,4%
		Só comentários positivos		401	15,6%
		Comentários positivos e negativos		958	37,1%

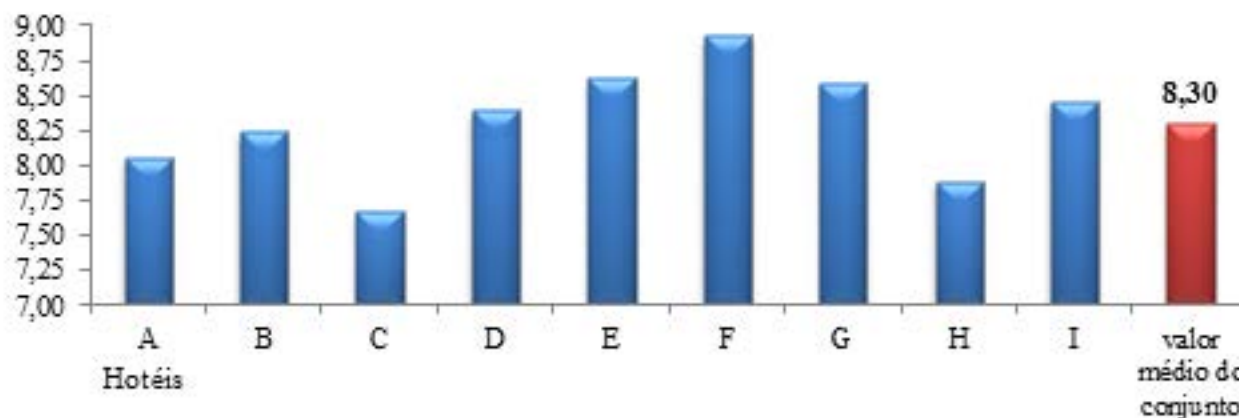
Fonte: Booking®. Elaboração própria



## 4.2. Descrição geral dos resultados obtidos

Os hotéis obtiveram pontuações médias distintas e estatisticamente significativas ( $F=_{23,787}$ ;  $gl= 8$ ;  $p= 0,000$ ), com uma amplitude relativamente baixa (Gráfico 4) mas com variâncias internas consideráveis. Tal significa que os respondentes revelam uma boa capacidade discriminatória quando avaliam os estabelecimentos hoteleiros onde se hospedam, existindo atributos sociodemográficos que explicam parcialmente as diferenças encontradas.

Gráfico 4 – Pontuação média obtida por hotel



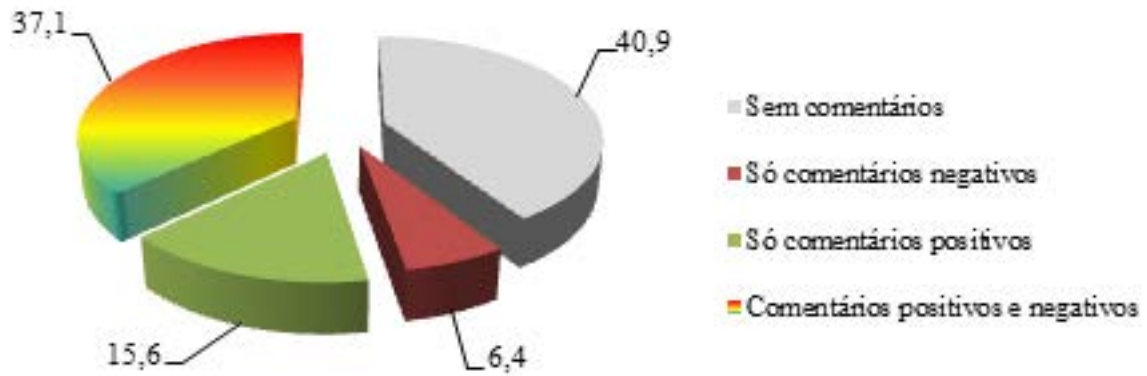
Fonte: Booking. Elaboração própria

Desde logo, há que sublinhar que esta pontuação se correlaciona, embora tenuemente, com o **tempo de estadia** –  $r(2581)= 0,055$ ;  $p= 0,005$  – podendo significar que a satisfação obtida com a estadia e a experimentação de bem-estar correspondem a um processo que requer tempo e é menos espontaneista. Esta hipótese é parcialmente corroborada pelas diferenças estatísticas encontradas para o conjunto da amostra alargada ( $n= 2537$ ) entre a pontuação atribuída (analisada por intervalos) e o tipo de estadia, estando os hóspedes que se registaram com o motivo ‘negócios’ sub-representados no quartil superior da pontuação, comparativamente com aqueles que se encontravam no hotel em ‘lazer’, respetivamente 30,1% vs. 40,8% ( $c^2= 32,274$ ;  $gl= 2$ ;  $p= 0,000$ ). Outro atributo dos hóspedes que tendencialmente penaliza a pontuação refere-se ao **tipo de cliente**. Com efeito, no conjunto da amostra alargada ( $n= 2579$ ) os hóspedes que não estiveram acompanhados (‘individuais’) encontram-se sobre representados no quartil inferior da escala de pontuação (37,5%), o que expressa uma proporção mais elevada que a dos ‘casais’ (30,0%), das ‘famílias’ (34,1%) e dos ‘grupos de amigos’ (28,8%) ( $c^2= 12,426$ ;  $gl= 6$ ;  $p= 0,053$ ). Finalmente, a pontuação é distinta entre a **nacionalidade** dos clientes (‘Portugueses’, ‘Europeus (não Portugueses)’ e ‘outros (ñ europeus)’), com os primeiros a pontuarem mais baixo que os ‘outros ñ europeus’ e estes mais baixo que os ‘Europeus (ñ Portugueses)’ ( $F=_{34,415}$ ;  $gl= 4$ ;  $p= 0,000$ ). Outras diferenças igualmente significativas ( $c^2= 791,316$ ;  $gl= 16$ ;  $p= 0,000$ ) podem ainda reconhecer-se entre as nacionalidades e no que respeita ao seu peso relativo em cada uma das 9 subamostras, indicando claramente que existem hotéis com maior número de hóspedes portugueses e outros em que essa posição se inverte. A época em que a estadia ocorreu não apresentou diferenças estatisticamente significativas, o que em si mesmo é revelador da capacidade de ajustamento destas unidades hoteleiras às diferentes necessidades de conforto que são sentidas pelos clientes em função da época do ano.

O juízo avaliativo por parte dos hóspedes pode ser ainda observado pela ótica dos comentários que foram escritos no Booking®. Foi possível, a partir desses registos, constituir uma variável que distingue os hóspedes segundo o sentido dos comentários (positivos vs. negativos) e as respetivas combinatórias (tomando a ausência de comentários com uma das categorias). Os resultados podem ser observados no Gráfico 5.

Uma maioria relativa de hóspedes que procede à avaliação da sua estadia (40,9%) não elabora qualquer comentário pelo qual explicita essa mesma pontuação. Uma minoria muito reduzida (6,4%) só explicita comentários negativos, e 15,6% só formula comentários positivos. Os hóspedes que deram o seu testemunho em ambos os sentidos (positivo e negativo) aparecem mais associados a pontuações mais baixas: eles representam 44,6% do total das pontuações do quartil inferior e apenas 25,2% do total de pontuações do quartil superior. No quartil intermédio (mediana) representam 44,9%. Estas relações entre pontuação e avaliação justificam uma desagregação mais fina, que permita discriminar o que é penalizado e enaltecido em cada experiência vivida nos estabelecimentos hoteleiros.

Gráfico 5 – Apreciação total (%), segundo o tipo de comentários



Fonte: Booking. Elaboração própria

Não deixou de nos surpreender que uma proporção tão elevada de hóspedes (37,1%) se refira simultaneamente a aspetos positivos e negativos. Esta circunstância reforça bastante o interesse que entendemos terem os dados do Booking®, complementados com outro tipo de observações e registos sobre cada um dos estabelecimentos hoteleiros. Os utilizadores desta plataforma *on line* discriminam muito bem os aspetos positivos e negativos da estadia, e deste modo dão grande contributo para se conhecer melhor cada um dos estabelecimentos hoteleiros. Na Figura 7 é possível perceber que a esmagadora maioria dos comentários ( $n= 2483$ )<sup>208</sup> recaem sobre questões do funcionamento do hotel (82,3%), e que uma maioria relativa são positivos. Este dado é concordante com os valores médios de pontuação obtidos. Os comentários negativos representam no total 45,2%, e também nesta polaridade são maioritários os que se referem a problemas diretamente respeitantes ao hotel.

Figura 7 – Distribuição percentual dos comentários do Booking® pelos eixos interpretativos



Fonte: Elaboração própria

O conhecimento mais detalhado desses problemas requer uma tipologia que criámos, adotada a partir de uma grelha de áreas funcionais disponibilizada pela AHP (2015). Cada *post* foi objeto de um varrimento exaustivo que contemplou (quando aplicável) até 5 referências temáticas por comentário, quer para os positivos, quer para os negativos. Os dados obtidos podem ser observados no Gráfico 6, ordenados decrescentemente.

O alojamento (quarto, suite ou apartamento) é, de longe, a categoria que capta um maior número de comentários negativos (22,6%). As restantes categorias reúnem percentagens inferiores a 11%, e 10 dessas categorias registam

<sup>208</sup> Os hóspedes podem efetuar vários comentários e destes podem extrair-se várias referências que foram objeto de categorização. Daí que o total de comentários escritos não tenha que ser igual ao número de registos efetuados.

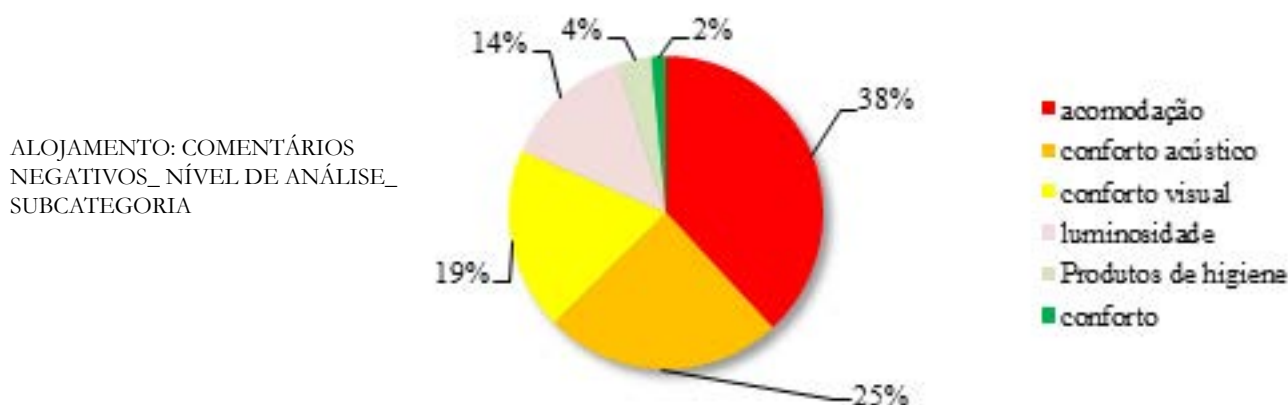
percentagens ainda mais baixas (inferiores a 5%). O alojamento é, por excelência, o *locus* da apreciação negativa, justificando-se uma desagregação mais fina (Gráfico 7).

Gráfico 6 – Comentários negativos (%), segundo a área funcional a que respeitam



Fonte: Booking®. Elaboração própria

Gráfico 7 – Subcategorias do comentário negativo (%) sobre o alojamento



Fonte: Booking®. Elaboração própria

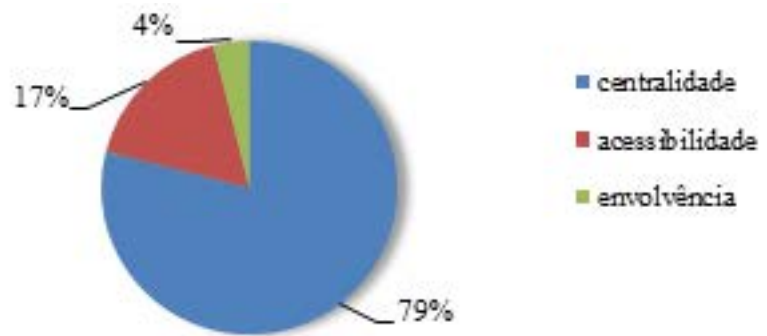
São as condições disponibilizadas em termos de acomodação (problemas com a cama, com o colchão, as almofadas, o comando da TV), geralmente indiciando má qualidade dos equipamentos e dos materiais, que têm a maior expressão neste conjunto (38%). Seguidamente, a falta de conforto acústico (25,0%) é outra das condições (indiciando, no essencial, problemas de isolamento sonoro e presença de ruído exterior no alojamento). O conforto visual (19%) é a terceira condição mencionada, e remete para uma avaliação negativa do *design*, normalmente pela vetustez do mobiliário, pela alegada falta de gosto na combinação dos elementos presentes. As questões relativas à luminosidade no interior do alojamento (que podem ser pela falta de luz artificial ou por excesso de luz natural), problemas com os produtos de higiene disponibilizados (quantidade ou qualidade) e o conforto (no sentido da amenidade interior, mencionando-se falta de tranquilidade, de silêncio, impossibilidade de relaxamento) completam o arco de questões mencionadas negativamente pelos hóspedes.

No que respeita aos comentários negativos sobre a localização do estabelecimento hoteleiro, mais de  $\frac{3}{4}$  (79%) referem-se a problemas relacionados com a grande distância aos centros mais urbanos (hotéis isolados), condicionando a mobilidade dos hóspedes, e 17% para problemas de acessibilidade (não especificamente da acessibilidade de pessoas com mobilidade condicionada). As questões sobre a desorganização do território em torno do hotel são também mencionadas, embora sejam residuais (4%) – ver Gráfico 8.

Relativamente aos comentários positivos (ver Gráfico 9), o alojamento volta a ser privilegiado nos comentários (18,3%), mas é agora seguido, muito de perto, pelas referências ao *staff* (17,7%). Em terceira posição, não muito distante (14,9%) surgem os comentários sobre a localização, dentro da qual a centralidade e a envolvência do hotel (o seu ambiente próximo) se destacam como aspetos muito positivos sublinhados pelos respondentes.

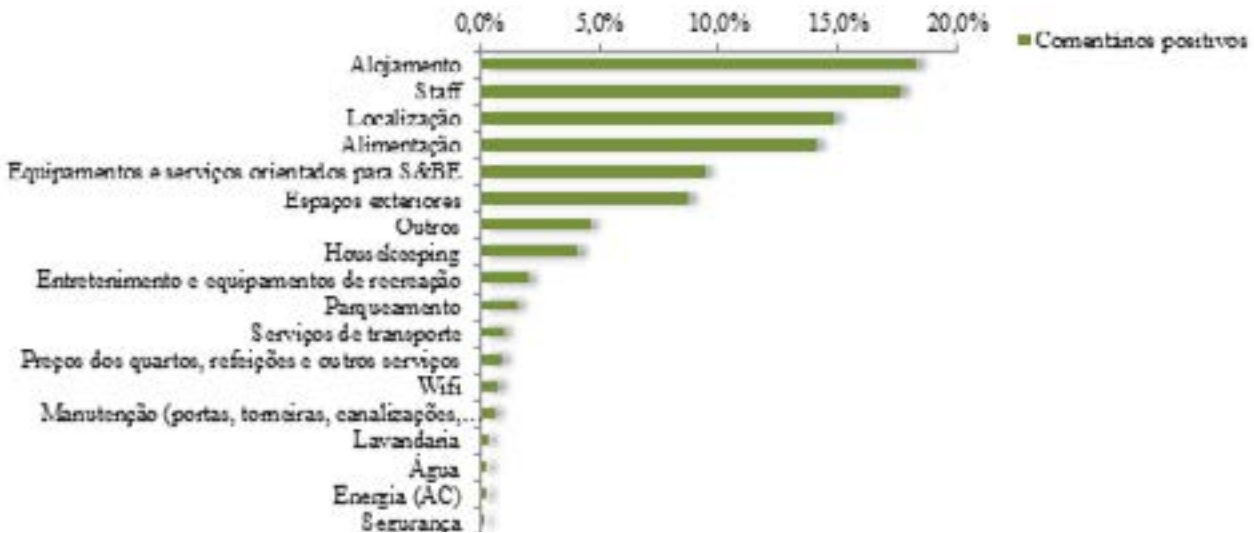
**Gráfico 8 – Subcategorias do comentário negativo (%) sobre a localização do hotel**

LOCALIZAÇÃO: COMENTÁRIOS NEGATIVOS\_  
NÍVEL DE ANÁLISE\_ SUBCATEGORIA



Fonte: Booking®. Elaboração própria

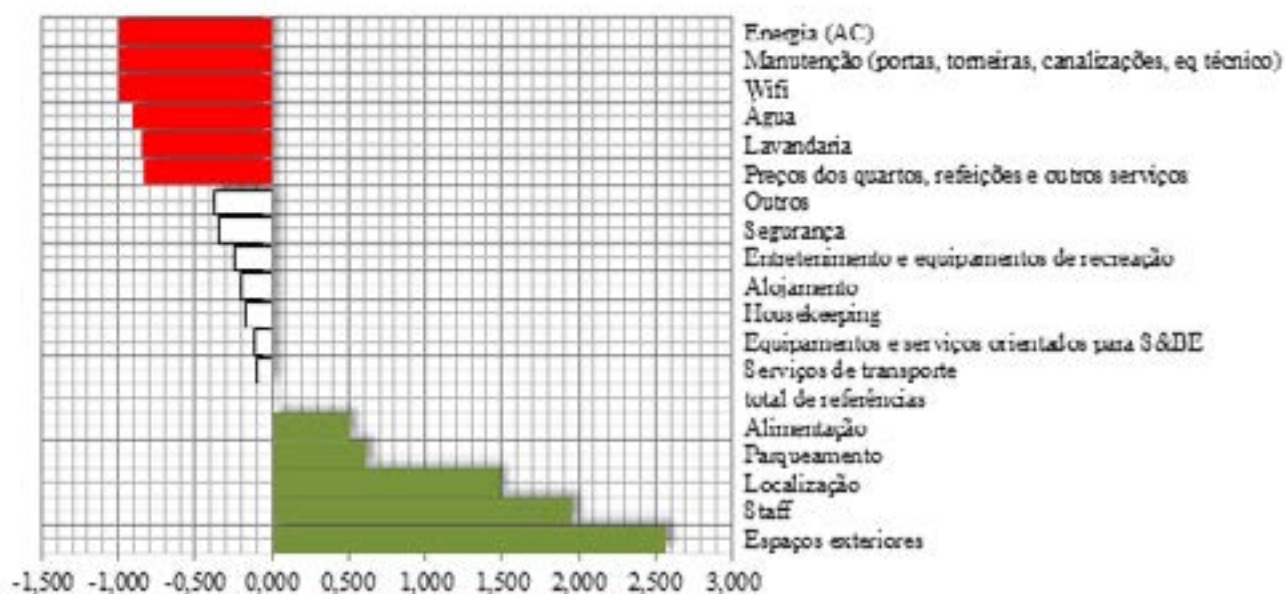
**Gráfico 9 – Comentários positivos (%), segundo a área funcional a que respeitam**



Fonte: Booking®. Elaboração própria

O balanço entre comentários positivos e negativos (em valores padronizados) pode ser observado no Gráfico 10. Emergem com clareza as áreas funcionais mais desequilibradas em termos de comentários.

Gráfico 10 – Balanço dos comentários (Positivos/Negativos), por categoria. Valores padronizados



Fonte: Booking®. Elaboração própria

Assim, aspetos extrínsecos (total ou parcialmente) ao funcionamento do hotel apresentam valores acima da média (espaços exteriores, localização), sendo acompanhados por um dos mais centrais desempenhos de um estabelecimento hoteleiro: o **peçoal**. A área da alimentação (F&B) também regista um valor *standard* acima da média. Abaixo da média (mas não com saldo negativo absoluto) encontram-se sete categorias (barras a laranja), nomeadamente o próprio alojamento e os serviços de *housekeeping*. Estas categorias, no quadro geral dos comentários, não se destacam nem pela positiva nem pela negativa, o que pode ser interpretado como áreas mais controversas em termos da avaliação e comentários formulados.

Finalmente, as seis categorias (a vermelho, significando que obtiveram saldos adversos no quociente entre comentários positivos e negativos) reúnem áreas sensíveis para a qualidade do hotel, como sejam os problemas relacionados com o ar condicionado, a água e a manutenção. Não se pode estranhar que neste conjunto de categorias se encontre aquela que, de algum modo, funciona como um balanço decisivo no contexto da avaliação: a **relação preço/qualidade** da estadia.

### 4.3. Exercício de análise integrada de resultados

Diante dos resultados apurados a partir de uma ferramenta de avaliação *on line* e *post* estadia, a exploração centrou-se na identificação da possível influência das características físicas das unidades hoteleiras, operacionalizadas pela sua eficiência energética e conforto térmico, tomando as características dos hóspedes e da estadia (a nacionalidade, a época de estadia, o contexto de estadia, o tipo de estadia e o tipo de alojamento), sobre a pontuação geral e os comentários dos hóspedes. A eficiência energética foi operacionalizada através de uma escala ordinal (satisfatória; boa; excelente) e corresponde à avaliação efetuada *in situ* para a determinação dos coeficientes de otimização em termos do consumo de energia de cada um dos 9 hotéis<sup>209</sup>. O conforto térmico foi igualmente mensurado numa escala ordinal (<22°C; 22°C a 25°C; > 25°C), correspondendo estes valores à média dos parâmetros de temperatura medidos no alojamento, no *lobby* do hotel e na sala de refeições, sem esquecer que a avaliação do conforto determinaria outros procedimentos (nomeadamente de auscultação direta aos hóspedes) que não foi possível desenvolver nesta fase do estudo (ver, ainda, Secção 1 deste texto).

#### 4.3.1. Pontuação

A exploração de diferenças estatisticamente significativas entre os vários escalões de eficiência energética das unidades hoteleiras e as avaliações gerais atribuídas pelos seus hóspedes revelou-se estatisticamente significativa ( $F_{2,2580} = 28,028$ ;  $p < 0,001$ ). Os contrastes efetuados indicam que os hóspedes das unidades hoteleiras com boa ( $\mu = 8,33$ ) e excelente eficiência energética ( $\mu = 8,46$ ) pontuam melhor os hotéis que os hóspedes de hotéis de eficiência energética satisfatória ( $\mu = 7,91$ ).

A pontuação geral atribuída aos hotéis também varia significativamente em função dos escalões de conforto

<sup>209</sup> Sobre a metodologia adotada e os indicadores de caracterização, ver Pinto (2015).

térmico ( $t_{1727,330} = 8,71$ ;  $p < 0,001$ ), mas estes resultados constituem em si mesmo um desafio relevante. Os hotéis que proporcionam o **conforto térmico de referência** aos seus hóspedes (temperaturas interiores entre 22°C e 25°C) ( $\mu = 8,14$ ) recebem uma pontuação mais baixa do que os hotéis cuja temperatura se situa acima dos 25°C ( $\mu = 8,64$ ). Este resultado seria surpreendentemente estranho, no caso de admitirmos que a satisfação do requisito da temperatura disponibilizada tem uma direta correspondência com as exigências de bem-estar e com uma avaliação proporcionalmente compensatória do hotel. Este é o âmago da discussão que importa partilhar.

#### 4.3.2. Comentários dos hóspedes às unidades hoteleiras

A exploração de associações significativas entre a eficiência energética das unidades hoteleiras e os comentários dos hóspedes a essas unidades revelou-se estatisticamente significativa em várias categorias de motivos agrupados segundo a valência dos comentários (cf. Tabela 3). Como se pode observar, os comentários negativos sobre os setores ‘food & beverages’ (F&B), *staff* e conforto visual estão associados aos hóspedes de hotéis classificados com satisfatória eficiência energética. Os comentários negativos sobre a acessibilidade, o serviço de lavandaria, o alojamento, a acomodação, a luminosidade, o conforto térmico, a temperatura da água no WC dos quartos, e aos equipamentos de saúde e bem-estar (sauna, jacuzzi, piscina, SPA, tratamentos de estética e massagens, etc.) estão associados aos hóspedes dos equipamentos hoteleiros classificados com boa eficiência energética. Por último, os comentários negativos acerca do conforto térmico e acústico da unidade hoteleira encontram-se significativamente relacionados com os hóspedes de hotéis de excelente desempenho energético. De novo, o desafio consiste em perceber se os indicadores de eficiência energética se compaginam com as exigências de bem-estar.

Os comentários positivos emitidos pelos hóspedes de estabelecimentos hoteleiros avaliados com satisfatória eficiência energética associam-se a aspetos ligados ao estacionamento, aos espaços exteriores (jardins, vista) e aos equipamentos de saúde e bem-estar. Já os comentários positivos dos hóspedes de hotéis com boa eficiência energética estão associados a fatores como os equipamentos de saúde e bem-estar, o preço, a localização do hotel, a distância ao centro e a outros pontos de interesse turístico, ao setor de F&B, ao *staff*, ao alojamento, ao conforto visual e à acomodação, aos transportes e aos equipamentos de entretenimento e recreação.

**Tabela 3 - Associação entre a valência e as categorias de comentários dos hóspedes e o escalão de eficiência energética das unidades hoteleiras**

Valência	Categoria	Escalão de eficiência energética	c <sup>2</sup>	gl	p
Negativo	Food & Beverages	Satisfatório	21,2	2	,000
	Staff	Satisfatório	11,9	2	,002
	Conforto visual	Satisfatório	11,7	2	,003
	Acessibilidade	Bom	18,1	2	,000
	Lavandaria	Bom	9,1	2	,010
	Alojamento	Bom	60,7	2	,000
	Acomodação	Bom	31,4	2	,000
	Luminosidade	Bom	40,3	2	,000
	Energia (questões com o ar condicionado)	Bom	14,6	2	,001
	Temperatura da água	Bom	7,1	2	,029
	Equipamentos de saúde e bem-estar	Bom	17,5	2	,000
	Conforto acústico	Excelente	14,0	2	,001
	Conforto térmico	Bom	17,2	2	,000
		Excelente			

Positivo	Parqueamento	Satisfatório	8,7	2	,013
	Espaços exteriores (jardins, vista)	Satisfatório	23,9	2	,000
	Equipamentos de saúde e bem-estar	Satisfatório	69,2	2	,000
		Bom			
	Preço	Bom	7,5	2	,023
	Localização	Bom	55,1	2	,000
	Distância	Bom	27,6	2	,000
	Food & Beverages	Bom	47,1	2	,000
	Staff	Bom	54,7	2	,000
	Alojamento	Bom	64,7	2	,000
	Conforto visual	Bom	11,1	2	,004
	Acomodação	Bom	14,7	2	,001
	Transportes	Bom	37,6	2	,000
	Equipamentos de entretenimento e recreação	Bom	18,7	2	,000

Fonte: dados retirados do Booking® e registo energético *in situ*. Elaboração própria

Os resultados significativos encontrados na exploração da associação entre os comentários dos hóspedes e o escalão de conforto térmico dos hotéis são, comparativamente ao escalão de eficiência energética, em menor número. De facto, e como se pode observar na Tabela 4, os comentários negativos dos hóspedes de hotéis cuja temperatura interior nos quartos divergia da temperatura de referência – recordando que esta é medida pela sonda e não objeto de declaração do utente - associam-se apenas a particularidades ligadas à acessibilidade, enquanto os comentários dos hóspedes de unidades hoteleiras que garantem valores de temperatura normativamente adequada aos seus utilizadores se prendem a características negativas associadas ao *housekeeping* e limpeza, ao alojamento e ao conforto visual. Os comentários positivos dos clientes dos hotéis que divergem dos valores de referência (para a temperatura) associam-se significativamente a aspetos da manutenção, conforto visual e aos equipamentos de entretenimento e recreação. Os hotéis que garantem temperaturas dentro dos valores de referência (22°C a 25°C) aos seus hóspedes são também aqueles que recebem, mais do que esperado, comentários positivos acerca do setor de lavandaria, sobre a localização do hotel e a distância ao centro e a pontos de interesse, à envolvente e à acomodação.

Algumas destas associações obtidas neste estudo são tomadas como vieses, pois são espúrias e não expressam uma relação inteligível e muito menos causal. Todavia, podem ser do maior interesse para uma análise de despiste para o equacionamento de aspetos terceiros que interesse contemplar num processo mais alargado de conhecimento sobre a relação entre a produção de bem-estar e o consumo energético na indústria hoteleira.

**Tabela 4 - Associação entre a valência, as categorias de comentários dos hóspedes e o escalão de conforto térmico das unidades hoteleiras**

Valência	Categoria	Escalão de conforto térmico	c <sup>2</sup>	gl	p
Negativo	Acessibilidade	Desconforto (> 25°C)	28,1	1	,000
	Housekeeping	Conforto (> 22°C e < 25°C)	10,8	1	,001
	Alojamento	Conforto (> 22°C e < 25°C)	6,5	1	,011
	Conforto visual	Conforto (> 22°C e < 25°C)	8,4	1	,004
Positivo	Manutenção	Desconforto (> 25°C)	6,6	1	,010
	Conforto visual	Desconforto (> 25°C)	47,1	1	,000
	Equipamentos de entretenimento e recreação	Desconforto (> 25°C)	13,0	1	,000
	Lavandaria	Conforto (> 22°C e < 25°C)	5,1	1	,023
	Localização	Conforto (> 22°C e < 25°C)	32,2	1	,000
	Distância	Conforto (> 22°C e < 25°C)	6,7	1	,010
	Envolvente	Conforto (> 22°C e < 25°C)	11,0	1	,001
	Acomodação	Conforto (> 22°C e < 25°C)	9,3	1	,002

Fonte: dados retirados do Booking® e registo energético *in situ*. Elaboração própria

4.3.3. *Aspetos de diferenciação social na avaliação dos estabelecimentos hoteleiros*

A análise que se segue diz respeito à exploração de associações significativas entre as categorias positivas e negativas dos comentários e as características dos hóspedes e da estadia no hotel.

A análise relativa à nacionalidade dos hóspedes revelou que os portugueses referem o preço nos comentários negativos que emitem, enquanto os europeus salientam particularidades referentes à localização, à distância do hotel ao centro urbano e a pontos de interesse, ao setor F&B, ao alojamento (avaliação global), à luminosidade e ao conforto acústico dos quartos. Os comentários positivos que se associam à nacionalidade dos hóspedes centram-se em aspetos como a rede de transportes, o setor F&B e o de *housekeeping*, o *staff*, o alojamento e acomodação, os espaços exteriores (jardins, vista), os equipamentos de entretenimento e recreação, os equipamentos de saúde e bem-estar e o conforto visual no caso dos hóspedes europeus e na localização e distância ao centro no caso dos hóspedes de outras nacionalidades (cf. Tabela 5).

Os comentários negativos dos hóspedes que viajam em casal e sós referem-se apenas ao conforto acústico dos quartos e a questões ligadas à água para os que viajam em família e com o grupo de amigos. Os comentários positivos associam-se significativamente aos hóspedes que viajem em casal a particularidades referentes ao setor F&B, espaços exteriores (jardins, vista), ao conforto, ao *staff*, à acomodação e aos equipamentos de saúde e bem-estar, sendo acompanhados pelos hóspedes que viajam em família e grupo de amigos nestes três últimos aspetos (cf. Tabela 6).

Os comentários negativos emitidos pelos hóspedes que se hospedam nos hotéis para lazer referem-se ao setor de *housekeeping* ao alojamento, enquanto os comentários dos hóspedes de negócios estão ligados ao conforto acústico dos quartos, aos equipamentos de saúde e bem-estar e ao também ao alojamento. Os comentários positivos estão exclusivamente ligados aos hóspedes que se encontram nos hotéis para lazer e referem-se à localização, ao setor F&B e ao *staff*, ao alojamento e à acomodação, ao estacionamento, aos espaços exteriores (jardins, vista) e aos equipamentos de saúde e bem-estar (cf. Tabela 7).

**Tabela 5 - Associação entre a valência, as categorias de comentários e a nacionalidade dos hóspedes**

Valência	Categoria	Nacionalidade dos hóspedes	c <sup>2</sup>	gl	p
Negativo	Preço	Portugueses	6,8	2	,032
	Localização	Europeus	27,9	2	,000
	Distância	Europeus	11,6	2	,003
	Food & Beverages	Europeus	7,3	2	,025
	Alojamento (global)	Europeus	11,9	2	,003
	Luminosidade	Europeus	13,1	2	,001
	Conforto acústico	Europeus	11,0	2	,004
Positivos	Transportes	Europeus	12,5	2	,002
	Food & Beverages	Europeus	29,4	2	,000
	HouseKeeping	Europeus	18,4	2	,000
	Staff	Europeus	62,8	2	,000
	Alojamento	Europeus	46,6	2	,000
	Acomodação	Europeus	11,1	2	,004
	Espaços exteriores (jardins, vista)	Europeus	11,6	2	,003
	Equipamentos de entretenimento e recreação	Europeus	9,3	2	,009
	Equipamentos de saúde e bem-estar	Europeus	30,0	2	,000
	Conforto visual	Europeus Outras nacionalidades	27,7	2	,000
	Localização	Outras nacionalidades	21,6	2	,000
	Distância	Outras nacionalidades	8,9	2	,012

Fonte: dados retirados do Booking®. Elaboração própria



Tabela 6 - Associação entre a valência, as categorias de comentários e o contexto de estadia dos hóspedes

Valência	Categoria	Contexto de estadia	c <sup>2</sup>	gl	p
Negativo	Conforto acústico	Casal Só	12,3	3	,006
	Água	Família Grupo de amigos	8,8	3	,031
Positivo	Food & Beverages	Casal	14,6	3	,002
	Espaços exteriores (jardins, vista)	Casal	7,8	3	,050
	Conforto	Casal	10,4	3	,015
	Staff	Casal Grupo de amigos	14,7	3	,002
	Acomodação	Família Casal	11,9	3	,008
	Equipamentos de saúde e bem-estar	Família	23,1	3	,000
		Casal			

Fonte: dados retirados do Booking®. Elaboração própria

Tabela 7 - Associação entre a valência, as categorias de comentários e o tipo de estadia dos hóspedes

Valência	Categoria	Tipo de estadia	c <sup>2</sup>	gl	p
Negativo	Housekeeping	Lazer	5,4	1	,019
	Alojamento	Lazer	10,6	1	,001
	Conforto acústico	Negócios	9,1	1	,003
	Equipamentos de saúde e bem-estar	Negócios	3,5	1	,060
Positivo	Localização	Lazer	4,6	1	,031
	Food & Beverages	Lazer	24,7	1	,000
	Staff	Lazer	22,8	1	,000
	Alojamento	Lazer	14,4	1	,000
	Acomodação	Lazer	10,6	1	,001
	Parqueamento	Lazer	7,1	1	,008
	Espaços exteriores (jardins, vista)	Lazer	11,7	1	,001
	Equipamentos de saúde e bem-estar	Lazer	25,0	1	,000

Fonte: dados retirados do Booking®. Elaboração própria

Por último, apresenta-se a análise decorrente da exploração de associações significativas entre os comentários dos hóspedes e o tipo de alojamento escolhido. Como se pode observar a partir dos dados constantes do Tabela 8, a maioria dos comentários negativos são emitidos pelos turistas que se hospedaram em alojamentos de categoria superior e referem-se à acessibilidade ao hotel, à manutenção, ao serviço de lavandaria, a várias particularidades do alojamento (alojamento, acomodação e luminosidade, conforto térmico e à temperatura da água nos quartos). Os hóspedes alojados em apartamentos referem sobretudo comentários negativos referentes ao setor de F&B.

Os comentários positivos associam-se a diferentes tipologias do alojamento, comparativamente com os negativos. Assim, os hóspedes em alojamento *standard* emitem, mais do que o esperado, comentários relativos à envolvente do hotel e ao parqueamento. Já os hóspedes em alojamentos superiores elogiam sobretudo aspetos ligados à rede de transportes, à localização e à distância ao centro/pontos de interesse turístico, ao F&B, aos equipamentos de entretenimento e recreação e a particularidades do alojamento (conforto visual, conforto em geral). Por fim, os hóspedes alojados em apartamentos referem como aspetos positivos a salientar a segurança, o *housekeeping*, a lavandaria, os equipamentos de saúde e bem-estar, o *staff*, o alojamento e a acomodação; nestes três últimos aspetos acompanhados também pelos hóspedes em alojamento de qualidade superior.

**Tabela 8 - Associação entre a valência, as categorias de comentários e o tipo de alojamento**

Valência	Categoria	Tipo de alojamento	c <sup>2</sup>	gl	p
Negativo	Food & Beverages	Apartamento	12,9	2	,002
	Acessibilidade	Superior	12,5	2	,002
	Manutenção	Superior	18,7	2	,000
	Lavandaria	Superior	6,7	2	,035
	Alojamento	Superior	26,9	2	,000
	Acomodação	Superior	20,5	2	,000
	Luminosidade	Superior	36,5	2	,000
	Conforto térmico	Superior	12,4	2	,002
	Temperatura da água	Superior	26,7	2	,000
Positivo	Envolvente	Standard	9,7	2	,008
	Parqueamento	Standard	9,3	2	,010
	Transportes	Superior	25,4	2	,000
	Localização	Superior	27,4	2	,000
	Distância	Superior	11,6	2	,003
	Food & Beverages	Superior	20,4	2	,000
	Conforto visual	Superior	9,1	2	,011
	Equipamentos de entretenimento e recreação	Superior	12,4	2	,002
	Conforto	Superior	6,9	2	,031
	Segurança	Apartamento	30,3	2	,000
	Housekeeping	Apartamento	9,1	2	,010
	Equipamentos de saúde e bem-estar	Apartamento	25,6	2	,000
	Lavandaria	Apartamento	13,5	2	,001
	Staff	Superior Apartamento	41,4	2	,000
	Alojamento	Superior Apartamento	45,6	2	,000
Acomodação	Apartamento Superior	11,7	2	,003	

Fonte: dados retirados do Booking®. Elaboração própria

#### 4.4. Discussão de resultados

O turismo é uma indústria orientada para o bem-estar e fruição dos seus clientes, cujas avaliações são fortemente contrastantes, mesmo dentro do mesmo hotel, e em função de parâmetros sociodemográficos e de uma subjetivação do produto hoteleiro que interessa conhecer. O forte crescimento do turismo trouxe maior diversidade à procura e é normal que a oferta seja a chamada a adaptar-se. As AC são outra circunstância desafiadora e que apela a uma crescente eficiência energética que tem que ser acompanhada pela corresponde adaptação das representações sociais sobre apazibilidade, funcionalidade, conforto, bem-estar. No modelo multicausal de afetação das AC sobre a hotelaria (Figura 1) é evidente que a margem de manobra é hoje muito curta. Por outro lado, a mensagem do regulador desta atividade (Turismo de Portugal) não deixa dúvidas: a sustentabilidade é considerada como elemento basilar das políticas públicas de turismo, e a consciência ambiental dos atores públicos e privados que operam na atividade turística torna-se imperativa.

Como apreciar o desempenho dos sistemas sociotécnicos que compõem a resposta hoteleira? Haverá uma incompatibilidade entre, por um lado, os objetivos e requisitos da sustentabilidade ambiental e da adaptação às AC e, por outro, a resposta tecnológica mediada pela intervenção humana na gestão e uso dos recursos hoteleiros que produzem bem-estar?

O projeto AdaPT AC:T desenvolveu um dispositivo de auditoria energética e do consumo de água de 9 hotéis,

cujos resultados são integrados com uma análise das respetivas organizações (as empresas de hotelaria) e de dados de avaliação e comentário desenvolvidos pelos clientes. Os resultados serão tanto mais concludentes e relevantes para a problemática da adaptação às alterações climáticas, quanto maior for a capacidade de os interpretar e de lhes conferir um valor heurístico. A mobilização de modo integrado das variáveis físicas (desempenho energético, conforto térmico) e sociais (características dos respondentes e avaliação da estadia) põe em evidência uma pluralidade de nexos com significado estatístico – tanto quanto relações espúrias – que aparentemente revelam uma avaliação criteriosa, mas nem sempre esperada, sobre como hoje respondem os hotéis às exigências dos clientes. O desafio é também de natureza prospetiva e consiste em entender como poderá ser a hotelaria num quadro de adaptações incontornáveis às AC.

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# MISOGYNIST HARASSMENT IN CYBERSPACE. A CASE STUDY FROM A SOCIAL WORK PERSPECTIVE

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## ABSTRACT

The internet has brought about a radical change in the way people communicate and relate to each other. Widespread use of this new system of communication has resulted in a shift in conventional attitudes in human relations. Some of its features are anonymity, virality or disinhibition, which in turn determine norms of interaction. This paper offers a preliminary study on online harassment, which we consider a type of gender-based violence in its wider definition. We define online harassment as the display of a series of online behaviours aimed at disturbing, upsetting and distressing women who engage in the internet in any way. Spanish website *Píkara Magazine* is used as a case study, in which we review the most common behaviours specific to this type of harassment and we undertake a discourse analysis of the comments posted on this online magazine during 2015. Furthermore, we consider different ways of tackling this phenomenon from the social work discipline.

Keywords: Gender-Based Violence, Harassment, Internet, Social Work.

## 1. INTRODUCTION

### 1.1. The internet and new challenges

With the arrival of the internet, and especially following the widespread use of online environments with a high level of interactivity (2.0), some aspects of our daily routine have undergone significant changes. Social environments and establishments such as the organisation of work, the education system, our way of interacting, the media, political campaigning, artistic activity or urban development (Instituto de la Mujer y para la Igualdad de Oportunidades, 2014) have been significantly impacted, giving rise to new challenges in areas of social intervention.

These online interaction environments have become new domains in which to develop human relations under new codes and norms. Social issues that have already been widely researched have taken new forms, resulting in different operating rules, features and repercussions from those studied in traditional social interaction environments (offline). Consequently, a phenomenon such as cyber-bullying differs from bullying in (a) the impact of the aggressor's anonymity, which makes it easier for the aggressor to act with impunity and also increases the victim's helplessness, and (b) the wider social scope or virality of such aggressions, which heightens the victim's feelings of vulnerability and makes them feel unsafe at all times (Buelga, Cava & Musitu, 2010). Anonymity and virality are two features that enable the shift of social relationships in these new interaction environments.

Anonymity makes it possible to forge new online identities, assuming a different age, gender, beliefs or any other personal attributes (Zegers *et al.*, 2006; Gosling & Mason, 2015). By using a pseudonym, true identity is diluted, acting as a catalyst for disinhibition and enabling the adoption of rhetoric and behaviours unlikely to be displayed in traditional interaction environments (Zegers & Larráin, 2002). Ultimately, thanks to anonymity, the internet acts as a safe setting in which to express opinions about race, politics or society that would otherwise be socially sanctioned (Bargh & McKenna, 2004). Therefore, a process of online disinhibition takes place (Chisholm, 2006), enabling the dissolution of certain psychological barriers that normally block the most intimate thoughts, feelings and needs, thus allowing the proliferation of certain behaviours during interactions in these new environments. On the other hand, virality, understood as the potential for a message to be spread and disseminated online, impacts mainly on the victim. Harassment spreads swiftly and its effects multiply rapidly, which makes it very difficult to curb its consequences.

There are other features determining social interactions in online environments. McKenna & Bargh (2000) highlight

the importance of being able to communicate with other people regardless of their location, the irrelevance of physical appearance and non-verbal communication in many of the channels comprising these kinds of relationships. They also underline the opportunities for greater control due to the possibility of delaying communication. Other factors are the relative ease of interrupting communication at any time (Zegers & Larraín, 2002) and the duration of a digital footprint.

## 1.2. Women and the internet

From a gender perspective, cyberspace has also become a field for inequality. Firstly, there are differences among men and women with regard to access to information and communication technologies (ICTs). According to data from the Spanish Office for National Statistics (Instituto Nacional de Estadística, INE), in 2014 (last published data) men's frequent use of the internet was 4.4% higher than women's, 5.1% as regards online shopping, and 3.4% in terms of use over the previous three-month period. Spain, following recommendations from the Beijing Platform for Action, and specifically its strategic objective B3 regarding the need to improve women's access to vocational training, science and technology, has seen the development of an Action Plan for Gender Equality in the Information Society 2014-2017 (Plan de acción para la igualdad de oportunidades de mujeres y hombres en la sociedad de la información 2014-2017), approved by the Cabinet on 12th September 2014, to fight such inequality.

Unfortunately, however, gender inequality in ICTs is not just limited to access. Whilst in the early 2000s the internet supported women's empowerment by enabling access to information and social support (Finn & Banach, 2000), today there are potential risks, dangers and discriminating factors that need to be dealt with. Specifically, behaviours that can lead to online victimisation such as accessing incorrect or misleading information, loss of privacy and cyber-bullying. For instance, with regard to cyber-bullying, the proportion of female victims is higher than that of male victims, and there are more male online stalkers than female (Buelga, Cava & Musitu, 2010; Kowalski & Limber, 2007).

Online interaction environments have also become a space in which stigmatised or socially rejected individuals and groups can freely participate and express their opinions (Bargh & McKenna, 2004). Furthermore, social movements such as feminism have the potential to exert more influence and reach a higher level of interaction using new and more participative channels of communication (Fernández Romero, Corredor Lanás & Santín Durán, 2011).

In this respect, within the feminist social work sphere, areas such as feminist community work reach a new dimension online. The new online interaction environments provide the "initiatives that emerge when a group or groups of women organise collectively around issues aimed specifically at tackling gender oppression" (Dominelli & McLeod, 1989: p. 46) with a range of possibilities beyond comparison with previous decades. Therefore, the internet provides such campaigns and networks an opportunity to thrive, seeing this medium as a space to meet, participate and develop. It also becomes an intervention space for social work as, among other reasons, the information from these networks can provide a new understanding of social problems on which to act upon. The internet also enables a raising of awareness about women's discrimination and promotes empowering efforts, both at an individual and a collective level.

## 1.3. Gender-based violence

In this paper, when we use the terms gender-based violence or sexist violence we are referring to violence specific to women due to their gender. This definition of gender-based violence is the same adopted by the UN in its 1993 Declaration on the Elimination of Violence against Women, where it defines violence against women as:

"any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life." (General Assembly of the United Nations, 1993)

Section 1.1 of the Act against gender-based violence enacted in Spain in 2004 (Ley Orgánica 1/2004 de Medidas de Protección Integral contra la Violencia de Género), however, defines gender-based violence as:

"violence that, as a demonstration of discrimination, inequality and power relations of men over women, is exerted over them by those who are or have been their partners and by those who are or have been emotionally attached to them, even without cohabiting."

We understand that this last definition, by being significantly more limited, does not accurately reflect what gender-based violence really is. It must not be confined to couple relationships, but viewed as a social problem rooted in the

dominant patriarchal system. Therefore, in addition to violence exerted by a partner or former partner, actions such as rape (including that used as a weapon of war); sexual harassment; sex trafficking of women and girls; honour killings; female genital mutilation; selective female infanticide and online harassment are all considered gender-based violence.

In this paper, we concentrate on this last type of violence, as even though it appears to be the least serious, it is the most widespread. Virtually all women have been insulted, denigrated or humiliated in public, whether it be because of their physical appearance, their manner of expression or their way of “being” in a particular place. Ultimately, because they show themselves in public as women.

#### 1.4. Gender-based violence on the internet

Most of the above types of violence are replicated online. According to Fialova & Fascendini (2011), the most common types of gender-based violence in the online arena are abuse exerted by a partner using technology; sexual aggression and rape when ICTs are used to monitor and control women’s activities; sexist violence culturally condoned when ICTs serve as a tool to excuse, accept and perpetuate violence against women; violence addressed at communities, including groups vulnerable to online attacks because of their sexual or gender identity, and online harassment or cyber-bullying.

In this paper, we use the concept of cyber-bullying suggested by Willard (2007), who rates online aggressions according to the behaviour of the aggressor. These categories are flaming (sending electronic messages with angry and vulgar language), harassment (repeatedly sending nasty, mean, and insulting messages), denigration (sending or posting rumours about a person to damage his or her reputation or friendships), impersonation (pretending to be someone else to damage that person’s reputation or friendships), outing (sharing someone’s secrets or embarrassing information or images online), trickery (talking someone into revealing secrets or embarrassing information, then sharing it online), exclusion (intentionally and cruelly excluding someone from an online group) and cyber-stalking (repeated, intense harassment and denigration that includes threats or creates significant fear in the victim).

## 2. METHODS

The guiding aims of this research are to analyse the social processes of misogynist harassment as they occur in online environments and to suggest strategies to tackle this problem from a social work perspective.

This paper employs discourse analysis techniques to develop a descriptive study of the different types of harassment and the responses to it found in the comments section of Spanish website *Píkara Magazine* from January 2015 to March 2016. This online magazine was specifically chosen due to its influence on Spanish feminist journalism, providing thought provoking angles and an ability to generate discussion.

Following case analysis methods, this research aims to illustrate the characteristics of online harassment with the idea that the results obtained may be extrapolated to provide a theoretical base to explain the problem and design strategies to tackle it (Coller, 2000).

### 2.1. Description of the case study

Our research focuses on analysing the entirety of the posts found in the comments section of Spanish website *Píkara Magazine* from January 2015 to March 2016. The magazine’s chief editor June Fernández explains on the website that

“*Píkara Magazine* brings you quality journalism, from a gender perspective, featuring people and stories otherwise hardly visible in the media, covering all social and cultural topics of interest from a different approach: sharp, inclusive, committed, thought provoking and fun”.

The articles are either written by a specific reporter or the magazine’s editorial team. The authors range from staff members to external contributors. The magazine is divided into five sections: “bodies” [cuerpos], which includes health, identity, emotional or sex topics; “fictions” [ficciones], where subjects such as the arts and general knowledge are covered; “the planet” [planeta], discussing issues around ecology, solidarity, rights and consumption; “networks” [en red], where activism, networks, feminism and the media are the main topics; and “voices” [voces], which includes memoirs, stories, interviews and editorial reports. In 2015, the magazine published 305 articles authored by 37 different female and male reporters, including the magazine’s editorial team. These articles received 2099 comments, averaging 9.2 comments per article, the smallest number being 0 and the largest 149.

Figure 1. Pikara Magazine's logo



Source: <http://www.pikaramagazine.com/>

## 2.2. Procedure

The articles and comments from 2015/2016 have been read and combined into a single document. Following a thorough analysis of their content and the thematic threads shared by the comments, several general categories have been created encompassing the discursive process associated with the different types of harassment found and the responses to it.

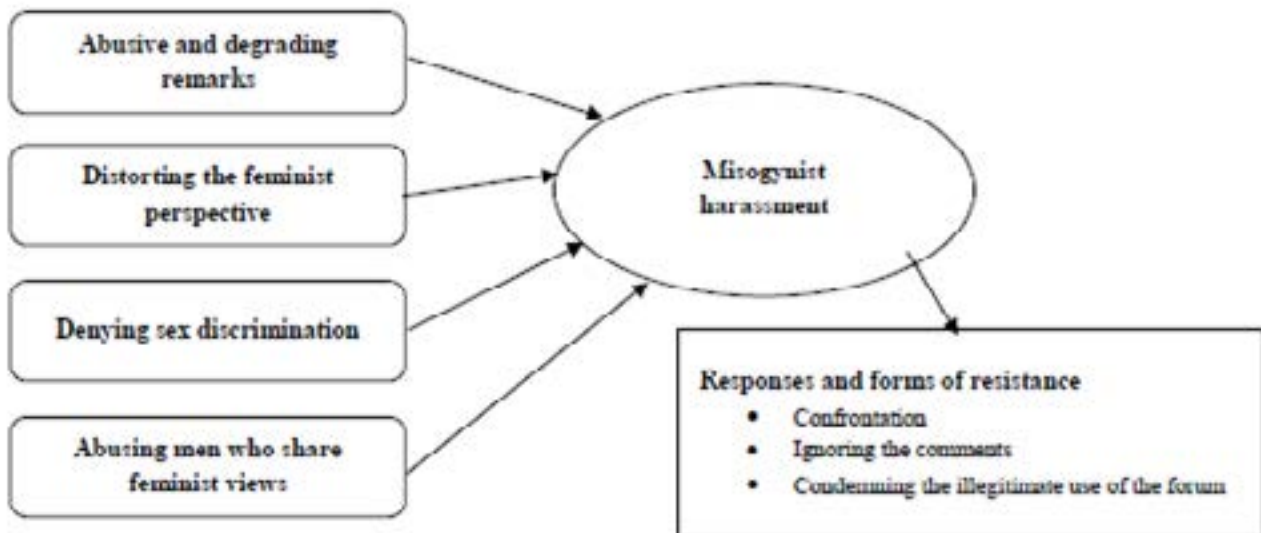
## 3. RESULTS

The articles that have been analysed cover different subjects (such as sexuality, art, politics, prostitution, religion or transgender issues) from feminist and sometimes controversial angles. As it has been stated above, there is a high level of interaction from readers, their arguments and discourse being wide-ranging. Overall, discussions around subjects such as the legalization of prostitution, religion or the association of feminism to other movements of social criticism (particularly anti-capitalism and equality for sexual diversity) have been particularly heated.

As is generally the case in this type of forum, there are many comments praising the author's work and supporting or questioning their arguments from different ideological perspectives. Nevertheless, the use of the comments section as a ground for sexist abuse in which relevant opinions commingle with abusive, aggressive and contemptuous remarks abounds. The main discursive categories indicative of harassment are shown below.

### 3.1. Discourse categories

Figure 2. Diagram showing the main categories of harassment. Source: The authors



#### *Abusive and degrading remarks*

Occasionally the discourse takes the form of abusive remarks. These are utterances unrelated to the thematic thread, aimed solely at humiliating the female authors of a particular article or comment or the feminist community as a whole.

“Anyway, I’ll finish now because I already know that I’m talking to a brick wall, a bunch of mediocre [women] alienated by an ideology put together in some underground laboratory in the Rockefeller building” (Abertzale).



[“En fin, acabo porque se de antemano que estoy hablando con una pared, una panda de mediocres alienadas por una ideología configurada en un laboratorio de alguna planta subterránea del edificio Rockefeller” (Abertzale).]

“Fat lesbians on their period. This is the only definite thing that I get” (Vagina Machirula).

[“Gordas lesbianas con la regla. Es lo único que me ha quedado claro” (Vagina Machirula).]

“You’re a fucking arsehole, you haven’t understood anything. Bitch” (pepito).

[“Eres una puta gilipollas, no has entendido nada. Zorra” (pepito).]

“Come on!! Nutters, you’re all crazy” (Patri).

[“Venga ya!! Locas q estáis todas locas” (Patri).]

Besides these more generic degrading comments, misogynist remarks are also frequent. These are aimed at discrediting differing opinions, confining women’s participation to domestic tasks that have traditionally been attributed to them or trying to restrict their identity to physiological experiences such as menstruation.

“You should all get in the kitchen; your husbands are hungry. YOU WHORES” (Oliver).

[“Iros todas a la cocina, que vuestro marido tiene hambre. TDS PTS” (Oliver).]

“I hope you have at least enough washing machines for all in those meetings, so there are no queues” (Esnorlax).

[“Espero que por lo menos tengáis lavadoras de sobra en esas reuniones y así no se forme cola” (Esnorlax).]

“How often do you feel the same way as this hysterical [woman]? Every 28 days. Menstrual delirium monthly (hehe)” (Opinator).

[“Con qué frecuencia os sentís como esta exaltada: Cada 28 días. Delirios menstruales en toda regla (jeje)” (Opinator).]

Others are associated with the objectification of women.

“Ugh, the fantasy of a dominating woman makes me wanna wank, but since she doesn’t exist I’ll have to watch a porn video with some whore in it” (Oh).

[“Uff vaya pajote ha caído con la ilusión de una mujer dominante pero como no existe me tendré que ver un video porno de alguna furcia” (Oh).]

### *Distorting the feminist perspective*

Another recurring theme is the notion that the arguments set out in the articles and comments do not correspond to a feminist perspective, but rather to an extremist stance aimed at favouring women in a seeming sex war. Expressions such as “feminazi” or “misandry” are used to discredit and slander certain arguments in these discursive confrontations.

“This is by no means feminist. Those of you who claim to be [feminist] and are misandrist and feminazi make me sick” (Salander).

[“Esto no es feminista ni es nada. Las mujeres que os hacéis llamar así y sois unas hembristas y unas feminazis me repugnáis” (Salander).]

“How can anyone be so incoherent and absurd? You are fucking fundamentalists. You have no fucking clue of what Feminism is. You only send idiotic messages. Bunch of schoolgirls” (Alba).

[“¿Se puede ser más incoherente y absurda? Sois unas jodidas integristas. No tenéis ni puta idea de lo que es el Feminismo. Os ceñís a emitir mensajes gilipollescos. Panda de niñas” (Alba).]

“What a load of feminazi shit. It’s pathetic that someone spends time writing such nonsense, and even sadder that someone else believes it” (Wow).

[“Vaya montón de mierda feminazi, patético que alguien invierte tiempo en escribir tantas sandeces, y más triste aún que alguien se lo crea” (Wow).]

### *Denying sex discrimination*

Denying sociocultural privileges attached to gender is a discursive trend deeply entrenched in this forum.

“Pathetic, ladies. You’ve been off beam for a very long time. I’d like to know what it is that you call “privileges” when you talk about men. Can you explain?” (Blackmore).

[“Lamentable, señoras. Hace mucho que han perdido ustedes el norte. Me gustaría saber a qué “privilegios” se refieren al hablar del hombre. ¿Me lo explican?” (Blackmore).]

“What a bunch of victims. Complete egocentrism. As if [we] men didn’t suffer violence or difficulties. As if [you] women were the only victims in this “unfair world”” (Abertzale).

[“Víctimas que estáis hechas. Egocentrismo total. Como si los hombres no sufriéramos violencia ni dificultades. Como si las mujeres fuéis las únicas víctimas de este “injusto mundo” (Abertzale).]

Denying, minimising, trivialising or justifying gender-based violence are also trends in this category.

“The vast majority of homicide or suicide victims are men, so to say that women are killed because they are women is real nonsense” (Pedro).

[“Las víctimas de asesinato o suicidio son hombres en una inmensa mayoría de los casos, así que decir que las mujeres son asesinadas por ser mujeres es una soberana estupidez” (Pedro).]

“Trying to snoop through text messages is gender-based violence? Farting in front of your partner is gender-based violence? Calling her a whore in a moment of anger if she, for example, has cheated [on you], is gender-based violence?” (Lucho).

[“Intentar fisgonear los mensajes del móvil es violencia de género? ¿Tirarse un pedo delante de tu pareja es violencia de género? ¿Llamarla puta en un momento de rabia ante, por ejemplo, unos cuernos, es violencia de género?” (Lucho).]

“Men constitute the overwhelming majority of victims of violent crime in all age groups” (ingeniero).

[“Los hombres representan la abrumadora mayoría de víctimas de delitos violentos en todos los tramos de edad” (ingeniero).]

This line of discourse usually includes a critique of positive discrimination policies (such as the constitutional law regarding protective measures against gender-based violence, Ley Orgánica 1/2004 de Medidas de Protección Integral contra la Violencia de Género<sup>210</sup>) and suggestions that it is males who are really discriminated against.

“If the number of deaths hasn’t decreased it must be because the law, due to its clear unfairness, has CAUSED DEATHS by increasing the degree of desperation in people who have ended up killing their partners and, if it hadn’t been because of this law, they wouldn’t have done it” (Pedro).

[“Si el número de asesinatos no ha disminuido tiene que ser porque la ley, debido a la clara injusticia que supone, ha PROVOCADO ASESINATOS, al aumentar el grado de desquicie de personas que han acabado asesinando

<sup>210</sup> Benchmark legislation in Spain regarding gender-based violence.

a sus parejas y, de no ser por esta ley, no lo hubiesen hecho” (Pedro).]

“Is it even necessary to bring the State into the kitchen? Are women today by any chance retarded or little girls incapable of solving their own problems? Aren’t they empowered enough?” (Abertzale).

[“¿Es necesario meter al Estado hasta en la cocina? ¿Acaso las mujeres actuales son unas retrasadas o unas niñas incapaces de resolver sus propios problemas? Acaso no están lo suficientemente emponderadas” (Abertzale).]

“In Spain women do NOT suffer any discrimination. Men are the ones who are discriminated against and criminalised. FASCISTS! PUPPETS OF INJUSTICE, INEQUALITY AND REPRESSION! (Pedro).

[“En España la mujer NO sufre ninguna discriminación. El que está discriminado y criminalizado es el hombre. ¡FASCISTAS! ¡PEONES DE LA INJUSTICIA, LA DESIGUALDAD Y LA REPRESIÓN!” (Pedro).]

“The fact that there are a lot more men who commit suicide or are homeless doesn’t matter?! What really matters is that women earn less than men on average. That really is a problem that must be tackled by the government, with positive discrimination measures” (Carlos).

[“Que el hecho de que haya muchos más hombres que se suiciden o que sean indigentes no importa! lo que sí importa es que las mujeres cobren menos de media que los hombres, eso sí que es un problema que debe ser atajado desde el gobierno, con medidas de discriminación positiva” (Carlos).

“Because of the harm that patriarchy has caused at a certain time there is now an attempt from the State –a very angry one– to show men as “potential rapists”, abusers by genetics and “shameful” objects for ostensibly being repressive” (Mikel).

[“Del dolor que el patriarcado nos ha hecho en un momento que hay un intento desde el estado -muy furioso- de dibujar al hombre como un “violador en potencia”, un maltratador por genética y un objeto “humillable” por ser un supuesto represor” (Mikel).]

### *Abusing men who share feminist views*

The discursive logic of misogynist confrontations takes the form of censorship messages to comments supporting feminist views supposedly posted by men (users with male nicknames).

“There is something more pathetic than the person who has written this totalitarian rubbish: the oestrogen sac with a dick who humiliates himself by going to these meetings and the orbiter man who celebrates this unbearable shit in his comments” (Abertzale).

[“Si existe algo más patético que la persona que ha redactado esta basura totalitaria, y es: el saco de estrógenos con pito que se humilla asistiendo a estas reuniones y el hombre pagafantas que aplaude esta mierda infumable en sus comentarios” (Abertzale).]

“This way you won’t fuck anymore, champion” (Amador).

[“Así no vas a follar más, campeón” (Amador).]

### **3.2. Responses and forms of resistance to harassment**

The responses to this type of harassment can be divided into three categories: (a) confrontation, (b) ignoring the comments and (c) condemning the illegitimate use of the forum to provoke this kind of conflict.

“So what are you doing on this website? Have you got lost or do those from New Force<sup>211</sup> bore you so much that you have to come here to disturb those of us who are delighted that this kind of journalism exists and are tiiiiiiiiired of boring journalism by and for hetero, white, middle class men???” (maria).

[“¿Y entonces que haces metido en esta web? ¿te has perdido o es que los de fuerza nueva te aburren tanto que tienes que pasar por aquí a molestar a las que estamos encantadas con que haya este tipo de periodismo? ¿y que llevamos años hartasssss de el aburrido periodismo por y para hombres heteros, blancos, clase media alta???” (maria).]

“I was reading the comments from the very offended liberal males hahah, it’s simple, if you’re so bothered and feel “discriminated against” don’t come to spaces for women, you have the whole fucking heteropatriarchal world for yourselves” (Kitzia).

[“Estaba leyendo los comentarios de los machos progre ofendidísimos jajaj es fácil, si tanto les molesta y se sientes “discriminados” no se paren es espacios de mujeres, tiene todo un jodido mundo heteropatriarcal para ustedes” (Kitzia).]

“Perhaps this space is not for you. The internet is full of websites that surely you’ll find more interesting than this one... but if you want to learn things, well, you know, but I ask you, please don’t make us waste our time reading you” (Yesmina).

[“Tal vez este no sea tu espacio, internet está llena de páginas que seguro te interesan más que esta...pero si quieres aprender cosas, pues ya sabes, pero porfa te pido, no nos hagas perder el tiempo leyéndote” (Yesmina).]

“Shut up machito<sup>212</sup>!! You fucking mansplainer!” (Leire).

[“Que te calles machito!! Jodido mansplainer!” (Leire).]

“You’re rude. One day the tables will turn and you’ll be the laughing stock. Then you’ll realise what you’re doing, or if you never realise you’ll live in blissful ignorance, but you won’t come to anything. You’ll only be a simple being, like so many others...” (Anna).

[“Eres grosero. Algún día se girarán las tornas y tú serás el hazmerreír de alguien y entonces te darás cuenta de lo que haces y si nunca te das cuenta vivirás feliz en tu ignorancia, pero no llegarás a nada más. solo serás un ser simple, como muchos otros...” (Anna).]

“Take no notice, trolls must be ignored. They don’t contribute anything. All they want is to attract attention and provoke others so they pay attention to them. [He] probably hasn’t even read the article” (Bri).

[“No hagas caso, a los trolls hay que ignorarles. No aportan nada, lo que buscan precisamente es llamar la atención y provocar para que les hagan caso. Probablemente ni se haya leído el artículo” (Bri).]

“I think this kind of sexist misogynist and offensive troll should be banned. I think it’s incoherent to tolerate something like this. It doesn’t have any of Pikara’s spirit” (Ana).

[“Creo que este tipo de troll sexista machirulo y ofensivo debería eliminarse. Me parece incoherente tolerar algo así, no tiene nada del espíritu de Pikara” (Ana).]

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<sup>211</sup> Far-right political party formed in the 60s and dissolved in the 80s.

<sup>212</sup> Tough guy

## 4. DISCUSSION AND CONCLUSIONS

This case study has highlighted a number of online harassment behaviours. The categories previously discussed encapsulate a complex fabric of reactions to feminist movements, the female gender in general and certain female-related topics. According to our analysis, those comments understood to be expressions of online harassment not only have the function to denigrate, but also hinder the opportunity for discussion and divert this to misogynist confrontations using basic and reiterative arguments.

Among the discursive categories found in our analysis, distorting the feminist perspective and denying sex discrimination are part of those patriarchal strategies used to vilify feminism and perpetuate inequality. Such arguments have been identified as post-modern misogyny (posmachismo) by some female and male authors (Fernández Garrido, no date; Lorente, 2009).

As a response to those comments classified as online harassment, the magazine's editorial board has blocked some users from taking part in the forum (approximately 50 users have been banned<sup>213</sup>) and has created an alternative forum to the magazine in which anonymity options have been significantly restricted and where those discussions that could potentially give rise to harassment are being diverted.

This online magazine, like other online feminist spaces, has been created by women as an alternative space in which to freely write, read or chat about their common interests, whatever they may be. But it has also become a space in which they are persecuted, questioned and abused. Such misogynist persecution and harassment are proof of the level of stagnation of discourse around these subjects in society. In our analysis, we found that subjects such as feminism, gender issues and discrimination generate a heated debate, turning discussions into hostile and unproductive experiences.

The fact that some women (or users with a female profile) also take part in the harassment of other women shows that the socialisation of men and women is still framed within a patriarchal society. That is, women are also misogynist; they reproduce whatever suits the system and contribute to perpetuating discrimination. Being in a position of inequality and oppression is not enough to challenge it if first there is not a process of awareness of such inequality and oppression. At the same time, men (or users with a male profile), from their privileged position, perceive that there is gender equality and, along with feeling attacked, accuse those in opposition of being removed from reality.

From a social work perspective, and specifically from its feminist strand, several strategies can be put into practice to tackle this issue. These must explicitly incorporate the recommendations from the Action Plan for Gender Equality in the Information Society 2014-2017. Nevertheless, a proposal of desirable measures does not appear to be enough. It is necessary to specifically define each one of the strategies for them to have the expected effect. Furthermore, it is essential that this new framework does not incorporate any new discriminatory elements.

We understand that any measures aimed at addressing this problem should stress the importance of ensuring that the women we work with, whether it be in a one-to-one work environment, in groups or in the community, become aware of their situation in order to challenge it. Another point would be to take part in actions aimed at empowering the women we work with, individually (by helping them to improve their social skills and self-esteem to better respond to abuse) or collectively (by fostering and managing collectivity or encouraging sorority). Efforts should also be made to develop campaigns aimed at increasing awareness of discrimination, promoting actions of equality among both women and men. Finally, the role of female and male social workers is key in developing strategies for conflict management and resolution, given the high proportion of hostility found in this analysis.

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<sup>213</sup> According to the magazine's chief editor.

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# LINGUISTIC MEDIATION WITH FEMALE GENDER VIOLENCE VICTIMS IN THE PSYCHOSOCIAL SPHERE: TOWARDS SPECIALISED ASSISTANCE<sup>214</sup>

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## ABSTRACT

Due to its prevalence as also its devastating consequences, gender violence is considered a public health issue. A range of services need to be put into place to ensure that women who are or have been gender violence victims are provided comprehensive and effective assistance. While it is already difficult for victims to initiate the process of empowerment, these circumstances become even more complex when the victims are foreign and do not, in addition, have a good command of the language of the community in which they live. In such situations, gender violence victims suffer a particular vulnerability and lack of protection due to a range of social factors. On the other hand, the growing interest in and subsequent development of translation/interpreting for public services has highlighted the importance of aspects like professionalization and training to guarantee quality service. In this article, we present the specific needs of the psychosocial sphere in terms of specialisation with respect to interpretation and translation when attending to gender violence victims. To this aim, we have used the interviews and surveys conducted with psychologists, social workers and interpreters within the framework of the SOS-VICS project.

Keywords: Linguistic Mediation, Gender Violence, Foreign Females, Psychosocial Sphere, Interpretation in Psychosocial Sphere.

## 1. INTRODUCTION

Gender violence or male violence is the most pernicious consequence of gender inequality, but it is no less common in spite of its severity. The last report of the World Health Organisation on the prevalence of intimate partner violence and non-partner sexual violence estimates that 30% of women in the world have suffered such abuses (WHO, 2013) and the data about prevalence in Spain are not far removed from this figure, with 27,087 women being issued protective orders in 2014 because of abuse (INE, 2015).

Against this background, the Spanish government adopted The Organic Law 1/2004, 28th December (Ley Orgánica 1/2004, de 28 de Diciembre), on Protection against Gender-based Violence, twelve years ago. This Act aims at providing a holistic response to the abuse that women are subjected to by their current or former intimate partners. It therefore covers prevention, social factors and assistance as also post-abuse attention for victims in different areas like education, awareness-raising and the media. It is clear that to provide a comprehensive response to a problem that is as complex as gender violence, the involvement of the different entities or services that a woman has to access to leave such a situation is necessary, or, at the very least, of those that she can approach to gather the relevant information to then be able to take a decision about her circumstances and her life.

### 1.1. Gender violence and psychosocial attention

The consequences of gender violence on women are very varied because such abuse affects their entire universe. In this study, we focus on psychosocial intervention and we will discuss the problems concerning this sphere.

Among the social consequences in Carnet y García (1999), we can highlight: information deficits leading to the

<sup>214</sup> This article is part of a more comprehensive project called Speak Out for Support (SOS-VICS) (JUST/2011/JPEN/2912), co-financed by the Directorate-General for Justice and Consumers of the European Commission, which focuses on the training of interpreters specialised in working with foreign female gender violence victims (GV) and was carried out in 2012-2014.

women being isolated during the abuse as they are unaware of the available resources, their rights, etc.; economic difficulties as they do not have a job or it is unstable and/or precarious; lack of professional qualifications as it is very common for women to be forced to give up their education or jobs once married; lack of family support, making the aggressor himself a more violent kind of abuse; lack or improper understanding of the situation making it difficult to decide whether to stay with the partner or abandon the relationship. To the above problems, we can also add others that are directly related to female gender roles like the need for public child-care centres or the lack of public centres for seniors and/or persons with disabilities (Matud *et al.*, 2009).

In light of this situation, the intervention provided by social workers, which could be categorised within the sphere of assistance, focuses on three levels: prevention, with health-promotion measures; risk intervention in situations where the woman is in significant danger; and crisis intervention, when the abuse is ongoing (Millán, 2005). According to the same author, the skills required in the social intervention context are attention, reception, listening and responding, in order to achieve these specific objectives: contribute to analysis of the issue, encourage the woman's motivation to become her own agent of change, strengthen the development of confrontational skills, support decision-making during the process and favour the use of community resources (Millán, 2005).

However, the woman can suffer a range of psychological effects at the margin of such a social problem which, if not treated in a timely fashion, can become chronic. The problems of this nature deemed most common by different authors are: low self-esteem, as the aggressor makes them feel that they are less competent than everyone else when it comes to managing their lives; anxiety; depression; changes in cognitive schema; post-traumatic stress, which has been deemed a defining diagnostic category among symptoms of a woman abused by her partner; deterioration of social skills; and learned helplessness (Matud *et al.*, 2009). In order to address these consequences, psychologists use a range of strategies unique to their profession.

Nonetheless, a series of concrete attitudes, cross-cutting across disciplines, have been developed for the entire intervention process like empathy; authenticity in the relation, making sure that verbal and non-verbal communication are coherent; tolerance and reception; self-restraint; the ability to set limits; and knowing how to maintain distinctions (Millán, 2005).

If it seems that these skills and addressing the terrible consequences is a complex process in itself, the difficulty increases significantly when the victim does not have a good command of or does not speak the language of the professional.

## 1.2. Foreign female victims of gender violence

Considering the number of women subjected to abuse by their current or former partners is this high, it is logical that the victims represent a wide range of different characteristics. One of every three victims in 2013 was not born in Spain (INE, 2015), which means that foreign women are excessively exposed to gender violence. While the majority is from Latin America - approximately 45% according to data from the INE (2015), there is a high percentage that does not speak Spanish or any other co-official language of Spain. These specific circumstances can place the victim in a situation of greater vulnerability and lack of protection, both in terms of the aggressor as also the system that will help her. As stated by Montañés y Moyano (2006), familial, social and institutional support is necessary to break the relation with the aggressor. Many foreign women do not have support networks, have been uprooted, are alone in an environment where they are sometimes not understood, etc. "Social support is an important asset in the face of adversity, which is why social isolation favours gender violence" (Montañés y Moyano, 2006, pp. 24). Furthermore, depending on where they come from, they might also face linguistic barriers which prevent them from developing these social networks.

Therefore, the Spanish Organic Law 1/2004, 28th December on Protection against Gender-based Violence, states in article 17.1 that

"All female victims of gender violence, independent of their origin, religion or any other personal or social condition or circumstance, are guaranteed the rights enshrined in this Act."

In this way, together with article 17.2, it works towards making "real and effective their constitutional rights to physical and moral integrity, to freedom and safety and to equality and non-discrimination based on sex", guaranteeing that this group has access to information, comprehensive social assistance and legal recourse.

Article 18.3 of this Act also states that female victims of gender violence facing greater difficulties in accessing information shall be provided with the necessary means to resolve them. But at no point does it explicitly state that this difficulty could be due to lack of language skills and therefore does not talk about the presence of oral interpreters during the process involved in leaving a situation of abuse. However, it does mention sign-language interpreters for deaf women. We had to wait for Act 4/2015 of 27 April on the Status of victims of crime, which includes part of



the transposition of European directives<sup>215</sup> into Spanish legislation, for a victim's right to linguistic assistance to be recognised. In article 9, Right to translation and interpretation, it states that

“(...) all victims that do not speak or understand Spanish or the official language used in any proceedings shall have the right to free-of-cost assistance by an interpreter that speaks a language that they understand (...) to free-of-cost translations of the decisions and information that is essential for them to exercise their rights and (...) to be informed of the date, time and location of the court proceedings.”

It also states, among other aspects, that the interpreting assistance may be provided by video conference or any other mode of communication and that the court's decision to not provide interpretation or translation to the victim may be raised in an appeal.

However, all references to interpreting assistance is limited to the judicial or police sphere, specifically for criminal proceedings, while leaving out other equally or even more important spheres for the prevention, detection of abuse and recovery of the victim, like health-care and psychosocial treatment.

The Spanish state has a number of telephone assistance services for gender violence victims that offer telephone interpreting to women who require linguistic mediation. While 016 provides information and legal assistance in gender violence, 112 is a general emergency service and has a special protocol for gender violence victims. Furthermore, ATENPRO is another protection and attention service for victims, run by the Red Cross. Specifically aimed at compliance and monitoring of stay-away measures and restraining orders, the COMETA Control Centre was set up and functions using web-based technology (Fernández Pérez, 2015: 117-121)<sup>216</sup>.

At the level of the Autonomous Communities, linguistic aid for gender violence victims is available as part of other non-exclusive public services in areas like police, judicial proceedings, health-care and assistance, in the form of on-site or telephone interpreting. However, as we mentioned earlier, this linguistic assistance is only guaranteed as part of criminal proceedings. As stated by Ozolins (2010), the fact that the provision of public services is driven by legislation, its legitimacy in other spheres is diminished.

As a result, linguistic assistance is not guaranteed in the health-care and psychosocial context, within which we include the work of social workers and psychologists, and depends on political will and private initiatives, or must be paid for by the patient asking to be accompanied by an interpreter. Very often, the person providing linguistic mediation between the professionals and the victim is a volunteer, carrying out this activity in an improvised manner. This situation reflects the state of public service interpreting in general, which in Spain and many other places is very inconsistent and irregular in terms of service provision itself as also contracting of interpreters, training, working conditions and regulation of the profession (Valero, 2006).

### 1.3. Linguistic mediation and the psychosocial sphere

The work done within/through assistance services plays a fundamental role in preventing and addressing situations of gender violence. This can be in the form of immediate attention and emergencies, as also specialised intervention and/or temporary accommodation. These services range from providing information and advice to women about their rights, available aid, existing resources and safety and protection measures; to risk evaluation and, depending on the case, counselling and recovery. The final objective is to empower the woman to leave the situation of violence. The lack of language skills on the part of the victim and, therefore, the difficulties in achieving fluid and complete communication is a factor that hinders this process.

The meagre supply of consistent linguistic mediation services and the lack of specific training for those generally carrying out this task in the assistance context is, in our opinion, an obstacle in the work of professionals in the psychosocial sphere. For victims, this can also act as a dissuasive factor when asking for help or drawing attention to their situation, which could lead to escalation to what may even be a high-risk situation. In the absence of interpreting services, women who do not speak the local language depend on third parties to communicate or to be heard. The isolation they tend to live in and the difficulty in finding someone they can confide in and can act as their interpreter, the shame, mistrust and fear that can result from making their situation visible through others are factors that might keep them away from assistance services. In short, it generates a lack of trust and perpetuates the dependence of these women on third persons.

The presence of a professional interpreter is a basic tool to guarantee quality communication for all involved parties and to empower the female victim.

<sup>215</sup> We are referring to the following European directives: Directive 2010/64/UE of the European Parliament and of the Council of 20 October 2010 on the right to interpretation and translation in criminal proceedings and Directive 2012/29/EU of the European Parliament and of the Council of 25 October 2012 establishing minimum standards on the rights, support and protection of victims of crime.

<sup>216</sup> 016 and the COMETA Control Centre are run by the Spanish Ministry of Health, Social Services and Equality, while 112 is managed by the different Autonomous Communities.

The sphere of psychosocial attention covers a large variety of communication situations, each of which require a specific approach by the person interpreting. An evaluation interview, counselling, a conversation in a shelter home or a psychological therapy session are some examples of the types of interactions, which differ greatly in terms of content, aim, protocol, register, etc. and therefore require specific preparation by the interpreter. The interpreter must not only have strong linguistic competence in the working languages (registers, oratory styles, terminology, etc.), but must also have multiple thematic skills (services and resources, action protocols, documents, etc.).

The emotional component is a unique feature of many communication situations in this sphere. These are specifically the situations where the strongest emotions and feelings come to the surface; the most intimate details about the relationship are revealed; the woman is asked to recall the events; episodes and the associated emotions are described, etc. When working in this emotionally difficult and highly vulnerable context, it is easy to overstep the limits of the role, which is why it is essential for the person interpreting to exercise self-control and to manage their emotions.

Finally, it is important to mention compliance with ethical principles like confidentiality, precision, neutrality, etc. which take on a key dimension in intervention with abused women.

## 2. METHODOLOGY

The data used in this study has been taken from the reports of the SOS-VICS project. Within this project, questionnaires were sent to different collectives, like police, judicial, medical and psychosocial, which work with gender violence victims in Spain. This study looks at the results from the psychosocial sphere. The questionnaire in this area was answered by 161 persons, of which the majority were women with university degrees, between 36 and 45 years of age<sup>217</sup>.

The included thematic areas are: socio-demographic characteristics, aspects related to attention to gender violence victims, questions about attention to foreign female gender violence victims, aspects related to communication with foreign female gender violence victims who do not speak Spanish or the co-official languages in Spain and considerations concerning interpreters. The questionnaire was filled out online in response to a mass mailing.

The data referring to the perspective of interpreters, has been taken from, within the same project, the Delphi survey of interpreters. It was completed by 27 professionals - 5 men and 22 women with interpreting experience in cases of gender violence. It aimed to investigate the content for a specialised training programme for interpretation in gender violence contexts, obstacles and difficulties that have hindered this training to date and the most appropriate strategies or pedagogical methods to address this deficit<sup>218</sup>.

## 3. RESULTS

### 3.1. Attention to foreign female victims of gender violence in the psychosocial sphere

In this first section on results, we give a general overview of the state of institutional attention in the psychosocial sphere given to foreign female GV victims who do not speak Spanish or the other co-official languages in Spain. In a concrete manner, we tried to find out how communication between the professional and the victim occurs in order to determine existing needs and provide solutions in the form of training.

As stated earlier, male violence is an issue of alarming proportions, where the incidence among foreign females is a factor that cannot be ignored and one that requires special attention. In fact, according to the questionnaires completed within the SOS-VICS project, the average number of GV cases attended by each agent during 2012, the year before the questionnaire, was 78 Spanish, 49 foreign and 48 victims of unknown nationality. The maximum number of women attended to is also striking: some agents mentioned attention provision to 4381 Spanish victims or to 2100 foreign victims.

In the following table, you can see that according to 45.2% and 22.5% of the professionals surveyed by the SOS-VICS team, the presence of cultural barriers is considered an important and very important factor respectively, making it difficult to provide attention to foreign female gender violence victims. The presence of linguistic barriers is an important obstacle for 37.2% of agents and a very important obstacle for 32.1%. Furthermore, the fact that victims are unaware of existing services is important for 47.1% and very important for 29% of the agents which, together with lack of trust (important and very important for 45.5% and 27.8% of agents respectively), complicates attention provision.

<sup>217</sup> The questionnaire used in the project was formulated and validated by the research group of the SOS-VIC project and can be consulted at <http://webs.uvigo.es/sosvics1/CuestionarioAgentes.pdf>. The results of this study can be consulted in Del Pozo *et al.* 2015 <http://cuautla.uvigo.es/sos-vics/blogs/files/informe-cuestionario-2015.pdf>

<sup>218</sup> The results of this study can be consulted in Del Pozo *et al.* 2015 <http://cuautla.uvigo.es/sos-vics/blogs/files/informe-cuestionario-2015.pdf>

**Table 1: Main obstacles in provision of attention to foreign female GV victims in the psychosocial sphere**

		Unimportant	Slightly important	Moderately important	Important	Very important
Presence of cultural barriers	N	13	46	130	265	132
	%	2.2	7.8	22.2	45.2	22.5
Presence of linguistic barriers	N	14	42	124	218	188
	%	2.4	7.2	21.2	37.2	32.1
Presence of religious barriers	N	32	97	151	212	94
	%	5.5	16.6	25.8	36.2	16
Victims are unaware of the services	N	10	42	88	276	170
	%	1.7	7.2	15	47.1	29
Victims do not trust	N	9	34	114	266	163
	%	1.5	5.8	19.5	45.4	27.8
Presence of false complains	N	148	134	123	109	72
	%	25.3	22.9	21	18.6	12.3
Presence of problems due to their illegal situation	N	19	96	127	202	142
	%	3.2	16.4	21.7	34.5	24.2

In terms of the most common communication problems, it was found that 33.3% of agents said that the fact that the women do not speak the language well was one of the main communication problems together with other factors like looking for consolation (48.3%), uncomfortable and did not dare to talk (32.4%), another person acted as spokesperson (15.9%), cannot read and/or write (15.9%), not in a position to communicate (shock, trauma...) (12.0%) or frequent misunderstandings (10.4%).

Faced with this situation, the surveyed professionals agree that contracting professional interpreters not only improves attention provided to victims (30.9%) but that it is also their fundamental right (46.4%). However, the presence of interpreters in psychosocial intervention with female gender violence victims is much less frequent than in the police and judicial spheres. In fact, psychosocial professionals, together with health-care professionals, make the least use of interpreters to communicate. In this sphere, 33.5% have never used interpreters as compared to 17.4% in the judicial sphere. The main reason for this discrepancy is that the use of interpreters is, as stated earlier, a legal obligation in criminal proceedings.

In all other areas, contracting interpreters or establishing protocols to include this service is left up to personal initiative and political will. Only 44.7% of the surveyed professionals in the psychosocial sphere said that they had an action protocol for cases where linguistic assistance was required, as compared to 78.8% in the police sphere. Furthermore, when asked if this protocol is used, 38.5% answered yes while 57.1% said they do not know.

When faced with the absence of an interpreter, the most habitual solution to communication problems is to use volunteers. If we take into account the responses “almost always” and “sometimes” as a whole, the most common method used is “asking the victim to bring someone who can help” (36.4%), followed by “getting someone external who can communicate with the victim” (33.2%) and “getting a colleague who understands the victim to help” (30.7%). Nonetheless, albeit on a much smaller scale, gestures (23.4% sometimes, 12.6% often) and automated software (16.6% between sometimes and often) are used in some cases.

This precarious situation regarding provision of linguistic assistance is reflected not only in the way in which solutions are improvised to save the situation when confronted by such barriers, but also in a loss of professionalization of the measures - not only because family members and friends intervene as mediators. In fact, even in cases where interpreters are used to overcome communication barriers with the victim, their training and professionalization cannot be guaranteed either. Among agents in the psychosocial sphere, 44.1% said that they do not ask interpreters for any kind of accreditation, 32.3% said that they do not know and 23.6% said that if they do, it could simply be their National Identity Document. The same percentages are reflected when asked about whether they ask the person interpreting to declare any existing conflict of interest with the victim. Only 23.6% of professionals in the psychosocial sphere responded yes and 32.3% said they do not know. In this way, questions like confidentiality and impartiality in the actions of the interpreter cannot be guaranteed. They also do not inform the woman of her right to change interpreters. Only 17.4% of professionals in the psychosocial sphere responded yes to this question.

In spite of the low frequency of professionals from this sphere working with interpreters, one can observe a

degree of collaboration between both groups, similar to other spheres where the use of interpreters is more habitual. According to professionals from the psychosocial sphere, they inform the person interpreting of the following aspects prior to the meeting.

**Table 3: Type of information provided to the interpreter prior to the meeting**

	Social	Police	Health	Legal	Total
Nature of the meeting	60.2%	71.5%	45.2%	59.8%	63.3%
Contents of the meeting	58.4%	65.0%	41.1%	64.1%	60.1%
Format of the meeting	55.3%	58.5%	35.6%	50.0%	53.4%
Intention of the questions	49.7%	46.5%	26.0%	39.1%	43.7%
Importance of precision of the terms	54.7%	68.8%	39.7%	63.0%	60.4%
Possible emotional load in the meeting	55.3%	62.3%	37.0%	44.6%	54.4%
Others	14.9%	8.8%	12.3%	10.9%	11.3%

The percentages seen in Table 3 are similar to those seen in other areas of intervention. Intention of the questions, nature of the meeting and possible emotional load are the stand-out features. As stated by Arumí *et al.* (2015), the person interpreting preparing for the communicative meeting is fundamental to the success of the same. You need to have information about the case, the objectives of the meeting and to decide with the professional what is going to be addressed in this regard.

Introducing the interpreter to the victim together with his/her functions at the beginning of the meeting is an important aspect in creating an atmosphere of trust for the victim. 58.4% of professionals in the psychosocial sphere say that they inform the victim about the interpreter’s functions. According to the responses of the surveyed professionals, this is done through the interpreter at the beginning of the session (54%) or the interpreter is asked to inform victim directly (36.6%). Arumí *et al.* recommend that for the psychosocial sphere, the interpreter should introduce himself/herself to “reinforce the role as an agent facilitating communication” (2015: 246).

If we look at some of the issues related to conducting the meeting, it can be seen that in the psychosocial sphere, it is most frequent for the interpreter to be asked to summarise the interventions, 28% as compared to the average 22.4%, which could compromise precision of information. This practice could be linked to the greater degree of autonomy offered to the interpreter by professionals in assistance spheres which are considered more collaborative, as compared to other more confrontational spheres like judicial. This distinction determines whether a longer or shorter range of intervention is accepted from the person interpreting (Roat *et al.*, 1999; Mikkelson, 2008). The psychosocial sphere, together with health-care, also sees the least amount of interruptions to the conversation between the parties by the interpreter to ask for clarifications from the professional (36.6%) or from the victim (34.8%).

Furthermore, it is most habitual in this sphere for the same person (49% of cases) to interpret during the entire process of attention provision and for the interpreter to also be asked to accompany the victim beyond the meeting and provide assistance for other formalities like social appointments, emergencies, etc. Less than 9% do this almost always or often. However, 22.4% answered sometimes as compared to the average 12.1% in the other spheres.

### 3.2. Interpreter training and specialisation in the psychosocial sphere

One of the aspects generally deemed indispensable with respect to providing attention to gender violence victims is specialisation - in terms of services as also the professional collectives that intervene in the information, attention and protection process.

The great complexity of gender violence as a phenomenon together with the many needs that may arise from the victims makes specialisation a must, both in terms of services and assistance as also the agents and operators providing them. The team of professionals attending to the victim should know of the existing resources, legislation and measures available to the women and should act from a gender perspective in a coordinated fashion, following specific protocols for each sphere, so as to ensure efficient attention provision and to avoid the double victimisation of women. (Toledano Buendía, 2015: 16-17)

This commitment to specialisation and training in gender perspectives for all agents linked to attention provision is enshrined at European level in Directive 2012/29/EU of the European Parliament and the Council of 25 October 2012 establishing minimum standards on rights, support and protection of victims of crime, which states

(61) Member States should ensure such training for police services and court staff. Equally, training should be promoted for lawyers, prosecutors and judges and for practitioners who provide victim support or restorative justice services. This requirement should include training on the specific support services to which victims should be referred or specialist training where their work focuses on victims with specific needs and specific psychological training, as appropriate. Where relevant, such training should be gender sensitive. Member States' actions on training should be complemented by guidelines, recommendations and exchange of best practices in accordance with the Budapest roadmap.

This is also echoed in Spanish legislation at national and autonomous community level.

From the questionnaires collected during our research, teams of social workers and psychosocial professionals have received the most training among the different spheres. 92.5% of psychosocial personnel has received specialised training in GV in the form of courses, conferences or workshops, making them the collective that has received the most training. Among them, 85.1% would like to receive more training.

It is the shared opinion of all professional collectives that this specialisation should be extended to interpreters. More specifically, 63.3% of professionals from the psychosocial sphere consider that it is between important and very important for those interpreting to have specific training to work in this area of intervention.

In general terms, the level of satisfaction of these professionals with the skills of the interpreters they have worked with is high (20.5%) and average (29.8%) (32.3% do not know). These levels of satisfaction are very similar to what was said with respect to the competences/skills of interpreters, with 28.6% average and 26.1% high. However, the percentages for level of satisfaction are much lower than those expressed by judicial and police agents.

On the other hand, this collective is least satisfied with interpreters' knowledge: 26.1% expressed a high level of satisfaction as compared to 46.9% of professionals in the police sphere, who seem to be the most satisfied. Even with respect to interpreter skills, the level of satisfaction is marginally lower (26.1% and 28.6% express high and average satisfaction respectively, as compared to the average from other collectives which is 32.9% and 30.5% respectively).

When these professionals are asked for the three most important knowledge areas in their field that interpreters providing service to GV victims should know, 21.56% state legal knowledge (law, criminal law, judicial system, etc.); followed by knowledge about gender violence (violence, cycles of violence, abuse, etc.) at 19.41%; linguistic knowledge (in general, of the victim, fluency, terminology, etc.) at 18.17%; and psychology at 17.61%. With respect to the three basic skills that they must have, in first place you have empathy 51.37% followed by communication skills i.e. COMMUNICATION 19.62% and listening 12.80%. PATIENCE comes in at 11.77%, above other factors like professionalism, discretion and neutrality. However, this data is not divided by sphere of intervention.

### 3.3. The interpreters' perspective

The interpreters themselves, as reflected in the field studies carried out by SOS-VICS, believe that the lack of specialised training is one of the main obstacles in attention provision in the area of gender violence. It is important to highlight that they do not only refer to their training as an obstacle, but also to the lack of recognition of the importance of such training by fellow colleague interpreters and the professionals they work with. In terms of the latter, they also mention the lack of collaboration with professionals as another difficulty when doing their job, as they do not know how interpreters work. The responsibility of successful communication is shared, and both professionals should be trained (Coresellis, 2008).

The materials or content considered important or very important by interpreters to specialise in gender violence focus around acquisition of linguistic (language command and specific terminology) and translation (interpreting technique, for example) skills, as also thematic knowledge of the different spheres of intervention and the existing resources and gender issues. Directly related with the psychosocial context, interpreters state that is important to have basic knowledge about psychology specialised in GV and forensic psychology in GV, about the practice of professionals and the documents they deal with, as also the evaluation protocols used, socio-sanitary knowledge and knowledge about social work.

## 4. DISCUSSION AND CONCLUSIONS

While it is true that countries are making significant efforts to advance in the fight against gender violence from the point of view of legislation and assistance, it is also clear that there is still a long way to go - not only in terms of implementation of legislation and existing measures, but also in terms of design and application of additional measures to ensure equal treatment of women of all groups.

The high incidence of gender violence among foreign women forces us to think about its causes and take the necessary action to eliminate them.

The greater degree of isolation of these women, their lack of knowledge about their rights and existing services as also the feeling of mistrust regarding the same are aspects that are directly related to a lack of effective orientation, information and counselling work, which should be done by the different social services. In the case of foreign women, the administration should look for the necessary channels and mechanisms to ensure that these women are aware of their rights, the support services available to them and the fact that they are guaranteed quality attention from these services. Having this information helps create a sense of security and protection among victims. In this vein, overcoming linguistic and cultural barriers plays a key role. However, and in spite of its importance, the results show that communication hampered by linguistic barriers is a common occurrence in intervention in this sphere.

The data also shows a high level of ignorance about the profession of interpretation among the different agents dealing with women. There are no protocols in place to ensure the participation of interpreters and, in fact, their contribution to this process is not really considered. Most often, other, completely unprofessional solutions are used, like having a family member or someone with some amount of linguistic skills play the part of the interpreter. These measures evoke a greater sense of vulnerability and lack of protection in the victim.

The emotional state of these women, the fear, the shame, together with the lack of language skills makes it necessary for specific protocols to be implemented with regards to attention and assistance, thus allowing these factors to be reduced or eliminated. In this sense, assuring professional and quality linguistic assistance can help generate trust and a feeling of security, while at the same time allowing for effective communication between the parties. This is a fundamental strategy towards empowering the woman and facilitating her recovery thereafter.

However, this professionalization is not only necessary for the victim, it is also necessary for the professionals that regularly work with women and who use the services of interpreters, as is shown by the data. If professionals can rely on the interpreter, they can carry out their work with a greater degree of certainty, as they would understand everything the woman wants to communicate and would be sure that she understands everything being communicated to her. For the interpreters, a greater degree professionalization would benefit the system as a whole, with both victims and professionals being more satisfied with their work.

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# LA SUSTENTABILIDAD DEL SECTOR COOPERATIVO EN LA ECONOMÍA AGRO-ALIMENTAR EN LA REGIÓN DE ALGARVE

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## ABSTRACT

The cooperatives agro-food in the region of Algarve, to the South of Portugal, always been stigmatized it is as inefficient organizations, although in the literature there are positions were found for and against this notion. The truth is that cooperatives survive as organizations able to self-generate resilient.

They certainly exist in cooperatives certain practical institutional that somehow can limit the possibility of economic growth, and the cry of many is force changes in some points of the cooperative principles, to transform them into more efficient organizations to compete in markets increasingly greater complexity and requirements

Some the limitations of the Algarvian cooperatives, it is precisely its atomization and their lack of size is say a lack of concentration in the food chain. The concentration, the kind of leadership, the structure of capital and productivity, are essential factors for innovation, but on the other hand the potential of values and cooperative principles are immense.

This research seeks to elements of analysis between the factors of events from the slightly more liberal perspective of competitiveness and the traditional values from the viewpoint of the cooperatividad. For Otherwise the need for a new social accounting that can be measured with clarity to cooperatives mostly in its strengths, as organizations that combine values and principles ethical and democratic, cooperative forms of social performance efficiency, the social return on an investment such as environmental and social values held by cooperatives.

Keywords: Cooperativas Agro-Alimentarias, Competitividad, Coopetitividad, Concentración, Liderazgo, Crecimiento, Innovación, Colaboración.

## 1. INTRODUCCIÓN

La rápida manera en que se están verificando cambios en los sistemas agrícolas y los sistemas agro-alimentarios es algo extraordinario, aunque el tipo de transformaciones tienen distintas variantes y distintos ritmos al interior de países y mismo entre regiones. Todas estas transformaciones tienen un vínculo común cual es la transición hacia sistemas orientados e impulsados por el mercado. Hay una mayor injerencia del sector privado en la agricultura, y la agricultura misma, incluso la llamada familiar de pequeña escala, cada vez más se está transformándose en comercial. En todo esto fenómenos vemos que las agro industrias tienen una preponderancia cada vez mayor en el desarrollo económico y social.

Podemos definir un sistema alimentar de manera muy sencilla, como nos expresa Malassis en Malassis (1994): Un sistema alimentario es la forma en que las personas se organizan en el espacio y dan el tiempo para obtener y consumir sus alimentos. Definición que abarca a los consumidores y los actores de la cadena alimentaria.

Para la CE, La industria de alimentos y bebidas es uno de los sectores de mayor dimensión vinculada a procesos de transformación y valor añadido en la unión europea. También es un agente activo en el comercio con los países no comunitarios. la legislación alimentaria de la UE es altamente armonizada y el sector se beneficia significativamente a partir de las oportunidades que le ofrezca el mercado único. Al mismo tiempo, sin embargo, el sector se enfrenta a













retos en los mercados internacionales y europeos. La Comisión Europea trabaja para mejorar la competitividad del sector y el funcionamiento del mercado único. También se esfuerza por crear nuevas oportunidades comerciales para los productos alimenticios y bebidas. CE (2010).

### 1.1. El sector agro-alimentar en Europa

La industria alimentaria en la Unión Europea es el mayor sector de producción en términos de volumen de negocios, también es el de mayor creación de empleo y de valor añadido. Tendências do Mercado Alimentar da União Europeia, (2015) en [www.agrocluster.com](http://www.agrocluster.com) visitado el 8 de Marzo 2016.

Para La comisión europea, CE. (2010). El sector Agro-alimentar posee elevada dispersión y pulverización subsectorial y empresarial, y constituyéndose en un espacio importante de la economía europea y nacional. Este sector ha tenido en los últimos años un avance importante según la (CE), adaptando sus productos a las necesidades de los usuarios, y produciendo productos más saludables e innovadores Este sector según la (CE), esta relacionados con un conjunto de actividades todas ellas transformadoras de materias primas en bienes alimentarios o en bebidas hasta llegar al consumidor final. Estas actividades se vinculan a la agricultura, selvicultura, industria de alimentos y bebidas y el sector de la distribución. El tamaño en este sector es clave y de hecho se puede constatar que existen muchas multinacionales conocidas a pesar de que las empresas más pequeñas dominan el escenario.

### 1.2 Situación de las agroalimentarias en la Unión Europea, la importancia en números

-  Numeros de empresas 287.000
-  Empleos 4.2 millones de personas (El empleador más importante en la UE (15% del empleo en el sector de fabricación).
-  SMEs 49,9 % del volumen de ventas de alimentos y bebidas. Otra fuente nos da 51.6 del volumen de negocio y 64,3 de empleo.<sup>219</sup>
-  Volumen de negocios 1017 billones Euros, un incremento del 6,8 % con respecto al 2009. sector de la fabricación más grande de la Unión Europea (14,90%)
-  Consumo 14,5 % Del gasto familiar en alimentos y bebidas.
-  Comercio exterior 76,2 billones de euros en exportación el 16,6 % más comparado con el 2010.
-  63,0 billones de euros en importaciones 13.5 % de incremento en comparación al 2010.
-  Balanza comercial 13,2 billones de euros en exportaciones netas de productos alimenticios y bebidas.
-  Creación de valor 1,9 %.
-  0,53 % En alimentos y la producción de bebidas (ligero aumento).

Fuentes: Eurostat, UN COMTRADE, OECD 2013

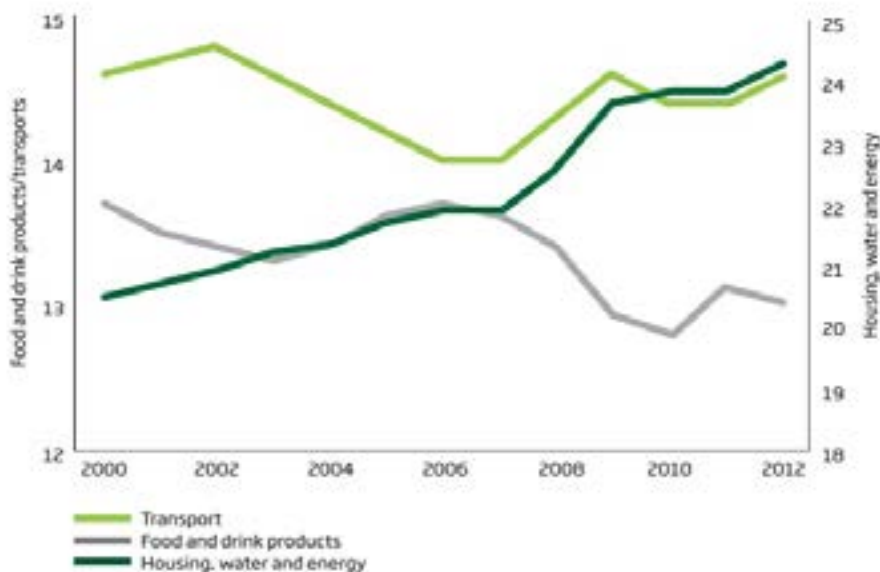
### 1.2 Tendencias del consumidor europeo

El aumento de la tercera edad en la Europa sigue siendo un desafío y esto crea un desequilibrio en las finanzas públicas, por la utilización en mayor proporción de los recursos en los sistemas nacionales de salud en los diversos países de la Europa, La finanza pública se vieron saturadas en todos los países por el uso cada vez más frecuente de paliativos para enfermedades como el cáncer, diabetes, enfermedades cardiovasculares etc. Estos problemas obligaron a los países de la EU, a adoptar reformas en las áreas de salud, conduciendo así a una tendencia de consumo de alimentos más saludables, y como resultado la búsqueda de productos alimentares más sanos. El consumo en general se ha mantenido estable en lo relacionado a productos alimentares y bebidas, teniendo una media de gastos en alimentación, en el 2012, de 14,6 % del total de los gastos de los europeos. Tendências do Mercado Alimentar da União Europeia. (2015).

En el grafico se puede constatar que los gastos con alimentos y bebidas, está en el segundo y luego de los gastos de habitación, agua, electricidad y gas.

<sup>219</sup> Año , de 2011 al 2012. (fonte: Food Drink Europe).

**Grafico n° 1 Fuente de Quota dos principais gastos domésticos na União Europeia, 2002-2012 (% do total de gastos)**



Fonte: Food Drink Europe

### 1.3 Breve reseña de la situación del sector en Portugal

El sector en Portugal está compuesto por 10 830 empresas, generando una fuerza de trabajo de 108 353 de personas y un volumen de negocio de 14543 millones de euros en el 2011, con una participación de 18% en la Industria de transformación de Portugal y del 4% Transformadora portuguesa e de 4% en la economía nacional. La exportación en el 2011 fue un poco mayor de los 3 695 millones de euros, representando 9% del total de las exportaciones nacional del mismo año. Manual Economía de Baixo Carbono Setor Agroalimentar, (2012).

**Tabla 1. Fuente propia de los datos de INE**

Portugal	Empleo rankin de fabricacion	Volumen de negocio billones euros	Valor añadido billón euros	Nº de empleados miles	Numeros de emp miles
	1	14,5	2,9	110	10,5

Para Barreto, A. (2013). En la adaptación al nuevo ambiente competitivo, el análisis de la evolución de la industria transformadora se puede ver un proceso incompleto de una transformación estructural con vista de adquirir una mayor intensidad tecnológica y de capital.

La industria transformadora ha registrado una perdida persistente de empleo desde 1991. En otro orden de cosa en términos de producción y de VAB, la dinámica positiva registrada hasta el final del siglo XX, no se prolongó en la última década, al contrario, se ha revertido en el 2010, a los niveles de 1996/97. En cinco grandes sectores la industria transformadora portuguesa se mantuvo especializada, que en su conjunto asumen el 70% del VAB industrial; La industria de alimentos, bebidas y tabacos; industria textil; fabricación de artículos de materias plásticas y otros; productos mineral no metalico ; industrias metalúrgicas de de productos metálicos; la industria de madera, pasta, papel y cartón, y artículos de impresión.

Para Tereza Noronha en Noronha, T. D. (2008), pag 388-389. Probablemente fue un gran error de los responsables políticos que han dejado el sector agroalimentario aparte del proceso de desarrollo estratégico del país. La pérdida de oportunidades de negocio en otros desarrollos mucho más complejos de segmentos industriales correlacionados o el retraso en la I & D en biotecnología están pagando por esas opciones políticas y Portugal muestra una gran dificultad en la adición de nuevo valor al sector agrícola y rendimiento competitivo en el sector alimentario en general. Poco a poco, está disminuyendo el número de empresas involucradas en la industria alimentaria, lo mismo para los trabajadores, las ventas manteniendo constante durante los últimos diez años. Un equilibrio a largo plazo, señala un aumento de la productividad y el estancamiento en la producción.

## 1.4. Algunas industrias de relevancia en el sector agro-alimentar

### 1.4.1 Preparación y conservación de carne y productos a base de carne en Portugal

La preparación y conservación de la carne es un conjunto de tareas que van desde el abatimiento del animal, hasta el consumidor final, pasando por etapas intermedias que les son propias, (Abate del animal, fabricación, conservación, producción de enlatados, congelados).

Este subsector está conformado por 227 empresas a nivel del País, con una generación de puestos de trabajo de 9.617 personas y un Valor acrescentado Bruto de 187 millones de euros. Tiene una dimensión de mucha importancia en el sector de las industrias alimentarias. Portugal Food (2012)

**Tabla 2. Fuente INE Estadísticas do Comercio Internacional de Bens incluindo abate de gados e aves**

Numeros de empresas	227	Peso en el sector	0,2%
Empleo directo	9617	Peso en el sector	10,2%
Valor Agregado Bruto (M euros)	187	Peso en el sector	8,6%
Volumen de negocio (Mill euros)	1381	Peso en el sector	1,5%
Exportacion Ton	92796	Peso en el sector	N/D
Exportacion (Mill euros)	204,4	Peso en el sector	9,9%

### 1.4.2 La industria láctea en la Unión Europea

El trabajo de investigación Impacto da Reforma da PAC Pós-2013, no Setor do Leite em Portugal, (2012), Pag 21, nos comenta : La estructura productiva del sector lechero está dominada por el queso y por los productos lácteos fresco y este patrón está siendo reforzado en los último tiempo. Cerca de 40% de la leche europea es trasformada en queso y 30% es utilizado para productos lácteos fresco. Los quesos y productos lácteos han sido los principales segmentos de crecimiento de de consumo en la UE, durante la última década. Los restantes 30% son transformados en manteca, leche en polvo y caseína. La producción de leche tiene un importante papel en el desarrollo regional dentro de la UE, sin embargo, esa función esencial puede perderse por tendencias recientes en la cadena de valor de los productos lácteos, en la política agrícola común, y en la competencia mundial. Aproximadamente el 60% de las explotaciones lecheras se encuentran en zonas desfavorecidas, desempeñando un papel importante al nivel de cohesión territorial en la UE.

### 1.4.3 Industrias Lácteas en Portugal

A nivel nacional, la cadena estratégica de la leche tiene un rol bastante significativo en términos de producción agrícola, teniendo una importancia relativa y una dinámica muy cercana a la de la

UE. Entre 2003 e 2005, el sector lácteo en Portugal representa aproximadamente el 11.5% de la producción agrícola nacional (GPP, 2007) y 11% en 2009. Parte de la leche es producida por vacas, cerca de 94,65%, y el restante es producido por ovejas (4,02%) y cabras (1,33%). En términos de la arquitectura productiva podemos decir que el sector de la leche se asienta en la producción de productos de bajo valor agregado unitario, en donde la leche de consumo (UTH) es representativa seguidos por yogurt, quesos, y otros productos derivados.

El aumento en el tamaño promedio de las explotaciones lecheras nacionales es una de las tendencias actuales en la industria y es el resultado de una disminución significativa en el número de pequeños productores. En particular, hubo una reducción de 85% en el número de productores nacionales entre 1993/94 y 2009/10 y el número de productores, para 2009/10, con 9129 5897 ubicado en el continente y 3232 situado en las Azores (Fenalac, 2011). Los aspectos más concretos de esta dinámica es visible en los siguientes hechos: niveles de crecimiento en el número de productores, sólo en la parte superior a 400 toneladas, entre los años 2005/06 y 2009/10 (Fenalac, 2011), el 60% de disminución en el número de productores en la parte inferior a 20 toneladas entre el 2005/06 y campañas 2009/10 (Fenalac, 2011) y el crecimiento de los suministros de leche ocurren solamente en los niveles superiores a 400 toneladas entre el 2005/06 y campañas 2009/10 (Fenalac, 2011).

**Tabla 3. Fuente INE Estadísticas do comercio internacional lácteos e derivados**

Numeros de empresas	430	Peso en el sector	5%
Empleo directo	6840	Peso en el sector	7%
Valor Agregado Bruto (M euros)	278	Peso en el sector	13,0%
Volumen de negocio (Mill euros)	1538	Peso en el sector	14%
Exportacion Ton	352522	Peso en el sector	N/D
Exportacion (Mill euros)	225	Peso en el sector	11 %

El principal mercado de destino de los productos lácteos es España con el 87% , los países bajos con el 3%, Italia 1%, Francia 3%, Belgica 1%, Angola 3%, otros 2%.

#### 1.4.4 Cadena de valor del aceite en Portugal

**Tabla 4. Fuente INE Estadísticas do Comercio Internacional de Bens i**

Numeros de empresas	454	Peso en el sector	5%
Empleo directo	1381	Peso en el sector	1%
Valor Agregado Bruto (M euros)	23	Peso en el sector	1,0%
Volumen de negocio (Mill euros)	215	Peso en el sector	2%
Exportacion Ton	43366	Peso en el sector	N/D
Exportacion (Mill euros)	134	Peso en el sector	7 %

La Unión Europea es el primer productor de aceite en el mundo con 80% de la producción y 70% del consumo. Italia, España y Portugal son lo responsables por un cuarto de la producción mundial de aceite. Por la importancia económica de muchas regiones mediterráneas y sobre todo Portugal, su demanda está en pleno crecimiento. Tendências do Mercado Alimentar da União Europeia, (2015). Portugal construyó claras ventajas competitivas en este sector, esto releva que el país ha podido añadir valor a la cadena del aceite.

#### 1.4.5 El subsector del vino

Los datos más actualizados del Instituto da Vinha e do Vinho (IVV) nos muestran que las exportaciones del vino en el año 2011 fueron muy positivas, con una marca de 675 millones de euros, que corresponde a un 3.6 % mayor que el 2010, este resultado representa el 1.6 %. En términos de volumen tuvo un incremento del 14 % en relación con el 2010, las exportaciones del país están cerca de los 3 millones de hectolitros. Portugal Food (2012).

En Portugal la producción de vino ha tenido cambios dentro de los últimos 30 años que es también plausible que el consumo, en calidad como en cantidad también haya cambiado, El vino es una bebida cultural, que acompaña las refecciones, siempre estuvo presentes en los hábitos portugueses, esto no quiere decir que los portugueses sean cultos en cuestiones vinícolas, ni siquiera que conozcan bien el producto, o que mantengan una relación de fidelidad en ciertas marcas. En todo caso, desde 1965 hasta el 2007, se han producido importantes mudanzas en los patrones de consumo, que notoriamente disminuyeron en estos años. Diversos factores provocaron este fenómeno, entradas de nuevos productos sustitutos, (Cerveza), los refrigerantes, aguas embotelladas, que pasaron al consumo habitual de los portugueses, también es importante reseñar que las alteraciones de la calidad de vida, el acceso a la información, educación, y a la salud son factores que alteraron el consumo. Cardeira, R. (2009).

## 2. LA TESIS Y EL MODELO DE ANÁLISIS

### 2.1 El enunciado

Muy a menudo al hablar de las cooperativas lo asociamos con el idealismo la solidaridad, la ayuda mutua. Si bien estas son características que provienen de sus raíces históricas, también esta característica se lo utiliza para estigmatizarlo. A las cooperativas en Algarve, para la cultura de las masas se lo ve como francamente deficitarias, si no utópicas. O como altamente endogámica es decir defendiendo la homogeneidad del grupo cooperativo para que este se mantenga siempre igual a sí mismo y que tenga elementos perfectamente diferenciables de los demás. Esto ha creado un auto

encierro de sí misma alrededor a su identidad local e incluso nacional, permitiendo a las multinacionales un amplio espacio de dominación de mercados. Sin embargo, debemos de defender que el mundo cooperativo es extremadamente variado y complejo, en las que polulan gigantes como Modragon en España y Lactogal en Portugal, y algunas gigantes Dinamarquesas, pero también dominan el escenario las micro empresas. Algunas de estas cooperativas utilizan practicas no muy diferentes a de las corporaciones capitalistas. ¿Una pregunta que queda colgada es si necesariamente la viabilidad cooperativa depende es estos factores, es decir el tamaño?

Existen desde luego en las cooperativas ciertas prácticas institucionales que de cierta manera limitan su posibilidad de crecimiento económico, y es clamor de muchos forzar cambios en algunos puntos de los principios cooperativos, para transformarlos en organizaciones más eficientes para competir en mercados cada vez con mayor complejidad y exigencias. Desde la otra vertiente de la literatura algunos autores afirman que las debilidades no son inherentes a la esencia de la filosofía que internaliza, es decir la colaboración.

Por lo expuesto anteriormente talvez el problema sea en la forma en que se lo ha practicado y formulados dichos principios, Morales (1990). Para ello esta investigación busca elementos de análisis entre los factores de sucesos desde la óptica un poco más neoliberal de la competitividad y los valores tradicionales desde la óptica de la cooepetitividad. (la fuerza de los valores cooperativos).

## 2.2 La competitividad versus la cooepetitividad

¿Es el cooperativismo un sistema anacrónico y obsoleto?

### Breve introducción

El modelo de la gestión cooperativa tiene algunas diferencias con la empresa tradicional capitalista, las cooperativas tienen una doble dimensión, es decir es al mismo tiempo empresa y posee una dimensión social Fauquet, (1951) y Vienney, (1960). El cooperante también esta imbuido de esta doble dimensión porque es dueño y a la vez usuario de la cooperativa, las cooperativas son administradas por los propios asociados, aunque también pueden contar con gestores profesionales externos a la empresa. Las decisiones son tomadas en las asambleas, con fundamento en el principio cooperativo de un miembro un voto, estas decisiones son tomadas en forma independiente del capital aportado por el cooperante, y de su volumen de movimiento, ellas siguen principios doctrinarios, legislaciones específicas, procesos cíclicos de elecciones, con mandatos de los dirigentes por un cierto periodo de tiempo normalmente de cuatro años.

Una de las critica más acentuada que la academia y el mundo empresarial es que estos periodos son muy cortos y esto no permiten al consejo de dirección, y de administración, formular buenas estrategias. También el proceso de decisión es colegiado es decir en asambleas que en la mayoría de los casos son lentos políticos y de excesiva burocracia. Zylbersztajn, (2002); Bialoskorski Neto, (2005); Antonialli, (2000). Pero aun asi las empresas cooperativas no pueden perder su identidad y sus principios cooperativos porque ante estos desafíos de la globalización y riesgos sistémicos, son esos valores que lo convertirán en una identidad fuerte capaz de transformar la sociedad y el mercado. Montegut Salla, Y. (2006).

Hoy en dia las cooperativas agroalimentarias están sometidas a procesos fuertes de presión especialmente de las multinacionales, la globalización y la liberación de los mercados. Vemos pues que la competitividad son formas de gestión necesarias para la sobrevivencia del sector, esto argumenta Grunet et al (1996) citado en Montegut Salla, Y. (2006), que, si las cooperativas no alcanzan dimensiones de ventajas competitivas como la orientación al mercado entre otras, están condenadas a perecer.

### 2.2.1 La competitividad

Unos de los determinantes fundamentales de la competitividad en todos los niveles (empresa, industria, regional, nacional o de la UE) es la productividad y el aumento de la productividad está vinculado con la propensión de innovar de las empresas.

El modelo de competitividad está asociado a la estrategia como fundamentación teórica y tiene diversas acepciones dependiendo del contexto y de los varios estudiosos del tema. Estrategia como plan y medio ambiente envolvente y emergente. Mintzberg; Ahlstrand; Lampel, (2000), la noción del diamante de Porter las cinco fuerzas competitivas, competencias en la industria: los entrantes potenciales, proveedores, compradores, productos sustitutos y competencia en las industrias. Porter (1997), alianzas de cooperación entre empresas para un objetivo común de maximizar rentabilidad; Jaouen; Gundolf, (2009), Mintzberg; Ahlstrand; Lampel, (2000).

La competitividad es un concepto muy complejo pues es un factor, que tiene múltiples causas, no posee un límite preciso. Podemos entender como una busca de la eficiencia y efectividad en el afán de posesionar a las empresas organizaciones cooperativas, etc., como la mejor en su sector.

Otra idea, de la competitividad es la que define como la capacidad de las empresas de formular e implantar estrategias, que le den la posibilidad de ampliar o conservar una cuota de mercado para satisfacer su crecimiento

natural y sostenerse. habilidad, recursos, conocimientos y atributos, de los que dispone, los mismos de los que carecen sus competidores o que estos tienen en menor medida, que hace posible la obtención de unos rendimientos superiores a los de aquellos.

El término de competitividad se comenzó a utilizar de manera más intensa a partir de la publicación *La Ventaja Competitiva de las Naciones* (Porter, 1991), donde describe los elementos más destacados que permiten a un país o región ser competitivos en un contexto de economías abiertas. La noción de competitividad tiene muchas acepciones dependiendo de la óptica y el contexto de aplicación.

Los factores de competitividad empresarial los cuales generalmente se clasifican en tres grupos, en función si su origen es macroeconómico, sectorial o empresarial. Esta clasificación no es la única que se puede realizar, más si cabe aun cuando se producen interrelaciones entre los mismos, que generan un sistema que condiciona y determina la capacidad competitiva de las empresas. y aclara los aspectos determinantes del desempeño competitivo de las empresas, se diferencia entre factores macroeconómicos, factores sectoriales o industriales, y factores internos.

- Factores Macroeconómico: condiciones o factores ajenos a la empresa pero que condicionan sus resultados económicos
- Factores sectoriales o industriales: se centra en el análisis de la estructura de la industria
- como determinante del comportamiento empresarial, que a su vez determina el rendimiento de las empresas en el mercado (Mason, 1957).
- Factores internos: La consideración de la unidad empresarial como nivel de análisis implica que la responsabilidad del éxito o fracaso de la actividad depende de la empresa y su dirección, y no de las características del sector o país en que desarrolla su actividad.

Según la Fundación Cajamar (2010) pag 56-57. Las dimensiones de las cooperativas agroalimentarias hacen que estas alcancen mayores resultados en los procesos de transformación Abrir nuevos mercados, e internacionalizar las cooperativas. Todas las cooperativas, principalmente a través del establecimiento de filiales fuera de sus fronteras, incluyendo tanto empresas de producción como de comercialización, han conseguido una gran presencia de sus productos en los mercados exteriores. Una clara apuesta por la I+D+i, clave en el sector alimentario. Entre otros factores citados.

### 2.2.2 *La cooperatividad existe?*

Es una pregunta que deberíamos hacernos antes de sumergirnos en su concepto. La cooperatividad es un término acuñado por el doctor Antonio Covas catedrático de la universidad de Algarve y se refiere a las fortalezas de la acción cooperativa y sus valores, (la cooperación y la competición se toman de la mano). Las cooperativas tienen en su ADN, una fortaleza extraordinaria pues su poder reside en su identidad, precisamente en sus principios cooperativos, (principios de colaboración), pero más allá de este poder simbólico, no olvidemos ellas poseen un poder estructural de controlar activos financieros y físicos de miles de millones de euros, (competitividad). Más allá de la paradoja cooperación-competición, ellas fundamentan gran parte de su valor en una economía que se nutre del aprendizaje cognoscitivo, en vincular la solidaridad y el trabajo en equipo, y la comunidad.

Para Vishwas Satgar et al, en Vishwas Satgar et al (2013), pág. 38. A parte del poder simbólico que representa su identidad “ las cooperativas también tienen otros tres tipos de poder: el poder estructural, gracias al cual controlan partes de un mercado o una economía; el poder de movimiento, basado en los enlaces en red, las densidades de socios y las capacidades colectivas en el interior del movimiento, el poder directo, que se refiere a la capacidad del movimiento para dar forma a la opinión pública mediante la incidencia política, las campañas de masas y el marketing”. Las cooperativas son una parte fundamental en nuestro futuro.

No podemos reducirnos a la limitada propuesta conceptual de la competitividad y si abarcar otras dimensiones sociales que de la economía social se irradian, el desafío está en cómo superar esta limitación de reducir a un movimiento centenario, cuya sobrevivencia se debe que posee una matriz de resiliencia, que de hecho lo convierte en una ventaja de cooperatividad, a solo una propuesta de negocio. Es decir, no solo valorar la competitividad que de hecho es un requisito para su crecimiento, sino también una solución de suma más positivista de cara a los ingentes desafíos de la modernidad.

El argumento de Anup Dash en Anup Dash et al (2013), pag 41 De que las “cooperativas ocupan un espacio diferente en el amplio espectro de los objetivos de inversión en el mercado de capital estructurado debido a la naturaleza de los valores que crean en la conjunción de los objetivos económicos, sociales y medioambientales. Comparar a las cooperativas en un test de eficiencia a la escala apropiada para otro tipo de organizaciones es una grosera distorsión de la realidad y la identidad institucional”.

Un símil a manera de visualizar mejor a la cooperatividad es asociándolas a dos tipos de movimientos: al movimiento centrífugo, una acción que nos aleja del centro y da lugar a un despliegue formal y creativo, valores

cooperativos innovadores que se mueven en la parte superior de la ola, seducidos por las variaciones del paisaje y sus ritmos. Por otro lado, al movimiento centrípeto que busca el centro, en este grupo estarían las acciones cooperativas representados aquellos que sus motivaciones buscan crear valores a través de la competición. El resultado es el equilibrio la cooepetitividad, (cooperación de la mano de la competición).

Las capacidades colectivas al interior de las cooperativas, son otras maneras de comparación con la cooepetitividad, es decir la productividad social se lo puede asociar a los valores cooperativos como la explotación de las capacidades lingüísticas, cognitivas y relacionales de los individuos.

Fumagalli, A. (2007) pag 115-116. Hablando de los procesos de productividad nos dice que : Que no se puede asociar la productividad del conocimiento al modelo clásico mecánico input/output, tal y como ocurría con el tradicional concepto de la función de producción (Moulier-Boutang, 2002, 2007, citado en el mismo) para el autor la incapacidad de medida de la productividad del conocimiento con los tradicionales métodos de medida cuantitativa basados en el cálculo del output lleva antes bien, a imaginar un modelo teórico, todavía por definir, que haga referencia al modelo biológico de la dinámica evolutiva, en el cual los procesos dinámicos de aprendizaje constituyen los factores clave. La productividad social del general intellect es efectivamente productividad bioeconómica. El autor determina dos factores de productividad, que de hecho influyen sobre la competitividad:

- El primer factor tiene que ver con el contenido cognitivo de la productividad, vale decir que tenemos factores inmateriales tales como conocimiento, aprendizaje, relación, a mayor grado de conocimiento, las actividades de relación tienen más participación, y mayor utilización de las economías de escalas, y en consecuencia más capacidad de generar valor añadido.
- El segundo factor que de hecho incide sobre la competitividad, es el contenido innovador del producto y este grado de innovación tiene correlación directa con el paradigma técnico dominante que son las capacidades lingüísticas comunicativas y por los productos bioeconomicos, (biotecnologías; biogenética; bioagriculturas; la prevención de las enfermedades; medicina bioexperimental; sector alimentario).

Debemos reseñar que las tecnologías digitales están cambiando profundamente la producción, para. Fiocco, (1998); Chiapello, Boltanski, (1999) citado en Fumaguelli, A (2007). Ello ha puesto a trabajar las cualidades más comunes, más informales de la fuerza de trabajo, el lenguaje, la acción comunicativa relacional. Es decir que las nuevas tecnologías aprovechan el lenguaje como input productivo, capaz de desvincularse del espacio físico. En gran medida esto hace posible la llamada producción reticular y el predominio de lo inmaterial sobre lo material. Fumagalli, A. (2007)

Siguiendo la lógica del argumento esgrimido por Anup Dash en Anup Dash et al (2013), podemos afirmar que los sistema de contabilidad actualmente vigentes no son adecuados para la naturaleza de un amplio abanico de empresas del tercer sector y sobre todo las cooperativas, pues no se compadece de sus fortalezas, como organizaciones que combinan valores y principios éticos y democráticos, por lo demás resta decir que se necesita una contabilidad social que pueda medir adecuadamente la eficiencia cooperativa en formas de rendimiento social, el retorno social de una inversión tales como los valores sociales y medioambientales que las cooperativas poseen.

## 2.3. La metodología científica

### 2.3.1 La metodología cualitativa

Es la disciplina que evalúa las técnicas de la investigación podemos definirla como el proceso de llegar a soluciones fiables para los problemas planteados a través de la obtención, análisis e interpretación planificadas y sistemáticas de los datos (Mouly,1978).

Esta definición general de investigación abarca las distintas realidades de estudio y las diferentes formas de enfrentar esa realidad que las resumimos en investigación cuantitativa/cualitativa.

Toda investigación supone inicialmente una reducción del conjunto de los datos en tanto que se selecciona un objeto de estudio, un universo de información y se determinan los temas relevantes para quien investiga. La orientación cualitativa intenta que esta reducción sea lo menor posible, ya que pretende globalizar, contextualizar y dar un protagonismo al sujeto en la elección y ordenación de la información que es significativa para él. Esto exige una construcción abierta de la investigación en todas sus etapas.

Los modelos de investigación necesitan seguir un protocolo practico de manera a darle una coherencia interna y un orden natural para el desarrollo de la misma que permitan alcanzar los resultados que se plantearon al principio. Existen diversas formas de obtener los resultados de acuerdo al fenómeno que desea ser abordado y al resultado que se quieran obtener.

En función de la naturaleza del problema a analizar y en el número de muestra, de tamaño muy reducido, que no permite métodos estadísticos, como la inferencia estadística, se optó por el estudio de caso de naturaleza cualitativa, no descartándose si hubiera condiciones algún método cuantitativo.

Esta investigación pretende caracterizarse por su naturaleza aplicada (Marconi; Lakatos, 2001), con finalidad exploratoria (Gil, 1999), en una primera etapa, para luego volverse descriptiva. Las exploratorias sirven para preparar el terreno y por lo común anteceden a investigaciones con alcances descriptivos. Sirven también para familiarizarnos con fenómenos relativamente desconocidos, obtener información sobre la posibilidad de llevar a cabo una investigación más completa respecto de un contexto particular, investigar nuevos problemas, identificar conceptos o variables promisorias, establecer prioridades para investigaciones futuras, o sugerir afirmaciones y postulados, Hernández, (2005).

La población objeto de la investigación son las cooperativas agroalimentarias de la región de Algarve; Adega Cooperativa de Lagoa, Cooperativa Agrícola dos Produtores de Azeite de Santa Catarina.

## 2.4. Etapas del diseño de investigación

### 2.4.1. La selección de las variables indicadoras

Los factores críticos de sucesos: La competitividad es una noción polisémica por lo tanto al querer evaluarla en sus componentes sucesos debemos acotarla, al decir de Alonso Ferreras, V.H. en Alonso Ferreras, V.H. (2010). Cuando se intenta evaluar competitividad es habitual que se tiendan a considerar importantes, un sinnúmero de factores, aunque en realidad es solo sobre unos cuantos, los críticos o esenciales, donde residen básicamente las mayores opciones de éxito competitivo siendo, por tanto, sobre los que se debe centrar y enfocar la atención y los recursos. Es aquí donde adquiere importancia el marco conceptual sobre FCS y, particularmente, la identificación y determinación de los FCS. Alonso Ferreras, V. H. (2010). Es decir, los Factores Críticos de sucesos son en realidad un número muy concreto de áreas aspectos, variables, que si son bien utilizados por las empresas cooperativas garantizan un rendimiento exitoso.

En contra partida la construcción de los indicadores sociales, pueden abordarse de dos maneras, a través de un desarrollo teórico conceptual, Setién, M. L. (1993). Y por el desarrollo de los datos, de Lara, J. G. D., & Bastard, P. P. (1980). Para Lazarsfeld y Boudon la aproximación empírica a la realidad social es un procedimiento deductivo, situando todo el punto de partida en la construcción de la realidad a partir de la observación de los hechos sociales con cierta regularidad y similitud. Boudon, R., Lazarsfeld, P. F., & Chazel, F. (1985).

El hecho social deja de ser una mera observación para pasar a ser objeto de investigación en virtud del proceso de operacionalización al que se someterá, definido éste como aquel en el que una idea general se transcribe a lenguaje científico (Miguel, A. de, 1967), pag 16.

Lazarsfeld nos propone ciertas pautas metodológicas que son:

- Representación literaria del concepto, en donde el investigador solo puede ofrecer una construcción, una imagen, abstracta de la realidad;
- Especificación del concepto, en donde se identifican los “componentes”, “aspectos” o “dimensiones” de los conceptos sociales, por naturaleza complejos;
- Elaboración de indicadores para la cuantificación de las dimensiones conceptuales descritas;
- Formación de índices, con los que se sistematiza los datos obtenidos en las etapas precedentes (Lazarsfeld, P., 1985).

### 2.4.2- Factores críticos de sucesos en la competitividad (FCS)

**Tabla 5. Fuente elaboración propia de la literatura**

Variables	FCS/Competitividad
	Ejercicio de la liderazgo y promoción de la excelencia liderazgo como forma de promover la excelencia en la cultura de la empresa, articular la liderazgo como medio para influir y internalizar en los trabajadores y stakeholders la cultura de la excelencia.
<b>Lideranza. PNQ (2015)</b>	Gobernanza cooperativa es decir la manera en que las empresas implementa procesos gerenciales que contribuyan a la excelencia y la sustentabilidad de la empresa.
	Análisis del desempeño de la organización : Analizar la forma en que la gerencia aborda y implementa los procesos gerenciales de evaluación operacional y estratégico en relación a los mercados



Variable explicativa metrica	<b>Innovaciones de productos y procesos</b>	Análisis de la estructura del capital, productividad, salarios y tipo de liderazgo en la organización cooperativa. Cultura de la innovación, Hamel y Prahalad (1990); Hitt, Hoskisson e Ireland (1994); Bueno, Morcillo y Salmador (2006a y 2006b)
Variable explicativa	<b>Tamaño</b>	Economía de escala, precios, poder de negociación, innovación, internalización
Variable explicativa	<b>Distribución</b>	Relación con proveedores, logística, cooperación con proveedores
Variable explicativa	<b>Relación con los clientes (socios o no socios)</b>	Nivel de participación y de compromiso. Arcas y Hernández (2007)
Variable explicativa	<b>Legislación</b>	En qué manera la legislación es un obstáculo para la competitividad o de lo contrario
Variable explicativa	<b>Financiación</b>	Fuentes de financiación interna, externa, capitalización adecuada o no, aportes de miembros a la capitalización.
Variable explicativa	<b>Integración</b>	Fusiones, alianzas, cooperativas de segundo grado, joint ventures., Van Der Krogt, Nilsson y Host (2007)
Variable explicativa	<b>Mercados</b>	Orientación al mercado como fuente de ventajas sostenibles. Ketchen, Hult y Slater, (2007). Orientación al comercio minorista, grandes superficies (Inversión en el capital, Contratos de suministro, Otros)
Variable explicativa	<b>Aprendizaje y crecimiento</b>	Capital humano, (competencias); capital tecnológico (infraestructura tecnológica); capital organizativo (acción, innovación organizacional)
Variable explicativa	<b>Satisfacción de los clientes</b>	Añadir retener clientes, incrementar ingresos por clientes, reducción de costes por clientes
Variable explicativa	<b>Productividad March y Yague (2009)</b>	Mejoramiento efectivo de las capacidades productivas de una organización. Productividad del capital, de los empleados etc.

## 2.5 - Factores críticos de sucesos en la dimensión social de las cooperativas (FCS)

Debemos reseñar que faltan criterios contables diferentes para la dimensión social. El sistema de contabilidad actualmente empleado, no consigue incluir en el marco de la contabilidad las variables sociales y medioambientales, es por ello que la tarea de buscar indicadores de la competitividad es compleja y aun un largo camino por recorrer.

**Tabla 6. Fuente propia tomado de la literatura**

variables	FCS/Cooperatividad		Indicadores sociales
<b>Explicativas</b>	Compromiso con la comunidad	Participación en los procesos de organización e integración social productiva;	Nº de proyectos de comunitarios
		Generación de empleo sobre la base de justicia e igualdad, y no explotación de la fuerza laboral	Participación comunitaria Nº de trabajadores residentes x 100/nº total de trabajadores
<b>Explicativas</b>	Confianza	Cadenas de suministros, elementos de intercambios	Grado de satisfacción en la cadena de suministros Permanencia en el tiempo de los actores en la cadena
		Mantenimientos de relaciones a largo plazo	
		Cooperación	
<b>Explicativas</b>	Contabilidad social. Financieros generar dinero, Dash, Anup, 2012	Umbral de rentabilidad óptimo	Cuando los costes y beneficios son distribuidos de manera adecuada tanto entre el total de los socios
		Multiplicar su impacto social y generar beneficios sociales	
		Mayor impacto medioambiental en un plazo mayor de tiempo	
<b>Explicativas</b>	El modelo de negocio cooperativo, Ica.Coop monitor <a href="http://ica.coop">http://ica.coop</a> accesado el 21/02/2016	Empleo de calidad	Satisfacción de los trabajadores
		Crecimiento económico sostenible	

Fuente propia transformada de la literatura específica

### 2.5.1. Estudio de caso sobre cooperativas agroalimentarias en Algarve

Un caso es un objeto de estudio con unos límites que están más o menos demarcadas que se analizan en su

contexto y que son adecuados para comprobar, ilustrar o construir una teoría o una parte de ella. (Coller 2000). El método de estudio de casos ha sido el enfoque analítico más popular utilizado para identificar lo que las cooperativas hacen y cómo lo hacen, ya que permite obtener información detallada sobre los micro-problemas y proporciona oportunidades para la grabación de múltiples puntos de vista (Hussey y Hussey, 1997).

**Tabla 7 Fuente propia trasformada de Villarreal Larrinaga, O, et al**

Proposito de la investigación	En nuestro estudio se pretende comprobar empíricamente la dimensión económica de las cooperativas y la social planteando un contraste entre ambos y comprender los factores críticos de sucesos, y observar el grado de coincidencia entre el éxito de la cooperativa, y ver cómo afecta al crecimiento de ellas. Perfilar un patrón de casualidad o similar en la sustentabilidad de la cooperativa.
Metodología de la investigación	Estudio de caso actual integrado, unidad de análisis simple muestra representativa. Estudio exploratorio, descriptivo, y explicativo.
Unidad de análisis	Empresa cooperativas de nuestra proximidad geográfica, (Algarve), cada una de la unidad es un estudio de caso.
Lugar geográfico	Región de Algarve
Población	Cooperativas de Algarve
Tipo de muestra	Representativa, muestra lógica y teórica con suficiente capacidad de generalizar analíticamente el fenómeno a estudiar.
Muestras	2 Cooperativas agro- alimentarias de la región; Adega Alagoas;; ; Cooperativa Agrícola dos Produtores de Azeite de Santa Catarina.
Métodos de recolección de datos	Revisión documental (documentación y archivos). Realización de entrevistas múltiples en profundidad; abiertas, cerradas y semiestructuradas; presenciales, telefónicas y por e-mail. Observación directa. Uso de artefactos físicos, tecnológicos y culturales.
Fuentes de información	Interna: documentación (memorias, informes y estudios internos), archivos (páginas web, archivos de presentaciones, archivos de imagen y sonido), entrevistas en profundidad, cuestionarios, contexto físico real. Externa: publicaciones especializadas, bases de datos, informes de organismos oficiales y medios de comunicación.
Informantes claves	Directivos del Consejo, gerente administrador de la muestra con participación activa y directa en los procesos de la empresa cooperativa.
Métodos de análisis de la evidencia	De tipo cualitativo: - Identificación y clasificación estructural de dimensiones estratégicas. - Búsqueda de factores explicativos clave (proposiciones teóricas). - Búsqueda de patrón de comportamiento común (proposiciones teóricas). - Creación de explicación teórica (comparación sistemática teórica). - Identificación de relaciones causales (si es posible). - Análisis de decisiones críticas
Evaluación del rigor y calidad metodológica	Validez (constructiva, interna y externa), fiabilidad, consistencia (teórico - interpretativa y contextual).
Enfoque científico	Inducción analítica a través de la lógica de la réplica (generalización analítica). Procesos deductivos en la medida que se parte de proposiciones teóricas de la revisión de teorías.
Fecha de realización	

### 3. LA PARADOJA DE LAS COOPERATIVAS

El gran dilema del cooperativismo es que está inserto en un mar de presiones de todas las organizaciones y de la propia sociedad que espera mucho más de ella, y sentir que no está satisfaciendo adecuadamente las necesidades de sus stakeholders, se debe de plantear un cambio. El paradigma cooperativo fue por mucho tiempo un patrón psicológico que ha orientado su relación con la sociedad desde Robert Owen y los pioneros de Rochadale. ¿Pero si estos están desfasados, pueden detenernos hasta incluso paralizarnos? mientras todo el mundo se mueve. Al filtrar la información nueva, nos impiden ver lo que no encaja con nuestros modelos. Por lo tanto, es importante que reconsideremos continuamente nuestras creencias y paradigmas para poder adaptarnos a las condiciones cambiantes de las variables exógenas del medio. En este cruce se impone una pregunta. ¿Están los valores y principios del cooperativismo anacrónicos? ¿Son obsoletos? Tal vez en este punto deberíamos replantear la pregunta, y acompañar la tesis del capital social. Seguir el pensamiento de Estrada, E. M. (2006), pag 17. El capital generado por ellas puede ser útil en las primeras fases de las estrategias de desarrollo en una comunidad, pero puede también convertirse en un lastre cuando se pretende avanzar en esas estrategias trascendiendo el ámbito local. En muchos casos son elementos decisivos en las etapas iniciales de las dinámicas de desarrollo ayudando a resolver los llamados “dilemas estáticos

de la acción colectiva”, son incapaces de adaptarse a los cambios, resistiéndose a modificar sus obsoletos discursos y estructuras organizativas y convirtiéndose en obstáculos para la consolidación de los proyectos a cuya creación tan eficazmente contribuyeron dificultando la resolución de los que hemos llamado “dilemas dinámicos de la acción colectiva”, es decir, aquellos problemas que dificultan la sostenibilidad de los proyectos de desarrollo

Según Levi, Y y Davis, (2008), el cooperativismo ha hecho esfuerzo para coexistir dentro de una matriz económica capitalista, con elementos sociales dentro de su organización. El rompecabezas que las cooperativas representan para la economía general se debe a la dificultad de aceptar un modelo de organización que tiene como objetivo lograr un equilibrio socio económico : Estos autores sostienen que las cooperativas son un fenómeno “híbrido”, de naturaleza dual, es decir, lleva una doble orientación, por un lado está alineado hacia lo social, sin fines de lucro y por la otra parte se orienta hacia la economía, a modelos que descansan principalmente en consideraciones económicas es decir con fines de lucro.

Pero en Stricto sensu sin fines de lucro va incorporado a la noción de no distribuir cualquier forma de beneficio, lo cual no sucede en las cooperativas pues ellas distribuyen de acuerdo a la actividad cooperativizada que hayan efectuados sus socios. Borzaga y Defourny (2001). Por lo cual el problema no convencional de las cooperativas son la ambigüedad de su condición de no lucro, pero capaz de distribuir excedentes.

Por otra parte, el maestran casi siempre interpreta a las cooperativas basandose en doctrinas de derechos de propiedad, y teorías de la firma de contratos incompletos, y derecho de control alegando que no son francamente eficaces y argumentan que las cooperativas sufren una serie de problemas únicos a esta forma específica de gobierno, que las empresas capitalistas no las poseen. James y Sykuta, (2005) ; Harte, (1997); Feng y Hendrikse, (2007); Stewart, (1993) Matás, G. M., Espallardo, M. H., & Lario, N. A. (2013). Lo cual son teoría antigua, desfasadas, estamos en una época que lo intangible cobra una dimensión social y productiva, al decir de Covas A. en un artículo publicado en Público 04/01/2016. “¿Que tendrá en común entre internet, información, inmaterial, intangibles, identidad, innovación, invención, e imaginación? Estaremos en la ruta de un nuevo código de lenguaje y significados, de una economía de iconos, de una (i)conomía. TN.

Las cooperativas ya no necesitan luchar con antiguos molinos de viento, ya que la teoría actual habla de coordinación y de cooperación en mercados imperfectos, de la valoración de la cooperación y del control no jerárquico. Sanchez, B, C, (2013).

### 3.1 Lactogal

**Tabla 8 Fuente transformada de la literatura**

Nombre de la empresa/Portugal	Lactogal – Productos Alimentares, S.A.
Socios fundadores	Fusión de 3 cooperativas – Lacticoop, Agros, Proleite
Año de fundación	1996
Sede Portugal	Rúa do Campo Alegre, 830-4º4150-171 Porto
Área comercial	Comercialización de leches y derivados
Facturación en 2010	681 millones de euros
Nº total de empleados	4100 personas
Página web en portugués	www.lactogal.pt

#### 3.2.1 Unidad de negocios

1996 Fue creada por la fusión de las Cooperativas Agros, Lacticoop y Proleite

2000 La mantequilla fina Matinal ha sido premiada : El Master de Distribución y Publicidad en la categoría de productos lácteos y el Sial d’Or para Portugal

2001 Mimosa fue reconocida como la marca de los años 90 en industrias lácteas, por la Revista Supermarket, que publica el anuario de nuevos productos

2001 Fue galardonado con el premio Master de Distribución, asignado por la Revista Distribuição Hoje a las empresas que se han destacado por los productos comercializados en el mercado

2005 Adagio fue elegida como una de las marcas de súper que operan en Portugal, una decisión tomada por una organización internacional Superbrand, con sede en Londres

2006 Acuerdo con la DEAN FOODS COMPANY (Uno de los principales grupos de alimentos y bebidas en los EE.UU. con más de 50 marcas) para comprar una de sus empresas Leche Celta - España y Portugal

### 3.2.2 Valores empresariales

**Misión:** Promocionar la salud y la fortaleza de las personas, la leche es fundamental para una dieta sana y equilibrada, es uno de los pilares de la empresa Lactogal.

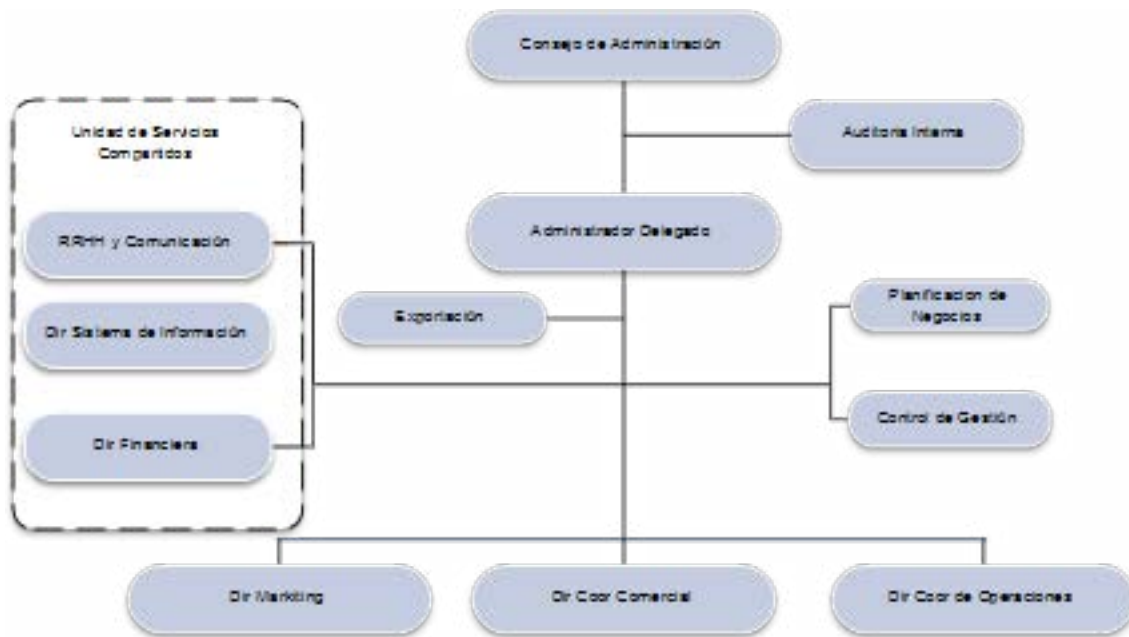
**Vision:** Consolidar su posición en los mercados donde ya opera, fortalecer su liderazgo, y asumirlo a nivel ibérico, a través de la mejora y el desarrollo de sus recursos humanos y la inversión de recursos industriales, de distribución y desarrollo de marcas y productos.

**Valores:**

- **Precisión:** la empresa se rige por altos estándares de calidad, lo que le permite llevar a cabo un liderazgo técnico y de negocios resultantes de la capacidad de satisfacer de forma superior las necesidades y las expectativas de sus clientes ; **Conciencia Social:** la organización se centra en acciones prácticas que tienen un impacto positivo sobre el medioambiente, tales como la racionalización de los recursos y evitar el derroche; **Ambición:** puede aceptar los grandes retos, por ejemplo, favoreciendo a los empleados con mejor desempeño que asumen riesgos y aplican toda su energía en el trabajo; **-Integridad,** Lactogal considera con mucha seriedad los compromisos establecidos con la sociedad y con todos los que conoce ya sean proveedores, accionistas o clientes.

### 3.2.3 Estructura de la empresa

Tabla 9. Lactogal



Fuente: WWW.lactogal.pt

### 3.2.4 Caracterización de la empresa

Lactogal, SA es una empresa portuguesa del sector agroalimentario y productos lácteos. Fundada por AGROS – União das Cooperativas de Produtores de Leite Entre Douro e Minho e Trás-os-Montes, UCRL, LACTICOOP - União das Cooperativas de Produtores de Leite entre Douro e Mondego, y PROLEITE/MIMOSA S.A. cuyo propósito es producir y comercializar en los mercados nacionales e internacionales a través de sus marcas. Es la mayor empresa de bienes de rápido consumo en Portugal, siendo líder en la producción y comercialización de leche pasteurizada, leche UHT, leches funcionales, leches aromatizadas, mantequilla y crema, ocupando también posiciones destacadas en los segmentos de los quesos y yogures. De hecho, es la 22ª empresa portuguesa más grande, llegando a la nº 1 en la clasificación de empresas industriales y de propiedad exclusiva de capital nacional y privada. Al mismo tiempo hay que elogiar la excelente clasificación en el ranking Ibérico, siendo una empresa clave en el sector, y la 1ª en leche que se desplaza. Como demuestra el cuadro que figura más abajo siendo Lactogal la 19ª más grande de Europa Occidental en 2006. La empresa terminó la actividad de 2010 con una facturación superior a € 681.000.000, con valor facturado de ventas al exterior de € 114.000.000, un aumento del 8% respecto al mismo periodo del último año. Empleando cerca de 4.100 personas en la actualidad, lo que da la categoría de GE (Gran

Empresa), esto es realmente un caso de negocio de éxito. Lactogal tiene una cuota de 31% en productos lácteos y desempeña un papel clave en la mejora de la producción nacional de leche, de acuerdo con datos de la empresa.

Según datos de Fenelac lactogal recoge 820 millones de litros de leche en Portugal, que suma el 46% del total nacional. Las ventas de la empresa fueron más de 682 millones de euros en el 2010. Organización de Lactogal en Portugal El grupo Lactogal tiene en su conjunto más de 4.000 empleados en más de diez lugares distintos, entre Portugal y España, pero su estructura organizativa es muy funcional y de rápida respuesta a los cambios exteriores y internos

### 3.2.5 Internalización

Lactogal es una de las empresas más competitivas de Portugal desde su creación, siempre se ha expandido por medio de la internalización, como lugares globales de inversión, es una empresa que compite a nivel internacional con las principales marcas de Europa. Lactogal puede demostrar la máxima de que la cooperación interna y externa pueden ser una fuerza competitiva, ya que actualmente es la mayor empresa láctea de la Península Ibérica.

Lactogal es el mayor exportador de alimentos portugués. Las exportaciones son generalmente el primer paso para la internacionalización de la empresa, porque es un primer contacto con el país de destino.

A partir de aquí, dependiendo en gran medida del país en cuestión, análisis basado principalmente en el mercado potencial a largo plazo.

### 3.2.6 Mercados Externos Actuales

**Tabla 10. Fuente Lactogal**

Mercado Americano	Mercado Europeo	Mercado Africano	Mercado Asiático
Venezuela	Inglaterra	Cabo Verde	Macau
EEUU	Belgica	Angola	
Canada	Luxemburgo	Guinea Bissau	
	España	Santo Tome y Principe	
		Mozambique	

## 4. EL MOVIMIENTO COOPERATIVO DEL SIGO XXI

Unas de las principales características de las cooperativas es su resiliencia que le ha permitido sobrevivir a lo largo de la década pasada. Algunas de ellas incluso han alcanzado inserción en mercados internacionales. La fortaleza cooperativa se pudo constatar en la implosión de la crisis financiera del 2007-2008, crisis que generó la especulación financiera que ha desintegrado en muchos países la cohesión social y creado un desequilibrio financiero de consecuencias dramáticas, que se lo ha cargado al lomo de la sociedad sin tener nada que ver en las causas, y aquellos que lo originaron apenas son afectados por el desastre financiero causado. Esta crisis ha probado el profundo enlazamiento entre la economía financiera y la economía real, creando olas de turbulencias. Por otra parte, las cooperativas en estos países centrales han pasado incólume esta crisis dándonos una lección de resiliencia cooperativa. ¿Que tienen las cooperativas que en esta crisis le fue relativamente bien? ¿Qué están haciendo para estar mejor? Mientras todo el sistema colapsaba. Este modelo no convencional de la cooperativa ha demostrado que aun en crisis bastante seria, pueden sobrevivir sin mayores daños colaterales.

Unos del aspecto más pernicioso de la globalización, sobre todo la globalización financiera, fue la independencia casi total, del capital de la producción y los servicios, y se ha volcado por completo al mundo virtual, el capital se globalizó, pero la mano de obra sigue siendo local, capital y mano de obra están cada día más separados, en espacio y tiempo disímiles entre sí. Castells, M. (1999); LaliBerté, P. (2013), coordinador Bruno roelants. Este lado oscuro de la globalización no ha sido puesto en el tapete muy a menudo. Al decir de LaliBerté, P. (2013), pag. 12. “la creación de empleo ya no se derivaba de la demanda agregada como Keynes propuso, sino que se consideró resultado directo del funcionamiento de los propios mercados de trabajo. por lo tanto, la OCDE y el FMI entre otros, consideraron clave para la creación de empleo desregular el mercado de trabajo y la eliminación de algunas protecciones. de hecho, es muy revelador que, durante las secuelas de una crisis financiera, los principales remedios puestos en marcha en muchos países hayan sido, una vez más, las reformas “estructurales” para flexibilizar los mercados de trabajo”. Consecuencia directa de esto es la cada vez más precarización del trabajo.

En contrapartida las cooperativas han mantenido una constante de empleo, menos expoliador y más justo, dado justamente su ADN, y su historial de lucha a favor del trabajador.

Las cooperativas en este siglo XXI deben imponer su racionalidad o mejor refundar su cultura y principios como valores compartidos, rediseñarse a la luz de una economía innovadora y creativa ser una tercera vía de alternativa entre el estado y el desarrollo y el mercado desmarcarse claramente del modelo capitalista neo liberal. Las cooperativas tienen mucho que contar en un mundo económico en que cada vez más se difuminan los espacios entre empresas capitalista y del tercer sector, las organizaciones se adaptan cada vez más a aprendizaje colectivo, existe una búsqueda por mayores valores compartidos, una nueva interacción social. Esto tal vez implique redefinir la vieja ortodoxia económica el mainstream del crecimiento dándole un nuevo ropaje, una nueva etiqueta multidimensional. Las cooperativas tienen esa expertise, ese modelo asociativo, colaborativo, que le han legado más de una centuria de existencia.

#### 4.1. Re inventar las cooperativas

El cooperativismo tiene fragilidades y vulnerabilidades estructurales, que en algunos casos proceden de sus configuraciones internas y en otros de factores externo, ponemos algunos ejemplos : la falta de capitalización; la mala gestión administrativa; la gobernanza deficiente; la dependencia externa a las legislaciones nacionales; la infra capacidad gestora y empresariales, los objetivos económicos, sociales y medio ambientales dispersos sin un plan común y coherente; las debilidades tecno industriales; falta de acceso a mercados más apetecibles; la poca participación en sus cuadros de jóvenes y mujeres; los límites del crecimiento y la expansión. Las nuevas cooperativas necesitan de afrontar tales debilidades, fortaleciendo sus cualidades institucionales, no tal vez con ojos del pasado sino con una mirada al presente y al futuro posible.

Deben crecer en la economía del conocimiento, utilizar las fuerzas inmateriales, de casi costes cero, las cualidades intangibles que tienen un potencial increíble de generar valor, como la coooperatividad. En todas estas condiciones para su crecimiento, no deben de dejar olvidado sus principios y valores, su identidad.

Desde la perspectiva asociadas a las recientes innovaciones tecnológicas y sociales con vínculos con el P2P, (el “Peer to Peer” o p2p es un sistema de descarga muy usado por los usuarios de internet para compartir material. La gracia que tiene es que lo que se descarga viene de otros computadores y no de un sitio web, por lo que no necesitamos tener grandes hostings para alojar archivos y compartirlos, con que tengas una conexión a internet y los archivos en tu disco duro ya se puede descargar) Michel Bauwens nos propone un cooperativismo abierto una open cooperative emulando las potencialidades del código abierto tal como los GPL, la Open Source Initiative relacionados, y ciertas versiones de la licencia Creative Commons. Al asociar al P2P como medio de producción. Los campos de estudio son: la producción entre iguales o la capacidad de crear valor común; el gobierno entre iguales o la capacidad de auto gestionarse, y la propiedad entre iguales, que es la capacidad de proteger el valor común de la apropiación privada. No entraremos en detalle en este trabajo por la evidente ausencia de espacio, pero daremos una visión global.

Al hablar de que las cooperativas y el movimiento cooperativo están en un renacimiento, para el autor esta reactivación forma parte de un flujo y reflujo de la economía capitalista aun en pleno auge hegemónico, esto se debe en causa de la crisis financiera, (2008) cuyo epicentro fue Lehman Brothers. Las personas están en busca de alternativas. Nos propone no revivir los modelos antiguos, debemos de mirar a nuevas posibilidades, reinventarlas, haciendo énfasis en las redes digitales y las midias. Los criterios que nos propone Michel Baumens:

- Que las cooperativas tienen que ser legalmente (internamente) orientados hacia el bien común
- Que las cooperativas necesitan tener modelos de gobierno, incluyendo todas las partes interesadas
- Que las cooperativas necesitan activamente co-producir la creación de bienes comunes inmateriales y materiales
- Que las cooperativas deben ser organizados social y políticamente sobre una base global, como también ellos producen localmente. P2P Foundation [http://p2pfoundation.net/Open\\_Cooperatives](http://p2pfoundation.net/Open_Cooperatives)

Otro especialista consultor y filósofo del internet Josef Davies-Coates nos propone: “Las cooperativas que combinan las mejores prácticas del movimiento cooperativo internacional con las mejores prácticas del código abierto de software y hardware, pueden establecer comunidades con mucha facilidad. Pronto todo el mundo será capaz de establecer un Open Co-op e invitar a todas las partes interesadas para ayudar finanzas, gobernar y organizar el modo cooperativo en línea “. <Http://stirtoaction.com/open-co-ops-inspiration-legal-structures-and-tools>: 23/03/2016

#### 4.2 Capital social

##### 4.2.1 Breve concepto de termino

El concepto de “capital social” ha capturado la imaginación de los académicos y profesionales por igual sin mucho acuerdo sobre su definición o contenido. Hay un interés desbordado diríamos por el término capital social en los

últimos años (Bourdieu, 1986; Coleman, 1988 y Coleman, 1990; Putnam, 1993 y Putnam, 1995; Carney, 1998; Grootaert, 1998; Ostrom, 1998; Pretty, 1998; Scoones, 1998; Uphoff, 1998).

El capital social es un concepto polisémico. Empero, los indicadores más utilizados para su operacionalización están basados en la participación de personas en organizaciones sociales y el sentido de confianza entre los miembros de una comunidad.

Putnam, (1999). Fukuyama (1999) nos hablan que el capital social puede ser definido simplemente como el conjunto de valores informales o normas compartidas entre los miembros de un grupo que posibilita la cooperación entre ellos.

El concepto del capital social no siempre se presenta en las ciencias sociales, como categoría analítica, Aunque estuviera implícito en varias teorías de las relaciones sociales, raramente era puesto como área significativa de análisis o estudio. Esto porque la economía neo liberal, no lo veía como potencial del desarrollo.

#### 4.2.2 Banco cooperativos

¿Es posible la Banca ética? es el interrogante de Perú Sacia en Sacia, P (2013) Esta es la pregunta que normalmente se plantean cuando se presenta la banca ética a alguien que no conoce del proyecto. ¿Cómo? Sera posible conjugar estos dos conceptos banca y ética, Incluso, se lo ve a veces como una forma de utopía alejada de la realidad.

El cooperativismo es un canal adecuado para integrar la responsabilidad social y la ética en los bancos, pues ya está en su piel, y tiene una expertise que va de largos años. Lo concreto es que esta nueva perspectiva ética y económica influirá necesariamente en la sociedad y en sus organizaciones. En ese sentido, la influencia de las cooperativas no abarca un círculo demarcado a empleados, familia y amigos, sino más bien es una colaboración que no necesariamente viene de una entidad hierarquica pues no lo son ni tampoco de un sistema de mercado financiero tradicional que radialmente que parte de lo local hasta lo internacional.

Los bancos cooperativos son socialmente responsables y lo demuestran en toda Europa al establecer numerosos fondos éticos, e invertir en acciones o bonos según criterios éticos.

Según European Association of Co-operative Banks, (2010). Los bancos de las cooperativas invierten en fondos con carteras de rentas variable, en empresas que tienen el mejor historial en el desarrollo sostenible. Estas empresas son seleccionadas en forma rigurosa por un conjunto de criterios extra financiero (responsabilidad ambiental, social, gobernabilidad), incluyendo un análisis de riesgo y la recompensa general de las empresas, las referencias cruzadas con el fin de evaluar su valor real a largo plazo. Varios bancos cooperativos integran políticas éticas en sus actividades de gestión de activos. El Banco Co-operative lanzó su política de ética en 1992, con la revisión más reciente se completó en 2009. La ética política se formula sobre la base de un amplio programa de consulta de cliente.

En resumen. los bancos cooperativos son social y ambientalmente responsables una práctica que esta incorporados en su cultura ancestral.

Para European Association of Co-operative Banks, (2010). En Europa representan 50 millones de miembros y 770.000 empleados y tienen una cuota de mercado media de cerca de 20%. En algunos países, como Austria, Alemania, Finlandia, Francia, Italia y los países bajos, la cuota de mercado está muy por encima de esta cifra, que van desde 30% a 50%. Su resistencia durante la crisis que los bancos cooperativos una clave fuerza impulsora de la recuperación económica.

El modelo de banca cooperativa ha mostrado su resistencia durante la crisis financiera y económica. Durante la crisis financiera, el modelo de negocio de los bancos cooperativos ha demostrado ser practicable y resistentes a la crisis financiera. Los bancos Co-operativos han mostrado un crecimiento sostenido, bajas pérdidas, deberíamos subrayar la contribución económica de estos bancos, aunque substancial, a menudo subestimada o ignorado por completo. El crédito de la cooperativa mantiene y crean empresas y puestos de trabajo y asegura la sobrevivencia de las empresas, European Association of Co-operative Banks, (2010).

#### 4.2.3 Cooperativas de alimentos y consumo ecológico

Las cooperativas de consumo ecológico están formadas por grupos de personas que tienen su foco principal en conseguir alimentos ecológicos de producción local y sin intermediarios, para que sus integrantes puedan consumir productos saludables al menor precio posible.

Para ello, una vez constituida la cooperativa, sus integrantes se organizan para contactar con los agricultores locales y que estos les hagan llegar sus productos ecológicos a un local, desde el cual repartirán los alimentos a sus socios.

En función de los integrantes de cada cooperativa, puede que incluso abarquen hasta la producción de los alimentos si alguno de los agricultores forma parte de la cooperativa o si los cooperativistas intervienen activamente en la producción; lo cual sería posible si se organizaran además de para conseguir y distribuir los alimentos para cultivarlos de forma ecológica.

Estas cooperativas de consumo de los alimentos constituyen una parte vital del movimiento alimento alternativo

en los Estados Unidos, junto con los mercados de agricultores, agricultura apoyada por la comunidad, jardines comunitarios y otras iniciativas. Al igual que estos esfuerzos, las cooperativas de alimentos buscan contrarrestar el predominio de la agricultura industrial y la destrucción de las economías locales. Slocum (2006).

Según Mark Wallace en Wallace M, (2011). La falta de acceso a una buena comida en comunidades urbanas está íntimamente relacionada con la carencia de una justicia ambiental y una serie de otros problemas sociales y económicos. Sólo un análisis integral de las fuerzas sistémicas que atan juntos patologías sociales aparentemente desconectados puede dar sentido y proporcionar soluciones para la eco-crisis en las comunidades urbanas en la actualidad. La búsqueda de la justicia ecológica y la vida sostenible en las comunidades marchitadas está inextricablemente ligada, por ejemplo, a la necesidad de buenas escuelas y el desarrollo del personal. Para el autor a primera vista el problema de la alimentación urbana no tiene viso de ser un problema ambiental, es decir que cuando pensamos en problemas ambientales nos viene a la mente a menudo la preservación de desierto o luchando contra los grandes contaminantes en el medio urbano. Pero la inseguridad alimentaria, junto con los problemas de salud concomitantes desove, es tanto un problema ambiental como el ahorro de bosques y humedales o la protección de los barrios de la ciudad de los contaminadores.

Sin embargo, el consumo ético no está exenta de crítica que generalmente provienen de las ciencias sociales, que ven a estas iniciativas como retóricas y como un producto envasado por el marketing y las campañas publicitarias. Barnett, C. , Cloke, P. , Clarke, N. y Malpass, A. (2005) Estos autores presuponen que no se puede afirmar que el consumo de materias primas como un campo en el que la ética, la moral y la política, se ha problematizado, es decir las argumentaciones de las investigaciones existentes sobre el consumo ético, no puede registrar toda la complejidad de las prácticas, las motivaciones y los mecanismos mediante los cuales la elaboración de éticas y fines morales se concretizan en relación con las prácticas de consumo.

### 4.3 La responsabilidad socio ambiental

La economía moderna se fundamenta en el poder de la tecnología y la industrialización, que pueda liberarse de las limitaciones de la naturaleza, se ve a la naturaleza como un factor que debe de ser dominado a fin de unos objetivos de producción, esta visión de la tecnología como capaz de solucionar todos los males de nuestra sociedad industrial, tiene el sesgo de una contabilidad de costos/beneficios. Los economistas que han puesto de relieve las limitaciones de las concepciones utilitarista y las graves crisis del ambiente argumentan que el desprecio y la ceguera de los ciclos ecológicos y los umbrales de sostenimiento de la naturaleza, son los causantes del desequilibrio ambiental. Costanza *et al.*, (1997), Gómez-Baggethun *et al.*, (2010).

El tenue equilibrio de los sistemas sociales con el medio ambiente, se refiere en los trabajos de Ulrich (2000). El paradigma es que los sistemas, tanto naturales como sociales, pueden desarrollar excesiva complejidad, sobre todo el llamado progreso tecnológico, “El punto es que los sistemas, tanto naturales como sociales, se pueden volverse extremadamente sofisticado, que ya no puede ser sostenido por el entorno en el que se encuentren” Ulrich y Reynolds, (2010). Tanto Ulrich, como Ziegler (2009) argumentan que el desarrollo excesivo de la complejidad tecnológica, no puede ser legitimado por el entorno social, sostiene que ha perdido legitimidad democrática, mientras que Luhmann, en un aporte de la teoría de sistemas a la sostenibilidad nos habla en su concepción sistémica, se refiere a la complejidad de la sociedad que no es ecológicamente sostenible, Niklas Luhmann (2004), Jackson 2010; Kuttner 2005; Valentínov 2012).

Podemos sintetizar la historia de la ortodoxia económica, a la reducción del papel del medio ambiente a un conjunto de recursos a ser explotados con fines de ganancias, es decir tiene un valor instrumental en la medida de las necesidades.

**Los datos dan cuenta que los aumentos de la renta personal no aumentan el bienestar subjetivo.** Diener (1984,1999), Oswald (1997), Blanchflower(2001,2004). Los investigadores sociales han demostrado convincentemente que más allá de un cierto estándar de vida material, los aumentos en la renta personal y/o nacional no contribuyen mucho al bienestar social y a la felicidad humana. la riqueza se convierte en inversamente proporcional al bienestar. Esto plantea un enorme desafío para la economía y la política, dado que el crecimiento económico es la columna vertebral de las misma, y de estos estudios se desprenden que en cualquier país desarrollado existe un límite para la satisfacción y tal limite es en sí mismo una forma de reducir la actuación de la economía al menos como la entendemos hoy.

Este hilo argumental de vastos investigadores nos conduce a Anup Dash en Anup Dash et al (2013) pág. 41. la celebración del presente modelo de desarrollo, con su mantra de “crecimiento”, enmascara el hecho de que una expansión económica interminable y unos estándares de vida cada vez mejores son una ilusión. ya hemos alcanzado los límites naturales del crecimiento tanto social, como medioambiental y económico. el “fantasma del bienestar”, una creación impulsada por el motor de la deuda y la codicia, divorciado de la economía real, es insostenible... Como escribió Arthur Miller, “se puede decir que una era termina cuando se agotan sus ilusiones básicas”. la ilusión central de la era del capital – crecimiento económico inagotable y abundancia material ha llegado a su fin.



Las emisiones globales de dióxido de carbono (CO<sub>2</sub>) para el 2012 ha alcanzado pico. Los datos muestran que las emisiones globales de dióxido de carbono alcanzaron en 2012 los 35.600 millones de toneladas, un aumento del 2,6% en comparación con 2011 y un 58% superior a los niveles de 1990. Los expertos dicen que esto puede conducir a un calentamiento global de entre 4 y 6 grados centígrados en los próximos años. [http://www.bbc.com/mundo/noticias/2012/12.acesado el 21/03/2016](http://www.bbc.com/mundo/noticias/2012/12.acesado%20el%2021%2F03%2F2016).

Por otra parte, según el Quinto informe de evaluación del IPCC ya hemos rebasado ciertos límites del planeta en relación a el aumento de acidificación del océano, el límite propuesto era 2.75 y el nivel actual es de 2.9; las pérdidas de las especies cuyo límite era 10 por millón la tasa actual es de 100 por millón; el límite al exceso de nitrógeno para evitar la degradación del medio ambiente es de 35 millones de toneladas, actualmente se produce 12 millones de toneladas.

Para nosotros estos datos dan cuenta de que considerar a los problemas ambientales como una sola cara de la moneda, es decir a los problemas ambientales sólo en términos técnicos, parece estar confinada al nivel de la organización, y por lo tanto excluir a los demás actores sociales e institucionales en las políticas ambientales para mitigar estos retos medioambientales.

¿Es posible otra historia distinta con el capitalismo?

Covas, A. y Covas M, en Covas A, Covas M. (2010) dicen: En escenarios globales y de la mercantilización de la producción agro-alimentar, los elementos cruciales son las mudanzas en las políticas regulatorias. Las crecientes movilidad comercial y financiera, la investigación tecnológica y de la logística en los desarrollo y localización de las cadenas alimentares, las mudanzas de los hábitos de consumo, nuevas formas de organizaciones y asociaciones, los riesgos sistémicos nos obligan a una nueva definición de la responsabilidad social de las empresas entre ellas las cooperativas. Un nuevo tipo de gobernanza que tenga en cuentas estos criterios medios ambientales.

El desafío que se presenta a las cooperativas es en este sentido el de ser no solo una alternativa válida para los problemas medioambientales sino también una alternativa para las finanzas internacionales.

Según Vishwas satGar, en Vishwas satGar (2013). las cooperativas pueden ser organizaciones que desafían al mundo a pensar diferente sobre la forma en que producimos, consumimos, utilizamos las finanzas y vivimos. potencialmente, tiene la posibilidad de cambiar la forma de pensar en el mundo, y lejos de limitarse a pensar en términos de “riqueza económica”, genera un debate sobre una concepción distinta de la “riqueza”. es decir, la verdadera riqueza que tenemos son los recursos renovables del planeta, las condiciones que dan la vida y los seres humanos como fuerza creativa. en otras palabras, la “sostenibilidad” como motor del crecimiento cooperativo podría abrir un camino para cambiar el enfoque de cara a la protección de los derechos humanos naturales y creativos, es decir, se centra en las cooperativas como motor de la sostenibilidad de la vida.

El cooperativismo antepone a estos problemas medio ambientales la posibilidad de nuevas maneras de sostener la vida, inserto en un capitalismo depredador, siempre ha actuado como catalizador social y medio ambiental. Ellas desempeñan un rol fundamental para romper el círculo de degradación del medio ambiente. Son capaces de responder las nuevas exigencias y nuevas responsabilidades, de ser eficientes, pero también ambientalmente amigables, con una visión solidaria y que vele por el respeto al medio ambiente en la propia comunidad en que está inserta.

#### 4.4 La cohesión Territorial

El paradigma del territorio es el paradigma red, que sobre todo es un producto de la globalización, que nos muestra que el crecimiento y el desarrollo territorial resultan de una racionalidad o comportamiento en red de ciudadanos, instituciones y empresas, tanto de forma interna como externa al conjunto de ciudades, y espacios rurales, asentamientos naturales. Vemos así que tenemos diferentes actores en la red, las instituciones, los líderes locales, las empresas, las empresas cooperativas, universidades, centros de investigación, empresas públicas, el municipio y los habitantes que en ellas viven.

Cuando hablamos de territorio necesariamente debemos de hablar de la complejidad sistémica, de la ley de Ashby médico y neurólogo inglés (1903/1972), “Todos los sistemas territoriales tienden a convertirse en sistemas complejos, con numerosos subsistemas, alta interacción interna y externa, desorden/orden, incertidumbre, autopoiesis/expansión, transformación, y caos estocástico o determinista. Surgen propiedades emergentes o emergencias sistémicas, como se designa un nuevo estado de complejidad superior, resultante de la interacción entre sus elementos o subsistemas. Es una propiedad del todo, no de las partes e imposible de ser manejada mediante la disyunción analítica cartesiana”. Citado en Boisier, S. (2012). Los territorios están en movimientos constante de desterritorialización y reterritorialización . Covas, A.Covas M. (2013); Haesbaert, (2006); Dallabrida, (2011). La lógica de la complejidad se opone a la lógica capitalista hegemónica el espacio tiempo vivido , es múltiplo, diverso y complejo Haesbaert, (2006). Ante esta disyuntiva el territorio ya no es un mero receptáculo pasivo si no plausible de ser construidos socialmente la visión de la perspectiva innovadora ya no se presenta en forma di conexa de territorio que lo habita. La noción

posfordista del concepto de la innovación entiende por tal a una construcción social fundamentada en procesos sistémicos de interrelación social y territorial. Fontan e Tremblay (2005). Estos autores afirman que la innovación es condicionada por un contexto social, y geográfico. Esto plantea el sesgo fuertemente imbricado que la innovación tienen un fuerte componente espacial, que se traduce en local y territorial.

#### 4.4.1 *Las paradojas no resueltas en el sistema territorial de Portugal*

Covas, Maria; Covas, António. En Covas M, Covas A. (2013) nos hablan de paradojas no resueltas cuyo origen están en el desaparecimiento de un paradigma que aún no se resigna a morir, el fin de una geografía política, el llamado triángulo de la cohesión que servía de soporte a la soberanía política del Estado nación; la cohesión económica; la cohesión social y la cohesión territorial, todas ellas gestadas en el tratado de Lisboa. La troika que visito Portugal en el 2013 también ha profundizado estas paradojas que en resumidas cuentas son estas:

- El agravamiento y desmantelamiento y la reterritorialización del frágil tejido empresarial, fragmentando del espacio geográfico del sistema empresarial portugués; Un territorio-zona, verticalizado por la política partidaria y vinculado al sistema de gobierno, en la cúspide, y en la base tenemos un territorio-red clientelar y burocrático subordinado por el territorio-zona de la política partidaria y del gobierno; El envejecimiento poblacional; la elevada tasa de desempleo ; las asimetrías regionales, locales ; los riesgos sistémicos y globales, la globalización que destruye territorios ; los territorios en peligros por baja densidad poblacional, desertificación por abandono.

Ante esta grave fragmentación del territorio Covas nos propone “religar” y reterritorializar los fragmentos dispersos del territorio, una nueva geografía de los territorios donde la cooperación en red y las acciones colectivas cumplan un papel principal. Un territorio-red, una nueva. construcción social del territorio por medio de la movilidad de sus recursos y sus habitantes, la creación de nuevos territorios. Para la creación de nuevos territorios (reterritorializar-desterritorializar) nos proponen cuatro ejes de intervención, más pragmáticos que teóricos: el eje paisajístico, el eje productivo, en que están insertos las cooperativas agro-alimentares en los sistemas alimentarios locales (SAL), o el sistema productivo local (SPL), el eje cultural, los recursos humanos, simbólicos y culturales (capital social) y por último la gobernanza (capital institucional).

En busca del actor territorial que pueda conducir este proceso de creación de nuevos espacios de geometrías variables, para construir socialmente los territorios red. Covas en covas (2013) nos argumentan como uno de los varios ejemplos: Un grupo de cooperativas agrícolas o agro-alimentarias, las asociaciones de agricultores, una empresa de distribución alimentaria, redes de supermercados, asociación de municipios de la misma área, universidades, se asocian para diseñar una estrategia conjunta de modernización ecológica y comercial para una sub región que fue objeto de intervención pública y necesita ser relanzadas. Se puede reconfigurar la economía de estos territorios red de estas cooperativas geográficamente contiguas, teniendo como mira profundizar sus relaciones de integración y sus cadenas de valor, innovando y recreando su stock de productos, en colaboración con las universidades cercanas, las asociaciones y los grupos empresariales.

Las cooperativas pueden perfectamente cumplir el papel del actor principal en los territorios y apoyar los cambios necesarios en los sistemas agroalimentarios por la doble vía, es decir sostener un emprendimiento colectivo, innovador y por otro lado ser un agente de la política pública de la innovación.

#### 4.5 **La paradoja de la cooperación**

¿Qué es la cooperación? La cooperación es antes de todo un fenómeno muchos más amplio que el cooperativismo, no se puede de ninguna manera dejar de ver que instituciones como Médicos Sin Fronteras, Cruz Roja, algunas ONGs de ayuda mutua, que no son en esencia cooperativas, son organizaciones que constituyen aspectos importantísimos de la cooperación.

Colaboración, participación, cooperación, co-creación, innovación abierta, co-diseño, co-working... Actualmente, términos recurrentes del vocabulario de la empresa, la administración u otros agentes sociales. Terminología muchas veces tendenciosa y retórica, que puede convertirse en simple y perversa estrategia de mercado o en comodín vaciado de sentido y meramente instrumental. <http://www.colaborabora.org/2012/12/26/guia-incompleta-para-colaborar>, accesado el 14 de Marzo 2016.

¿Por qué un individuo puede ayudar a otro si ese otro es un competidor potencial en la lucha por la supervivencia? Esta pregunta también es válida para las organizaciones y empresas. Sin embargo, la colaboración es abundante en la naturaleza, Se puede observar entre los virus, bacterias, otros microorganismos, animales.

La cooperación plantea interrogantes, son los biólogos evolutivos los que están interesados en la cooperación, ya que parece ser la antítesis de la competencia que es fundamental para la selección natural.

Para uno de los mitos básicos de la economía de mercado, es que la competencia es el método más eficaz de lograr éxitos Von Hayek, F. A. (1989). Esto es lo que se enseña en casi todas las facultades de economía, esta creencia tiene su fundamento en la ideología de Hayek, no existe en realidad ningún estudio empírico que lo demuestre fehacientemente

Para Felber, C. (2012). “Una de las piedras angulares fundamentales de las ciencias económicas es sólo una afirmación que cree la mayoría de los economistas. Y sobre esta afirmación se sustenta el capitalismo y la economía de mercado, que son los modelos económicos dominantes en el mundo desde hace doscientos cincuenta años”.

Esto nos lleva a plantearnos algunas cuestiones: ¿Es la competencia, más eficaz que la colaboración?

- La competencia según la ortodoxia, en las empresas motiva a crear mejores productos. La competencia promueve la calidad ya que al competir siempre quieres ofrecer algo mejor que el otro. Una sociedad competitiva será una sociedad desarrollada. En los países podemos citar a Estados Unidos y a Japón como ejemplos de sociedades competitivas.
- ¿La competencia motiva por un deseo patológico de triunfar de sentirse mejor a expensa del otro, alcanzar los máximos potenciales a expensa del “fracaso del otro”??
- Por el otro lado la cooperación motiva basándose en las relaciones satisfactorias, el reconocimiento mutuo y la consecución de objetivos compartidos.

Las empresas que vinculan sus actividades a la cooperación orientan sus esfuerzos a motivar a sus trabajadores a través del reconocimiento de su trabajo, informándoles de cómo su esfuerzo contribuye a alcanzar los objetivos de la empresa, haciéndoles sentir que su aportación es determinante para la organización.

Felber, C. (2012). Argumenta que la competencia lo hace basando el éxito de uno en el fracaso del otro. Es decir, motiva por una parte en función del miedo. “el miedo” es un fenómeno muy extendido en las economías capitalistas de mercado: se teme perder el trabajo, los ingresos, el estatus, el reconocimiento social, la pertenencia. En la competición por escasos bienes hay en general muchos perdedores, y la mayoría tienen miedo de serlo”.

Esto también lo especifica Parrilla-Bonilla (1971) si el motor de la economía “es el provecho ilimitado y la propiedad algo absolutamente personal, sin trascendencia social, se justifica la competencia hasta el punto de destruir o hacer desaparecer al competidor”. De este modo, el sistema capitalista de producción expresa con toda nitidez un enfoque absolutamente individualista, egoísta y competitivo.

Vivimos tiempos de riesgo sistémicos y extrema complejidad social y esto se traduce en la necesidad de forma perentoria en colaborar, la democracia es diversa y plural y ante esta razón se debe aprender a respetar las diferencias. Si se pretende dar sentido a la democracia, debemos de proceder de forma justa. creando las condiciones concretas para la manifestación de las ideas y la preservación de los intereses diversos.

Cooperar es ante todo una interacción social, no es un proceso unidimensional, sino más bien formas plurales de interacción entre personas, y que se transforman constantemente, y solo pueden ser operacionalizada a partir de una deliberación democrática de un grupo, Entonces nos parece que, para la comprensión del proceso cooperativo, la noción de voluntad política es un elemento integrante del cuadro de referencia básico que inspira la democracia cooperativa. Rojas Herrera, et al, (2007).

Para las cooperativas no solo es importante garantizar la legitimidad de las deliberaciones colectivas que tienen real incidencia en su organización y sostener esas legitimidades aun para aquellas personas que no han participado en su deliberación. Para ellas la cooperación aparte de estar implícito en sus principios, tiene la obligación moral de hacerlo, pues sus acciones tienen injerencia sobre una comunidad, es por ello que los mecanismos de participación directa, que las cooperativas poseen como parte de su poder pueden desarrollar nuevos modelos de interacción social y modelos de co-responsabilidad entre la comunidad y las instituciones privadas.

Por otro lado estamos en pleno centro de un cambio teórico, que según Claudia Sanchez Bajo en Sanchez, B.C. (2013) Un cambio teórico que sitúa la cooperación en el centro de nuestro futuro, de la teoría neoclásica y el modelo de solow en el que el cambio tecnológico es exógeno, hemos ingresado en un período de neo- institucionalismo y de la teoría del crecimiento endógeno que incluye rendimientos crecientes a escala y el espíritu empresarial, mientras los mercados se definen ahora por su información imperfecta, la competencia imperfecta, las redes de conocimiento y los modelos de negocios centrados en la cooperación.

## 5. CONCLUSIÓN

Podemos ver que algunas cooperativas agro-alimentarias de Algarve, sufren un elevado grado de estagnación, un ciclo económico marcado por un bajo crecimiento económico. Pero sin embargo están allí, desafiándonos como una paradoja, ellas viven, formando parte de un paisaje que se niega a morir, formando verdaderos archipiélagos de desconexión. Esta investigación busca variables, elementos de análisis que puedan dar cuentas de que necesitan para revertir esa situación, y brindar un panorama general de ellas. Factores de sucesos desde la óptica un poco más neoliberal de la competitividad y los valores tradicionales desde la óptica de la cooperatividad. (la fuerza de los valores cooperativos). Las cooperativas del siglo XXI necesariamente deben de replantear la noción de riqueza, y presentar

al mundo lo que en verdad siempre ha estado en su piel, la economía colaborativa, y para ello debe de desprenderse definitivamente de su matriz capitalista. refundar su cultura y principios como valores compartidos, rediseñarse a la luz de una economía innovadora y creativa ser una tercera vía de alternativa entre el estado y el desarrollo y el mercado.

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POSTERS

## COMPETÊNCIAS MOTIVACIONAIS, EMOCIONAIS E COMUNICACIONAIS EM ESTUDANTES ESTAGIÁRIOS DA ÁREA DA SAÚDE

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### RESUMO

Os estágios clínicos são, em regra, experiências de grande relevância na formação de alunos de cursos da área da saúde, pelo significativo contributo que podem conferir na sua aprendizagem prática e no desenvolvimento das suas competências relacionais, motivacionais e emocionais. Neste âmbito, o apoio fornecido durante este período assume um papel central.

Neste estudo pretendemos avaliar a influência que o Apoio no Estágio tem sobre a Motivação Intrínseca, a capacidades de Inteligência Emocional e a Assertividade.

Foi realizado um estudo transversal, com recurso a dados quantitativos recolhidos por um questionário de autorrelato. A amostra é constituída por 364 estagiários de diversos cursos da área da saúde e que tinham realizado o último estágio do curso.

Os resultados revelam que o Apoio fornecido no estágio tem uma influência positiva significativa sobre a Inteligência Emocional, a Motivação Intrínseca e a Assertividade dos estagiários.

Na linha dos resultados obtidos em investigações anteriores, o Apoio fornecido no estágio tem uma importância fundamental para o desenvolvimento de competências emocionais, motivacionais e relacionais do estagiário, pelo que é importante desenvolver estratégias que permitam uma cada vez maior preparação dos Orientadores de estágio para serem promotores do desenvolvimento destas competências nos estagiários.

Palavras-chave: Apoio no Estágio, Inteligência Emocional, Motivação Intrínseca, Assertividade.

### ABSTRACT

The clinical practice is a highly relevant experience in the training of university students by the significant contribution they can check on their technical learning and development of motivational, emotional and communication skills. In this context, the support provided by the teachers during this period is a priority.

In this study we evaluate the influence of the support on stage has on intrinsic motivation, emotional intelligence and assertiveness.

A cross-sectional study was conducted, using quantitative data collected by self-report questionnaire. The sample consists on 364 students from various courses of health sciences.

The results show that the support provided in the stage has a significant positive influence on intrinsic motivation, emotional intelligence and assertiveness trainees.

In line with the results obtained in previous investigations, the support provided has a fundamental importance for the development of motivational, emotional and relational skills of the trainee, so it is important to develop strategies that allow an increasing preparation of training supervisors to be promoters of development of these skills in the trainees.

Keywords: Support in Clinical Practice, Intrinsic Motivation, Emotional Intelligence, Assertiveness.



## 1. INTRODUÇÃO

Os estágios são, em regra, experiências de grande relevância na formação de alunos dos cursos da área da saúde, pelo significativo contributo que podem conferir na sua aprendizagem prática e no desenvolvimento das suas competências motivacionais, emocionais e comunicacionais.

A definição do estágio como uma experiência de formação estruturada e como um marco fundamental na formação e preparação dos alunos para a entrada no mundo profissional tem sido uma noção largamente difundida entre os académicos, entidades empregadoras e os próprios alunos (Alarcão, 1996; Caires & Almeida, 1997; Pires, 1998; Price, 1987; Ryan *et al*, 1996; Veale, 1989). É uma etapa da vida dos estudantes de grande desenvolvimento e crescimento. Os estágios dos cursos na área da saúde, pelo seu contexto hospitalar ou clínico, com consequentes relações interpessoais intensas, associados à entrada dos alunos num ambiente que não conhecem completamente poderão por si só constituir um fator desencadeante de ansiedade e stress e comprometer assim a componente formativa que se espera neste período.

Estágios complexos, seres humanos complexos geram expectativas complexas, podendo desencadear conflitos tanto para alunos como para professores (Orientadores) neste percurso. O aluno nesta etapa do curso é na maior parte das vezes jovem, com pouca ou nenhuma convivência com a dor, o sofrimento e em algumas vezes a morte. Por outro lado, as instituições de saúde sempre foram e serão palco das mais variadas emoções. Associado a tudo isto está a necessidade contínua de relacionar a componente teórica com a prática. Isto leva a uma grande exigência física e emocional por parte do aluno. Neste âmbito, o apoio fornecido no estágio assume um papel central muito importante.

Espera-se que o estágio forneça ao aluno as ferramentas necessárias ao desenvolvimento de várias competências cognitivo-motivacionais essenciais em estudantes que estão a um passo de serem profissionais de saúde e que os Orientadores sejam facilitadores desse processo de aprendizagem. Em medicina, o Orientador é considerado a figura central num sistema de formação em estágio, baseado na observação e execução de procedimentos, num ambiente protegido e de grande riqueza de oportunidades formativas e momentos de aprendizagem (Vansteenkiste M, Lens W. & Deci EL., 2006; Niemiec CP & Ryan RM, 2009; Kaufman A & Dodge T., 2009). Existe evidência científica, na área da psicologia da educação, que o apoio fornecido no estágio, tem uma importância fundamental para o desenvolvimento de competências motivacionais e relacionais do estagiário (Jesus, 1996). Estudos na área da saúde também evidenciam o papel dos Orientadores como facilitadores na aprendizagem. Se os Orientadores forem promotores da autonomia, competência, e do relacionamento com os outros, os estudantes atingirão com maior facilidade os objetivos propostos, traduzindo-se também numa maior responsabilidade com o estudo assim como um melhor relacionamento e autonomia com os seus pacientes (Bengtsson M & Ohlsson B, 2010).

O comportamento do Orientador e o seu modo de ensinar também mostraram ser fatores importantes que podem influenciar a motivação dos estudantes, quer se trate de ambiente em sala de aula quer se trate no ambiente do estágio clínico. (Niemiec CP & Ryan RM, 2009; Ten Cate TJ, Kusurkar RA & Williams GC, 2011).

As abordagens sócio-cognitivistas da motivação têm demonstrado a existência de duas orientações motivacionais: a intrínseca e a extrínseca. A motivação intrínseca configura-se como uma tendência natural para procurar novidades e desafios. O indivíduo realiza determinada atividade pela própria causa, por considerá-la interessante, atraente ou geradora de satisfação. É uma orientação motivacional que tem por característica a autonomia do aluno e a autorregulação de sua aprendizagem. Já a motivação extrínseca tem sido definida como a motivação para trabalhar em resposta a algo externo à tarefa, como a obtenção de recompensas externas, materiais ou sociais, em geral, com a finalidade de atender solicitações ou pressões de outras pessoas, ou de demonstrar competências e habilidades (Amabile, Hill, Hennessey & Tighe, 1994; Csikszentmihalyi & Nakamura, 1989; Fortier, Vallerand & Guay, 1995; Mandelink & Harackiewicz, 1984; Sansone, 1986).

No contexto escolar, há indicadores de que a motivação intrínseca facilita a aprendizagem e o desempenho dos estudantes. Nos últimos tempos têm surgido alguns estudos na área da saúde, relacionados com a motivação intrínseca dos alunos em estágio clínico ((Bengtsson M & Ohlsson B, 2010, Kusurkar RA & Williams GC, 2011). Esses momentos têm sido apontados como “disciplinas” importantes com influência direta na motivação intrínseca e desempenho dos estudantes (Ryan RM, Deci EL, 2000). O aluno intrinsecamente motivado envolve-se em atividades que oferecem a oportunidade para o aperfeiçoamento dos seus conhecimentos e das suas habilidades. Por sua vez, o indivíduo extrinsecamente motivado, realiza uma tarefa escolar para melhorar as suas notas ou para conseguir prémios e elogios (Guimarães, 2003). As teorias e a investigação ao nível da motivação em contexto escolar têm salientado o facto de as cognições estarem intimamente relacionadas com a forma como os sujeitos se empenham nas tarefas escolares (Lemos, 1993, citado por Jesus, 2000).

Estudos indicam que os Orientadores de estágio que se baseiam num método de estudo que estimula a curiosidade natural e interesses dos seus alunos conseguem que estes aumentem o seu desejo natural de aprender e que pelo contrário, Orientadores que se focam no ensino baseado em fatores externos (ex. recompensas) comprometem a qualidade de ensino e as aspirações pessoais dos alunos. (Niemiec CP & Ryan RM, 2009). Um estilo de ensino que promove alguma autonomia ao aluno, sempre supervisionado pelo Orientador, caracterizado por promover decisões e

oportunidades diminuí as pressões sentidas pelos alunos (Niemic CP & Ryan RM, 2009), e promove a sua motivação intrínseca e relacionamento com os outros (Bengtsson M & Ohlsson B, 2010).

Deci, através da Teoria da Motivação Intrínseca, pretende explicar a realização profissional e a persistência em determinadas atividades por parte de um indivíduo, enquanto um fim em si mesmas, e não como um meio para atingir esse fim, sem qualquer recompensa extrínseca.

A motivação é uma condição essencial em qualquer área de formação e numa altura em que a conjuntura atual global nos remete várias vezes para as palavras “crise”, “desemprego”, “cortes salariais”, “redução de pessoal”, “número elevado de licenciados no desemprego”, isto é sem fatores externos muito favoráveis, onde a área da saúde surge também já bastante comprometida, é importante que estes jovens estejam motivados para exercer a profissão ainda antes de nela ingressar.

Nuttin, um dos investigadores que mais contribuiu para o estudo da motivação, também atribui particular importância à temporalidade futura, o Projeto Profissional, no processo motivacional. Num estudo com Professores estagiários (Jesus, 2000), o projeto profissional constituiu a par com o empenhamento profissional, um indicador fundamental da motivação para a profissão docente.

Além do estudo das competências motivacionais (Motivação Intrínseca e Projeto Profissional) e do Apoio no estágio incluímos também na nossa investigação o estudo de algumas competências emocionais e comunicacionais, sendo elas respetivamente, a Inteligência Emocional e a Assertividade. Dada a sua pertinência, estes temas têm vindo a apresentar um crescente interesse na investigação em várias áreas, nomeadamente nas profissões onde se verificam relações interpessoais intensas. A Inteligência Emocional define-se como a capacidade de reconhecer os nossos sentimentos e os dos outros, de nos motivarmos e de gerirmos bem as emoções em nós e nas nossas relações. Refere-se a qualidades distintas mas complementares da inteligência académica, as capacidades puramente cognitivas medidas pelo QI. A Inteligência Emocional tem experimentado um especial desenvolvimento nas áreas educacional e da psicofisiologia (Dulewicz & Higgs, 2000), mas também se começa a sentir um crescente interesse na área médica, no que diz respeito à sua importância para o desempenho académico dos estudantes, futuros profissionais de saúde. Recentemente a importância da Inteligência Emocional nestas profissões, começou a ser um pouco mais valorizada, sugerindo-se as vantagens em associar a Inteligência Emocional a este tipo de trabalho (McQueen, 2004). Existe um reconhecimento de que são as competências intra e interpessoais em detrimento das competências técnicas que melhor respondem às complexas exigências dos sistemas de saúde mais modernos (Bellack, 1999). Artigos recentes revelaram também a existência de uma relação entre a Inteligência Emocional e os resultados académicos dos estudantes no contexto da formação em Medicina, bem como da sua influência no desempenho clínico centrado no paciente e na relação médico-paciente (Chew, Zain & Hassan, 2013; Imran, Aftab, Haider & Farhat, 2013). Com efeito, a análise do papel das emoções em contexto educativo, tem sido uma das linhas de investigação que mais interesse tem suscitado na atualidade, especialmente o estudo do impacto Inteligência Emocional na determinação do êxito académico dos estudantes bem como na sua adaptação ao meio académico (Extremera & Fernandez-Berrocal, 2003). Goleman (2000) acredita que na formação de profissionais de saúde como Médicos e Enfermeiros se deveria incluir, pelo menos, algumas das ferramentas básicas da Inteligência Emocional, nomeadamente a autoconsciência, a empatia e o saber ouvir.

É um fato subjacente na literatura desta temática que a Inteligência Emocional pode ser desenvolvida e melhorada (Slaski & Cartwright, 2003; Cooper, 1997; Hopfl & Linstead, 1997). Segundo Dulewicz e Higgs (2003) as experiências no local de trabalho têm um impacto significativo neste processo de desenvolvimento sendo que a dimensão emocional do trabalho é o reflexo das experiências e práticas profissionais.

As profissões da área da saúde são unanimemente consideradas profissões com um carácter humanista muito importante. Na área da saúde, no seu contexto hospitalar ou em clínica, o contacto com os pacientes e/ou os seus familiares, a par da inserção numa equipa de trabalho, exigem que as profissões que lhe estão agregadas possuam determinadamente relacionamentos interpessoais bastante intensos. O processo de comunicação interpessoal surge assim como um processo extremamente importante na atividade diária destes futuros profissionais e compreende-se que se este não for um processo fácil a prestação de cuidados de saúde com qualidade pode ficar comprometida. Neste sentido, Atkinson e Murray (1989) salientam que o comportamento comunicacional predominantemente assertivo, face aos comportamentos comunicacionais passivos e agressivos, parece ser aquele que facilita e promove as relações interpessoais adequadas. Jesus (2001) procurou compreender as causas de mal-estar nos profissionais de enfermagem, tendo concluído que 100% dos participantes do estudo referiram a dificuldade nos relacionamentos interpessoais como uma das principais fontes de mal-estar/stresse a nível profissional. Segundo Amaro e Jesus (2005) os enfermeiros com categorias profissionais mais elevadas adotam comportamentos assertivos com maior frequência. Segundo estes mesmos autores os enfermeiros assertivos possuem ainda uma maior realização pessoal. Segundo Leebov (2003) a adoção de competências assertivas constitui para o Médico uma necessidade no sentido do sucesso com os seus pacientes.

## 2. METODOLOGIA

### 2.1 Objetivo do estudo

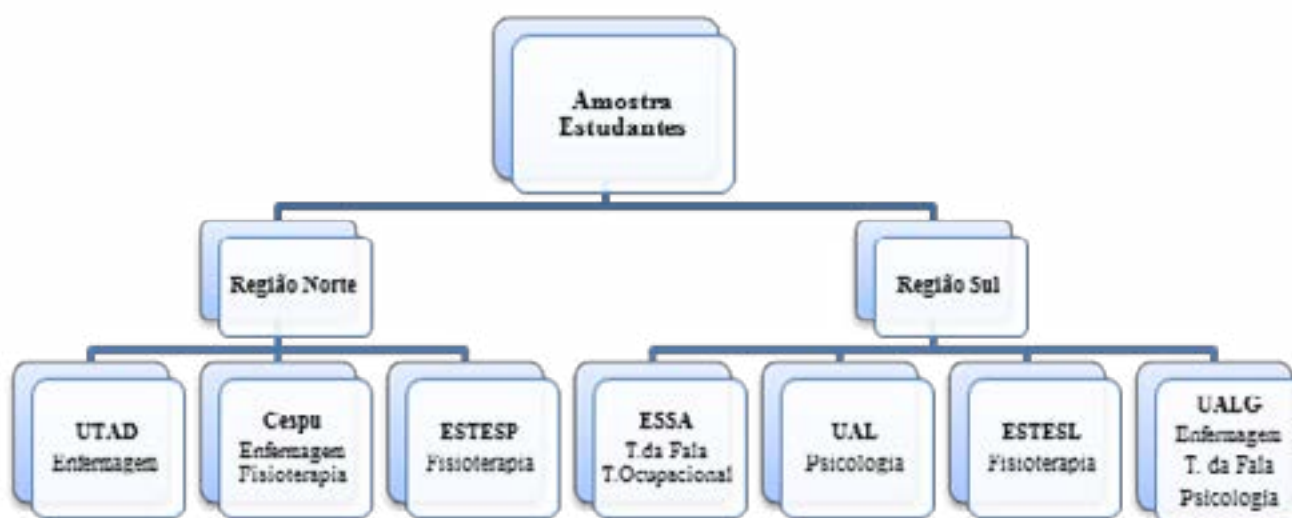
Este estudo tem como principal objetivo verificar a importância do Apoio no Estágio nas variáveis motivacionais (Motivação Intrínseca e Projeto Profissional), emocionais (Inteligência Emocional) e comunicacionais (Assertividade). Tem também outros objetivos mais específicos tais como: verificar quais os níveis de Motivação Intrínseca e de orientação para a futura profissão dos estudantes; quais os seus níveis de Inteligência Emocional; quais os seus níveis de Assertividade geral e específica tal como a Assertividade com os Pacientes e com a Equipa. Verificaremos também que relação existe entre as variáveis, quer entre elas quer com outras variáveis como o sexo e a idade.

### 2.2 Amostra e Procedimento

Para a elaboração do estudo foram selecionados apenas alunos de cursos da área da saúde que se encontravam a frequentar o último ano. A participação dos alunos foi voluntária e foram garantidos o anonimato e a confidencialidade dos dados recolhidos. A passagem destes foi realizada pessoalmente pelo autor na maior parte dos casos garantindo assim o esclarecimento de qualquer dúvida no momento relacionada com o seu preenchimento.

O estudo é assim constituído por 364 estudantes. Estes ficaram distribuídos entre duas regiões principais do País: Região Norte e Região Sul e pertenciam às seguintes Instituições de Ensino Superior: Escola Superior de Tecnologia da Saúde do Porto (ESTESP); Cooperativa de Ensino Superior Politécnico e Universitário (CESPU); Universidade de Trás-os-Montes e Alto Douro (UTAD), Universidade do Algarve (UALG); Escola Superior de Saúde do Alcoitão (ESSA); Universidade Autónoma de Lisboa (UAL); Escola Superior de Tecnologia da Saúde de Lisboa (ESTESL), de entre os cursos de Enfermagem; Fisioterapia; Psicologia; Terapia da Fala e Terapia Ocupacional.

Figura 1: Distribuição da amostra segundo Região, Instituição de Ensino Superior e Curso



### 2.3 Instrumentos de pesquisa

Foi utilizado como instrumento de recolha de informação um questionário de autorrelato. Este é constituído por duas partes: a primeira inclui questões fechadas relativas ao género, idade, instituição de ensino superior, curso e uma questão relacionada com a opção de escolha do curso (se o curso foi a primeira escolha ou não). De acordo com a pesquisa bibliográfica por nós efectuada e respeitando as variáveis que pretendíamos estudar escolhemos um conjunto de instrumentos que pelos seus valores psicométricos anteriormente apresentados noutros estudos mostraram ser válidos e fidedignos. Estes constituem a segunda parte do questionário, sendo eles:

O *Questionário de Avaliação de Motivação Profissional* elaborado por Jesus (1996), que consiste num instrumento de autorrelato, destinado a avaliar a motivação profissional e constituído por várias subescalas que representam constructos cognitivo-motivacionais. Selecionamos para o nosso estudo as medidas *Projeto Profissional* (três itens de resposta semiestruturada com três opções de resposta) com um valor *alpha* de Cronbach de .81, Para avaliação do *Projeto Profissional* são somados os resultados obtidos nos itens 1, 2 e 3. A resposta a cada um dos itens é cotada de 0 a 2, consoante traduzir uma menor ou maior orientação do projeto profissional para a profissão que estuda. No item 2 a resposta é cotada com 0 se o estagiário não deseja exercer a profissão que estuda em nenhuma das situações

temporais e com 2 se o estagiário deseja exercer a profissão que estuda em ambas as situações; *Motivação Intrínseca* (quatro itens com sete opções de resposta tipo *Likert* desde 1: *Discordo totalmente* e 7: *Concordo totalmente*) com um valor *alpha* de Cronbach de .84, e *Apoio Fornecido no Estágio* (doze itens com sete opções de resposta tipo *Likert* desde 1: *Discordo totalmente* e 7: *Concordo totalmente*) com um valor *alpha* de Cronbach de .91.

A *Escala de Comportamentos Assertivos*, desenvolvida por Amaro e Jesus (2005) constituída por 24 itens, com sete opções de resposta tipo *Likert* desde 1: *Nunca* a 7: *Sempre*, com um valor *alpha* de Cronbach de .90. Esta escala é constituída por duas subescalas: *Comportamentos Assertivos com os Pacientes* (seis itens) com um valor *alpha* de Cronbach de .76, e *Comportamentos Assertivos com a Equipa* (dezoito itens) com um valor *alpha* de Cronbach de .90.

A *Escala de Inteligência Emocional*, desenvolvida por Rego e Fernandes (2005) constituída por 21 itens. Os estudantes classificaram cada um dos itens de acordo com o grau em que cada um deles se aplicava a si próprio à luz de uma escala tipo *Likert* de sete pontos desde 1: *não se aplica rigorosamente nada a mim* até 7: *Aplica-se completamente a mim*. Este instrumento permite avaliar seis dimensões, sendo elas: (1) *Compreensão das Emoções Próprias* (quatro itens) com um valor *alpha* de Cronbach de .82. Esta dimensão avalia conteúdos relacionados com a percepção, avaliação e expressão das emoções próprias; (2) *Autocontrolo Perante as Críticas* (cinco itens) com um valor *alpha* de Cronbach de .79; (3) *Autoencorajamento* (três itens) com um valor *alpha* de Cronbach de .77. Esta dimensão avalia conteúdos relacionados com o uso das emoções, a capacidade de automotivação e de auto encorajamento; (4) *Autocontrolo Emocional* (três itens) com um valor *alpha* de Cronbach de .70. Esta dimensão avalia conteúdos relacionados ao controlo das emoções em situações de grande carga emocional, capacidade de redireccionamento e priorização do pensamento com base em sentimentos e emoções associadas; (5) *Empatia* (três itens) com um valor *alpha* de Cronbach de .79. Esta dimensão avalia a capacidade de estar em sintonia com as emoções dos outros; (6) *Compreensão das Emoções dos Outros* (três itens) com um valor *alpha* de Cronbach de .75. Esta dimensão, como o próprio nome indicia avalia conteúdos relativos à compreensão e avaliação das emoções dos outros.

### 3. APRESENTAÇÃO DE RESULTADOS

Para se proceder à análise estatística dos dados recolhidos recorreu-se num primeiro momento à análise descritiva, sendo utilizadas a média, desvio padrão, valor mínimo e máximo. Também foi utilizada a estatística inferencial sendo utilizados os testes t de student e a Correlação de Pearson, vulgarmente designada por r de pearson e também testes de regressão simples.

Da análise dos resultados relativos à amostra, esta é constituída por 364 estudantes, sendo que 81.9% são do sexo feminino e 18.1% do sexo masculino.

Possuem idades compreendidas entre 20 e 40 anos e uma média situada nos 22.49 anos. A maioria dos inquiridos pertence à Região Norte do País (54%) e escolheram o Curso que frequentavam como primeira opção (86.8%).

**Tabela 1: Distribuição da amostra segundo o género, idade, Região e Escolha do Curso em primeiro lugar**

Género		Idade			Região		Curso 1ª Escolha	
Masc.	Fem.	Média(DP)	Min-Max	Mo	Norte	Sul	Sim	Não
N=66	N=298	22.49(2.86)	20 – 40	21	N=198	N=166	N=316	N=48
18.1%	81.9%	-	--	-	54.4%	45.6%	86.8%	13.2%

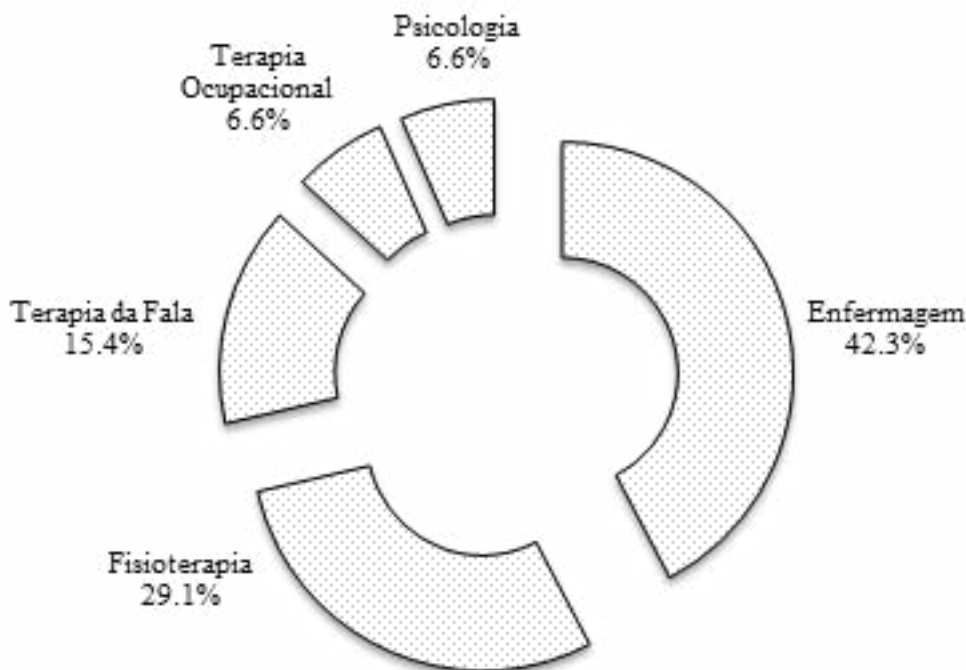
N=364 estudantes

Nota: DP=Desvio Padrão; Mo= Moda; Masc.=Masculino; Fem.=Feminino

No que diz respeito à distribuição dos estudantes segundo o curso, verificou-se que a maioria são do curso de Enfermagem com 154 alunos, seguido do curso de Fisioterapia com 106 alunos, Terapia da fala com 56 e os cursos de Terapia Ocupacional e de Psicologia com 24 estudantes cada um.

A Instituição com maior representatividade foi a Cooperativa de Ensino Superior Politécnico e Universitário (Cespu) com 31.6%, seguida da Escola Superior de Saúde da Universidade do Algarve (24%) e Escola Superior de Tecnologia da Saúde do Porto (14%) e a Escola Superior de Saúde do Alcoitão (13%). As outras Instituições obtiveram uma representatividade menor.

Gráfico 1: Distribuição da amostra segundo o Curso



Relativamente à validade dos instrumentos utilizados, de entre os diferentes métodos que fornecem estimativas do grau de consistência de uma medida escolhemos o índice de Cronbach sobre o qual acenta a maioria dos investigadores. De um modo geral, um instrumento é considerado como tendo fiabilidade apropriada quando o *alpha* é pelo menos .70, (Nunnally 1978, citado por Maroco, 2006). Contudo em alguns cenários de investigação nas ciências sociais, um *alpha* de .60 é considerado aceitável (Maroco, 2006).

Verificou-se que no geral todas as medidas apresentaram valores elevados de consistência interna, uma vez que o coeficiente *alpha* é muitas vezes superior a .8, revelando assim que todas avaliam de forma consistente as variáveis que nos propusemos a medir.

As subescalas *Empatia* e *Comunicação assertiva com os pacientes* pertencentes respetivamente às medidas de Inteligência Emocional e Assertividade, foram as que apresentaram valores de *alpha* menos fortes com um valor de .60.

Tabela 2: Coeficientes *alpha* das medidas utilizadas neste estudo.

Medidas	<i>Alpha</i> de Cronbach	Nº de itens	N
Projeto Profissional	.75	3	364
Motivação Intrínseca	.85	4	364
Inteligência Emocional (medida geral)	.81	21	364
*Compreensão das emoções próprias	.84	4	364
*Autocontrolo perante críticas	.84	5	364
*Autoencorajamento	.74	3	364
*Autocontrolo Emocional	.78	3	364
*Empatia	.60	3	364
*Compreensão das Emoções dos Outros	.75	3	364
Comunicação Assertiva (medida geral)	.89	24	364
**Comunicação Assertiva com os Pacientes	.60	6	364
**Comunicação Assertiva com a Equipa	.89	18	364
Apoio no Estágio	.94	12	364

\*Subescalas da Medida Inteligência Emocional; \*\*Subescalas da Medida Assertividade

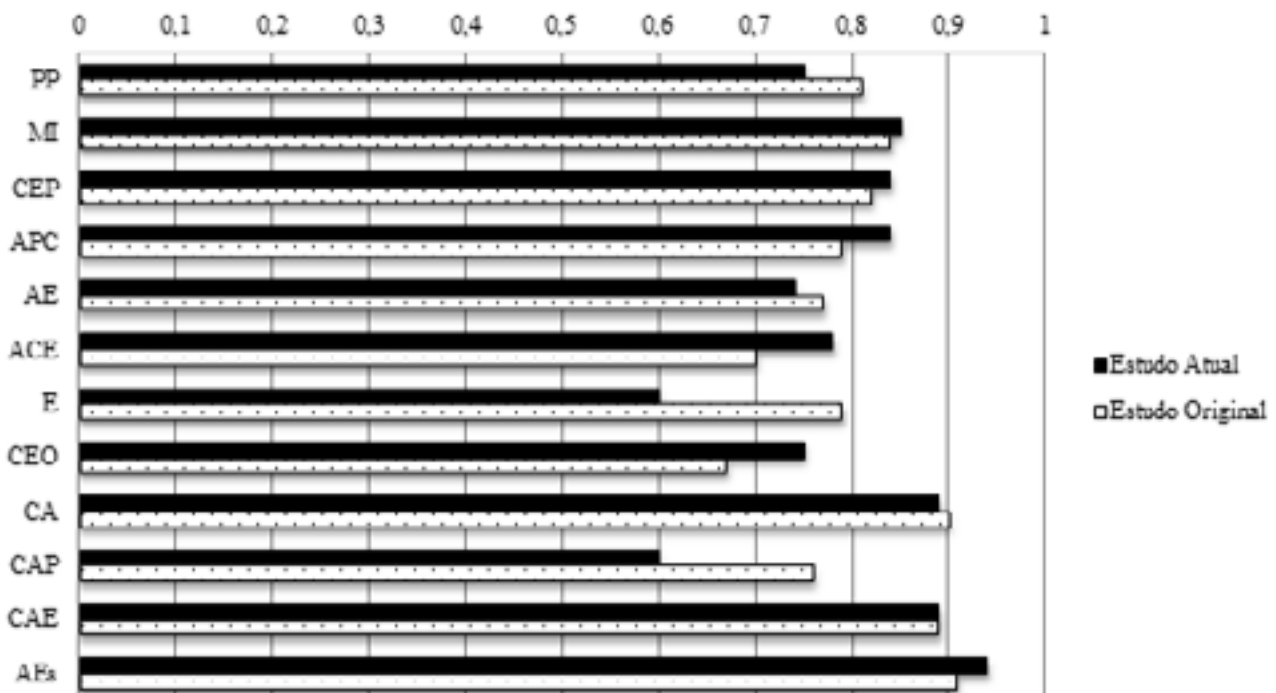
Os valores obtidos nas medidas de Projeto Profissional, Motivação Intrínseca e Apoio no Estágio encontram-se próximos dos valores encontrados quer na sua versão original com Professores estagiários (Jesus, 2000), quer num outro estudo com Profissionais de Saúde (Gaspar e Jesus, 2011).

Relativamente aos valores de consistência interna da medida de Assertividade estes também foram próximos dos obtidos no estudo original aplicado numa população de enfermeiros, nas medidas de assertividade geral e assertividade com a equipa e mais baixo ao nível da assertividade com os pacientes tendo-se verificado o mesmo no estudo original.

Relativamente à Inteligência Emocional os valores de consistência interna foram superiores ao estudo original nas subescalas de Compreensão das Emoções Próprias, Autocontrolo Perante as Críticas; Autocontrolo Emocional e Compreensão das Emoções dos outros e inferiores nas subescalas de Autoencorajamento e Empatia.

Nota: PP=Projeto Profissional; MI=Motivação Intrínseca; CEP=Compreensão das Emoções Próprias; APC=Autocontrolo Perante Críticas; AE=Auto-Encorajamento; ACE=Autocontrolo Emocional; E=Empatia; CEO=Compreensão das Emoções dos Outros; CA=Comunicação Assertiva (medida geral); CAP=Comunicação Assertiva com os Pacientes; CAE=Comunicação Assertiva com a Equipa; AEs=Apoio no Estágio

**Gráfico 2: Comparação entre os valores alpha de Cronbach obtidos entre o estudo atual e os estudos originais**



No que diz respeito à análise dos resultados obtidos nas medidas de Competência Motivacional, **Projeto Profissional** e **Motivação Intrínseca** podemos constatar que as médias obtidas foram respectivamente, de 5.28 (DP=1.11); entre um mínimo de 0 e máximo 6 e (M=25.17; DP=2.87); entre um valor mínimo de 13 e máximo de 28).

**Tabela 3: Estatísticas descritivas das medidas Projeto Profissional e Motivação Intrínseca.**

Medidas	Nº Itens	Média (DP)	Mínimo - Máximo
Projeto Profissional	3	5.28 (1.11)	0 - 6
Motivação Intrínseca	4	25.17 (2.87)	13 - 28

Após a sua recodificação em categorias (menor, médio e maior), observa-se que 75% dos estudantes identificaram o valor máximo ( $\geq 5$ ) atribuível à medida *Projeto Profissional*, e 86% demonstraram níveis elevados de *Motivação Intrínseca* ( $\geq 23$ ).

**Tabela 4: Análise descritiva das medidas Projeto Profissional e Motivação Intrínseca após categorização**

Medidas	Categorias			Min. - Max.
	Menor	Médio	Maior	
Projeto Profissional	≥ 1	≥ 2 ≤ 4	≥ 5	
	5.0%	20.0%	<b>75.0%</b>	0 - 6
Motivação Intrínseca	≤ 15	≥ 16 ≤ 22	≥ 23	
	1.1%	12.9%	<b>86.0%</b>	13 - 28

Em todas as questões incluídas na medida de Motivação Intrínseca a média das respostas situou-se sempre acima dos 6 pontos. É de salientar a última questão *Exercer/Estudar esta profissão contribui para o meu desenvolvimento pessoal* que atingiu uma média de 6.50 (DP= 0,690); entre um valor mínimo de 3 e máximo de 7. Nesta questão 58,8% (N= 214) concorda totalmente com a afirmação; 34,3% (N=125) concorda bastante e 5,5% (N=20) concorda um pouco, o que perfaz uma percentagem de concordância geral de 98,6%.

Na tabela seguinte podemos ver a distribuição da amostra segundo os itens que compõem esta dimensão.

**Tabela 5: Análise descritiva dos itens da dimensão Motivação Intrínseca**

	Min	Máx	Média	Desvio Padrão
<i>Trabalhar na profissão que exerço/ estudo aumenta os meus sentimentos de autoestima</i>	3	7	6.21	.89
<i>A profissão que exerço/ estudo proporciona-me um sentimento de realização</i>	1	7	6.21	.97
<i>Sinto uma grande satisfação pessoal, quando exerço/ estudo nesta profissão</i>	1	7	6.26	.89
<i>Exercer/Estudar esta profissão contribui para o meu desenvolvimento pessoal</i>	3	7	6.50	.70

Nota: Min=Mínimo; Máx=Máximo

Passando para as Componentes Emocionais, como podemos ver na tabela 6 que expõe os valores descritivos relativos à **Inteligência Emocional** em todas as suas subescalas, as médias das cotações são elevadas (cerca de 6 pontos em 7), sendo menos fortes as respeitantes ao *Autocontrolo Emocional*.

**Tabela 6: Análise descritiva das dimensões da Inteligência Emocional**

Subescalas Inteligência Emocional	Nº de itens	Min	Máx	M	DP
<i>Compreensão das Emoções Próprias</i>	4	3	7	5.6	.8
<i>Autocontrolo Perante as Críticas (i)</i>	5	1	7	5.5	1.2
<i>Autoencorajamento</i>	3	3	7	6.0	.8
<i>Autocontrolo Emocional</i>	3	1	7	4.7	1.1
<i>Empatia</i>	3	4	7	6.0	.7
<i>Compreensão das Emoções dos Outros</i>	3	3	7	6.0	.6

Nota: (i) Nesta subescala os itens foram invertidos; Min=Mínimo; Max=Máximo

A tabela 7 sumaria os resultados estatísticos descritivos relativos a cada item da Inteligência Emocional. Podemos observar que a média obtida mais elevada foi 6.4 e verificou-se nos itens: *Quando sou derrotado num jogo, perco o controlo*, *Quando algum amigo meu ganha um prémio, sinto-me feliz por ele* e *Sinto-me bem quando um amigo meu recebe um elogio* sendo a mais baixa de 4.5 e verificou-se no item *Reajo com calma quando estou sob tensão*.

**Tabela 7: Médias, Desvios-padrão, Mínimos e Máximos dos itens da Medida Inteligência Emocional**

Subescalas e itens correspondentes	Min	Máx	M	DP
<i>Compreensão das Emoções Próprias (M=5.6)</i>				
Compreendo os meus sentimentos e emoções	2	7	5.6	.9
Sei bem o que sinto	3	7	5.8	1.0
Quando estou triste, sei quais são os motivos	1	7	5.5	1.1
Compreendo as causas das minhas emoções	1	7	5.6	1.1
<i>Autocontrolo perante críticas (M=5.5)</i>				
Tenho dificuldade em conversar com pessoas que não partilham pontos de vista idênticos aos meus (i)	1	7	5.1	1.7
Fico irritado quando me criticam, mesmo sabendo que as outras pessoas têm razão(i)	1	7	5.1	1.6
Não lido bem com as críticas que me fazem (i)	1	7	5.6	1.4
É difícil para mim aceitar uma crítica (i)	1	7	5.5	1.6
Quando sou derrotado num jogo, perco o controlo (i)	1	7	6.4	1.2
<i>Autoencorajamento (uso das emoções) (M=6.0)</i>				
Normalmente, encorajo-me a mim próprio para dar o meu melhor	1	7	6.0	1.1
Dou o melhor de mim para alcançar os objectivos a que me proponho	2	7	6.2	.8
De uma forma geral, costumo estabelecer objectivos para mim próprio	3	7	6.0	.9
<i>Autocontrolo Emocional (M=4.7)</i>				
Reajo com calma quando estou sob tensão	1	7	4.5	1.5
Consigo permanecer calmo, mesmo quando os outros ficam zangados	1	7	4.7	1.3
Sou realmente capaz de controlar as minhas emoções	1	7	4.7	1.3
<i>Empatia (M=6.0)</i>				
Quando algum amigo meu ganha um prémio, sinto-me feliz por ele	3	7	6.4	.7
Sinto-me bem quando um amigo meu recebe um elogio	4	7	6.4	.7
Vivo os problemas dos meus amigos como se fossem os meus problemas	2	7	5.1	1.1
<i>Compreensão das Emoções dos outros (M=6.0)</i>				
Consigo compreender as emoções e sentimentos dos meus amigos vendo os seus comportamentos	3	7	5.7	.8
Empenho-me em compreender os pontos de vista das outras pessoas	3	7	6.1	.8
Procuo compreender os sentimentos da pessoa que estou a ouvir	3	7	6.2	.7

Nota: (i)Nesta subescala os itens foram invertidos; Min=Mínimo; Máx=Máximo; M=Média; DP=Desvio Padrão

Relativamente às Competências Comunicacionais, a **Assertividade**, verifica-se que a grande maioria dos estudantes adota comportamentos assertivos com muita frequência quer com os pacientes, quer com a equipa.

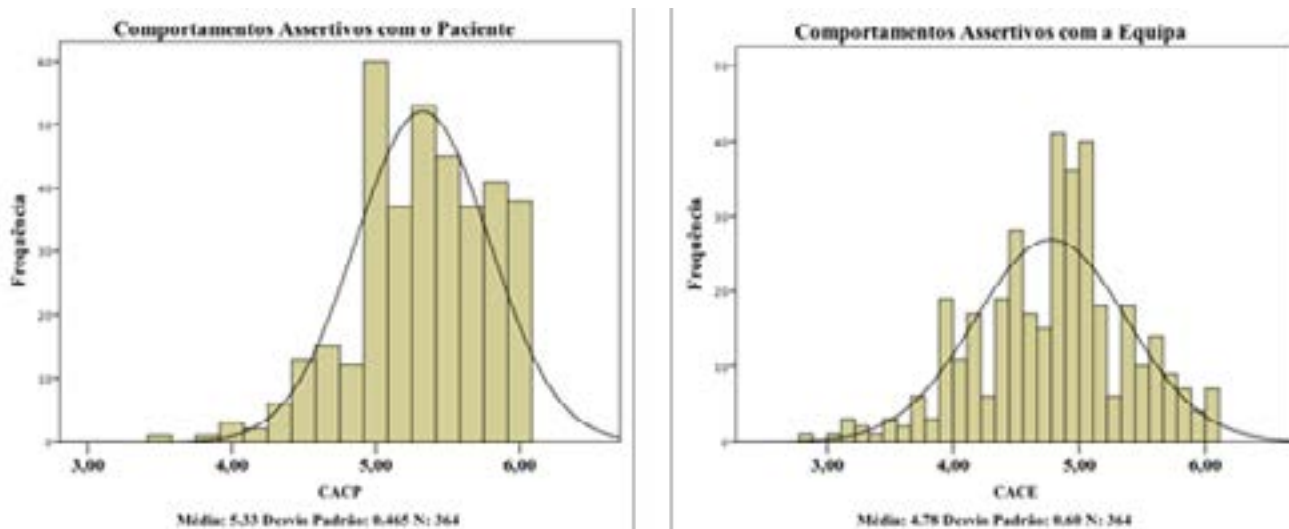
**Tabela 8: Resultados na Escala e subescalas de Assertividade após categorização**

Medida	<i>Adotam comportamentos assertivos com...</i>					
	<i>Pouca frequência</i>		<i>Alguma frequência</i>		<i>Muita frequência</i>	
	N	%	N	%	N	%
Assertividade (Medida total)	0	0	15	4.1	349	95.9
Com os Pacientes	0	0	2	0.5	362	99.5
Com a Equipa	1	0.3	31	8.5	332	91.2

Comparando os resultados obtidos entre a assertividade com os pacientes e a assertividade com a equipa verifica-se que estes foram ligeiramente diferentes com um aumento desta para com os pacientes. (*vide* Gráfico 3). A subescala de Assertividade com os Pacientes obteve uma média de 5.3 (DP=.5) enquanto que a subescala com a Equipa obteve uma média de 4.8 (DP=.6). A medida de assertividade no seu geral obteve uma média de 4.9 (DP=.5).



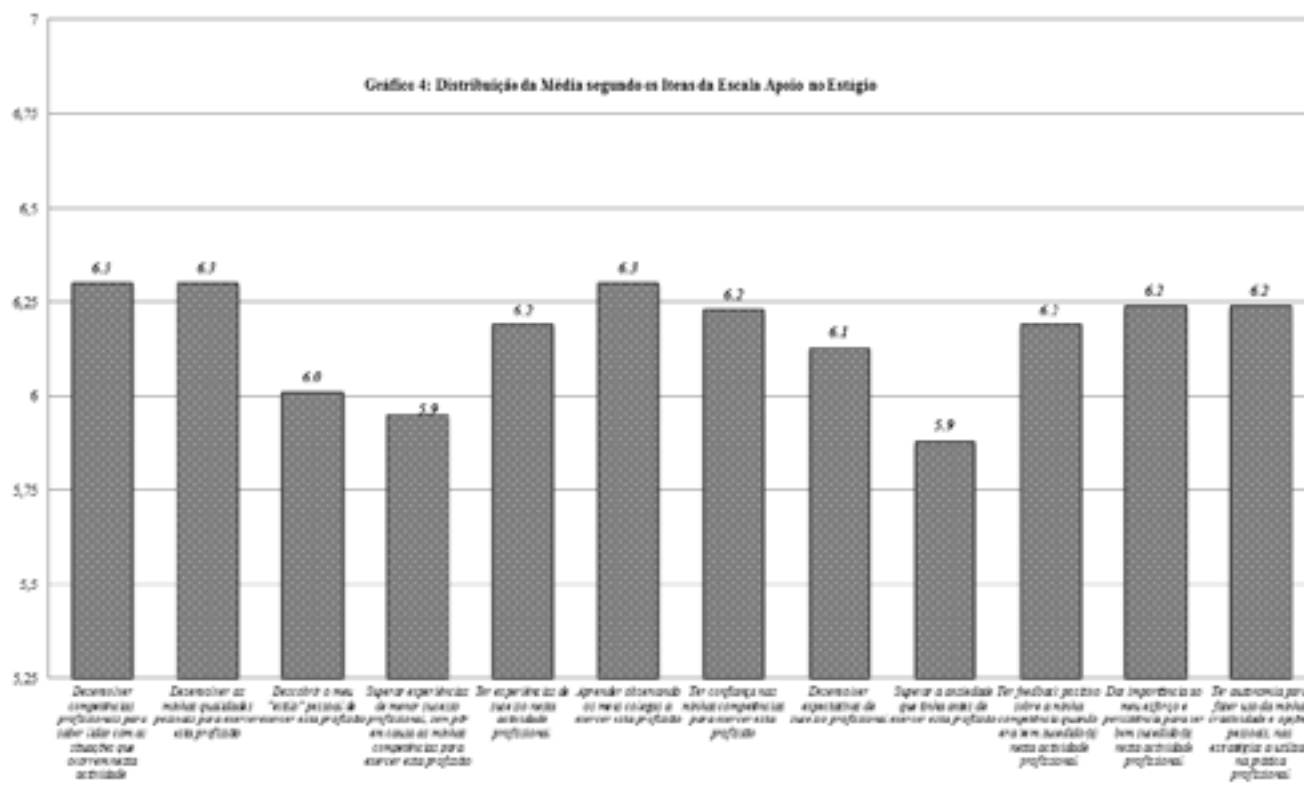
Gráfico 3: Distribuição da amostra segundo os Comportamentos Assertivos com os Pacientes e com a equipa



Os resultados obtidos relativamente ao **Apoio no estágio** também foram elevados. Este obteve uma média de 73.96 (entre um mínimo de 32 e um máximo de 84; DP=9.927).

Em geral, as médias das cotações são bastante elevadas, (cerca de 6 pontos em 7), tendo-se verificado apenas dois itens que não atingiram os 6 pontos, sendo eles; *Superar a ansiedade que tinha antes de exercer esta profissão* (M=5.9; DP=1.3) e *Superar experiências de menor sucesso profissional, sem pôr em causa as minhas competências para exercer esta profissão* (M=5.9; DP=1.1) (vide gráfico 4). As pontuações mais elevadas atingiram uma média de 6.3 e foram conseguidas em três itens sendo eles: *Desenvolver competências profissionais para saber lidar com as situações que ocorrem nesta atividade*; *Desenvolver as minhas qualidades pessoais para exercer esta profissão* e *Aprender observando os meus colegas a exercer esta profissão*.

Gráfico 4: Distribuição da Média segundo os Itens da Escala Apoio no Estágio



Pela análise dos valores obtidos nas variâncias relativamente ao sexo, escolha do curso em primeiro lugar e região, estes revelaram a existência de duas diferenças estatisticamente significativas com o género e uma com a escolha do curso em primeiro lugar. Não se verificaram diferenças entre os estudantes da região norte e da região sul. Quanto às diferenças obtidas no género, uma diferença foi a favor das mulheres e outra diferença foi a favor dos homens. As

mulheres apresentaram maior assertividade com os pacientes do que os homens e estes por sua vez apresentaram valores mais elevados no que diz respeito à dimensão Autocontrolo emocional. Quanto à diferença obtida entre os estudantes que escolheram o curso em primeiro lugar e os estudantes que não escolheram o curso em primeiro lugar estas verificaram-se na subescala Autoencorajamento. Os estudantes que não escolheram o curso em primeiro lugar obtiveram média mais elevada nesta dimensão (*vide* tabela 9).

**Tabela 9: Médias e desvios padrão dos resultados e *t*-student nas escalas utilizadas para medir as variáveis género e escolha do curso em primeiro lugar**

	Género			Escolha do Curso em primeiro lugar		
	Masc.	Fem.	Teste <i>t</i> <i>t</i> ( <i>p</i> )	Sim	Não	Teste <i>t</i> <i>t</i> ( <i>p</i> )
	N 66	298		316	48	
Medidas	M(DP)	M(DP)	M(DP)	M(DP)		
PP	5.26(1.07)	5.29(1.12)	-1.83(.855)	5.31(1.10)	5.06(1.17)	1.46(.145)
MI	24.85(3.49)	25.24(2.73)	-860(.393)	25.22(2.91)	24.81(2.62)	.92(.356)
IE	117.47(13.82)	118.28(10.33)	-.45(.655)	117.93(11.31)	119.46(8.91)	-.89(.372)
CEP	22.55(3.80)	22.43(3.26)	.23(.819)	22.42(3.41)	22.67(3.02)	-.48(.633)
APC	26.86(7.43)	27.87(5.56)	-1.03(.305)	27.50(6.07)	28.90(4.87)	-1.52(.130)
AE	17.98(2.65)	18.17(2.27)	-.57(.567)	18.04(2.38)	18.77(1.94)	<b>-2.03(.043)*</b>
ACE	14.94(3.62)	13.72(3.23)	<b>2.70(.007)**</b>	13.99(3.36)	13.67(3.19)	.62(.535)
E	17.39(2.49)	17.99(1.85)	-1.85(.068)	17.92(1.98)	17.92(2.08)	.81(.416)
CEO	17.74(2.28)	18.10(1.81)	-1.18(.240)	18.07(1.94)	17.79(1.66)	.94(.348)
CA	117.56(13.96)	118.06(12.13)	-.27(.788)	117.91(12.86)	118.38(9.54)	-.30(.765)
CAP	31.17(3.17)	32.13(2.68)	<b>-2.56(.011)*</b>	31.95(2.82)	32.02(2.66)	-.16(.869)
CAE	86.58(11.93)	86.06(10.70)	0.35(.729)	86.12(11.31)	86.35(7.93)	-.18(.861)
AE	72.11(10.63)	74.37(9.74)	-1.68(.094)	73.78(10.13)	75.10(8.51)	-.86(.392)

\**p*<0.05; \*\**p*<0.01; \*\*\**p*<0.001; M=Média; DP=Desvio Padrão; PP=Projeto Profissional; MI=Motivação Intrínseca; IE=Inteligência Emocional(medida total); CEP=Compreensão das Emoções Próprias; APC=Autocontrolo perante Críticas; AE=Autoencorajamento; ACE=Autocontrolo Emocional; Empatia; CEO=Compreensão das emoções dos outros; CA=Comunicação Assertiva; CAP=Comunicação Assertiva com os Pacientes; CAE=Comunicação Assertiva com a Equipa; AE=Apoio no Estágio

Para fazer a análise de relação entre a idade e as medidas estudadas e também a relação das medidas entre si utilizamos a Correlação de Pearson. Este coeficiente mede a intensidade e a direção da associação de tipo linear entre duas variáveis quantitativas, assumindo que os dados provêm de uma distribuição normal. Este coeficiente pode variar entre -1 e +1 (-1 ≤ R ≤ +1). Se *r* > 0 as variáveis variam no mesmo sentido e dizem-se *positivas*; se *r* < 0 as variáveis variam em sentido oposto e dizem-se *negativas*. As correlações podem classificar-se, consoante o valor absoluto de *r*, como: fracas se |*r*| < 0.25; moderadas se 0.25 ≤ |*r*| < 0.50 ; fortes se 0.50 ≤ |*r*| < 0.75 e muito fortes se |*r*| ≥ 0.75 (Maroco, 2006).

Das análises estatísticas efetuadas entre a idade e as restantes variáveis observaram-se algumas com valores estatisticamente significativos. Verificou-se uma correlação fraca negativa entre a idade e a Motivação Intrínseca e correlações fracas positivas com a subescala da Inteligência Emocional *Compreensão das Emoções Próprias* e com a subescala *Comunicação Assertiva com a Equipa*.

**Tabela 10: Análise Correlacional entre a Idade e as Medidas estudadas**

Medidas	Idade <i>r</i> ( <i>p</i> )
Projeto Profissional	- 0.09 (0.104)
Motivação Intrínseca	- 0.15 (0.005)***
Apoio no Estágio	- 0.87 (0.097)
Inteligência Emocional	+ 0.74 (0.157)

*Compreensão das Emoções Próprias	+ 0.14 (0.009)***
*Autocontrolo Perante Críticas	- 0.01 (0.860)
*Auto Encorajamento	+ 0.39 (0.463)
*Autocontrolo Emocional	+ 0.08 (0.148)
*Empatia	+ 0.01 (0.928)
*Compreensão das Emoções dos Outros	+ 0.32 (0.539)
Assertividade	+ 0.99 (0.059)
**Com o Paciente	- 0.04 (0.434)
**Com a Equipa	+ 0.12 (0.026) ***

Notas:  $r$  = Coeficiente de Relação de Pearson;  $p$  = valor de significância do teste; \*Subescalas da Medida Inteligência Emocional; \*\*Subescalas da Medida Assertividade; \*\*\* A correlação é significativa no nível 0.05

Das análises efectuadas relativas à relação entre as medidas estudadas pudemos verificar que quase todas as variáveis apresentaram correlações positivas com valores estatisticamente significativos ( $p < 0.05$ ) entre si.

Fazendo uma análise das correlações das medidas na totalidade do seu instrumento verificamos:

- Correlações fortes entre: a Motivação Intrínseca e o Projeto Profissional e entre a Inteligência Emocional e a Assertividade.
- Correlações moderadas entre: Motivação Intrínseca e a Inteligência Emocional; a Motivação Intrínseca e a Assertividade; a Motivação Intrínseca e o Apoio no Estágio; a Inteligência Emocional e o Apoio no Estágio; a Assertividade e o Apoio no Estágio.
- Correlações fracas entre: a Inteligência Emocional e o Projeto Profissional a Assertividade e o Projeto Profissional e o Apoio no Estágio e Projeto Profissional.

**Figura 2: Resumo das Correlações significativas entre as Medidas estudadas**



Através da análise aos resultados obtidos nos testes de regressão pudemos constatar que o Apoio no estágio apresenta um poder preditivo sobre qualquer uma das variáveis motivacionais, emocionais e comunicacionais. Analisando em primeiro lugar o seu contributo sobre as medidas gerais pudemos verificar que o seu maior contributo verificou-se ao nível das variáveis emocionais e de motivação e o menor ao nível das capacidades de comunicação. Sendo assim, ao nível das competências emocionais a variável de Apoio no estágio explica 18.2% da Inteligência Emocional, ao nível

das competências motivacionais explica 17.6% da Motivação Intrínseca e 4.6% do Projeto Profissional e por ultimo ao nível das competências comunicacionais apresenta uma explicação de 12.5% da Assertividade. Falando do seu poder preditivo nas medidas internas de Inteligência emocional, podemos observar que o seu maior contributo acontece ao nível da medida Autoencorajamento (18%). Nas outras medidas os valores explicativos foram menores com 10.5% para a medida de Compreensão das Emoções Próprias, 8.2% e 8.3% respetivamente, para as medidas de Empatia e Compreensão das Emoções dos Outros, 5.9% para a medida de Autocontrolo Emocional e um valor residual de 1.3% para a medida correspondente ao Autocontrolo perante as críticas. Foi mesmo nesta ultima subescala que a variável Apoio no estágio apresentou um valor explicativo menor na totalidade das escalas e subescalas. Passando para a análise da variância das variáveis de comunicação pelo poder do apoio no estagio, como referimos anteriormente a variável apoio no estagio explica 12.5% da assertividade geral, sendo que tem um papel de maior importância para a assertividade com a equipa (9.3%) quando comparado com a assertividade com os pacientes (7.4%).

**Tabela 11: Resultados obtidos no regressão linear entre o Apoio no estagio e as medidas estudadas**

Variável Dependente	Apoio no Estágio							
	Coeficientes de Regressão			Coeficientes de Determinação				
	Beta	t	p	R Quadrado	R2 Ajustado	F	p	
PP	.220	4.28	.000***	.048	.046	18.37	.000***	
MI	.419	8.78	.000***	.176	.173	77.14	.000***	
IE	.426	8.97	.000***	.182	.180	80.42	.000***	
CEP	.325	6.53	.000***	.105	.103	42.66	.000***	
APC	.115	2.20	.029*	.013	.010	4.82	.029*	
AE	.427	8.99	.000***	.183	.180	80.84	.000***	
ACE	.242	4.75	.000***	.059	.056	22.60	.000***	
E	.29	5.70	.000***	.082	.080	32.53	.000***	
CEO	.029	5.71	.000***	.083	.080	32.65	.000***	
CA	.353	7.18	.000***	.125	.122	51.52	.000***	
CAP	.271	5.36	.000***	.074	.071	28.74	.000***	
CAE	.306	6.11	.000***	.093	.091	37.30	.000***	

\*p<0.05; \*\*\*p<0.001; Abreviaturas: PP=Projeto Profissional; MI=Motivação Intrínseca; IE=Inteligência Emocional (medida total);

CEP=Compreensão das Emoções Próprias; APC=Autocontrolo perante Críticas; AE=Autoencorajamento; ACE=Autocontrolo Emocional; Empatia; CEO=Compreensão das emoções dos outros; CA=Comunicação Assertiva (medida total); CAP=Comunicação Assertiva com os Pacientes; CAE=Comunicação Assertiva com a Equipa; AE=Apoio no Estágio

#### 4. DISCUSSÃO

Foram distribuídos 386 questionários no total tendo sido rejeitados 22 por não terem sido devidamente preenchidos, ficando assim a nossa amostra final com um número de 364 estudantes, fazendo um total de 94,3% de respostas obtidas. O número de perdas a este nível é sempre uma preocupação constante para os investigadores. Num estudo efectuado por Amaro e Jesus (2005) numa população de enfermeiros a percentagem de repostas obtida foi de 46%, assim como num estudo com médicos, Barão e Jesus (2011) a percentagem situou-se nos 47,8%. A percentagem referente à amostra depende significativamente de uma conjuntura de factores inerentes ao próprio estudo, tal como os objectivos, os seus métodos de recolha de dados utilizados e a população estudada. Ahamos que o facto dos questionários terem sido maioritariamente passados pessoalmente pelo autor do estudo, preenchidos e devolvidos imediatamente diminuiu consideravelmente o numero de perdas que ocorrem normalmente.

Dos 364 estudantes que compõem a nossa amostra, 81,9% eram do sexo feminino (N=298), enquanto que 18,1% eram do sexo masculino (N=66). Estes resultados acompanham a tendência de se verificar uma supremacia do sexo feminino em investigações nos cursos da área de saúde.

A maior parte dos estudantes (75%) está satisfeita com o curso atual e tem o desejo de continuar a exercer essa

atividade no futuro. Estes resultados levam-nos a crer que existe uma orientação motivacional bem definida para as profissões que escolheram principalmente tendo em conta que estes resultados foram obtidos após o estágio final, na iminência do término do curso. Isto traduz, considerando o aspeto cognitivo da motivação profissional uma estabilidade para o futuro das profissões uma vez que a maioria tenciona manter-se na atividade sua vida profissional.

Passando aos resultados relativos à Motivação Intrínseca, os estudantes demonstraram também níveis elevados (86%), significando a persistência em determinadas atividades apenas pelo prazer que as mesmas proporcionam (Deci & Ryan, 1985). Desta forma poderemos pensar que estes estudantes encontravam-se à partida motivados para a prática profissional do curso que estudavam alheios às condições de trabalho futuras quer relacionadas com a escassez de vagas que poderão enfrentar ou outras questões de outros níveis. Encontramos ainda ao nível das competências motivacionais (Projeto profissional e Motivação Intrínseca), uma correlação negativa com a idade, embora a única com significado estatístico tenha sido com a Motivação Intrínseca. De acordo com esses resultados podemos pensar que à medida que a idade aumentou as variáveis motivacionais parecem diminuir assim como os comportamentos assertivos com o paciente e as variáveis relativas ao autocontrolo perante as críticas.

Verificaram-se igualmente valores elevados nas dimensões da Inteligência Emocional. Fazendo uma análise comparativa com outros estudos, embora estudadas em outras populações, os valores encontrados correspondem a um padrão de resposta idêntico, sendo que os valores do nosso estudo foram superiores em todas as medidas da Inteligência Emocional (Rego & Fernandes, 2005) e (Marguilho R. & Jesus 2010). De acordo com esses resultados podemos dizer que estes estudantes se mostraram emocionalmente inteligentes com boas capacidades de percepção, avaliação, das emoções próprias e dos outros. Parecem saber fazer uso das suas emoções e possuir boas capacidades para se automotivarem e encorajarem perante situações de grande carga emocional. Além disso os resultados induzem também uma boa capacidade de redireccionamento e priorização do pensamento e boas capacidades de relacionamento. Relativamente aos resultados obtidos na Assertividade, estes foram muito semelhantes aos obtidos no seu estudo original (Amaro e Jesus, 2005), numa amostra composta por enfermeiros, e sugerem que os nossos estudantes demonstram níveis elevados de competências assertivas quer com os pacientes quer com a equipa. É um resultado que consideramos muito positivo, visto se tratarem de estudantes prestes a se formarem como Profissionais de saúde. Pressupomos que estes estudantes poderão integrar-se com maior eficácia e com maior sucesso numa equipa multidisciplinar assim como conseguir obter boas capacidades de relacionamento e comunicação com os futuros pacientes. De acordo com a literatura a capacidade de adaptação surge muitas vezes associada à Inteligência emocional e ao sucesso (Fallahzadeh, 2011; Pope, Roper & Qualter, 2012). Estes resultados obtidos na Inteligência Emocional e na Assertividade vão de encontro à forte correlação positiva verificada neste estudo entre ambas as medidas o que pressupõe que indivíduos mais auto-conscientes que gerem bem as suas emoções e compreendem as dos outros, sentem-se mais motivados e geram maiores capacidades de empatia melhorando assim as suas relações interpessoais resultando numa comunicação mais eficaz. Esta ideia vai de encontro a Smith (1992) ao defender que os profissionais tendencialmente assertivos, diminuem os conflitos melhorando as suas relações interpessoais com conseqüências no seu bem estar e na sua satisfação profissional, melhorando o seu desempenho e produtividade. Também pudemos verificar que ao nível da Compreensão das emoções Próprias e de Assertividade com a equipa, os resultados tendem a ser mais positivos à medida que a idade aumenta. Os estudantes do sexo feminino também demonstraram melhores capacidades assertivas com os pacientes do que os homens. No que diz respeito às capacidades de Inteligência Emocional relativas à dimensão de Autocontrolo emocional os homens mostraram ser mais capazes neste domínio. A diferença entre homens e mulheres ao nível da Inteligência Emocional é um tema bastante discutido. Segundo Goleman é verdade que os homens e as mulheres enquanto grupo tendem a apresentar um perfil comum de pontos fortes e fracos específico do sexo a que pertencem. A análise de Inteligência Emocional de milhares de homens e de mulheres revelou algumas diferenças a alguns níveis (Bar-On, 1997). Em média, os resultados genéricos dos homens e das mulheres, os pontos fracos e fortes compensam-se, de modo que em termos de Inteligência Emocional total, pode dizer-se que não existe diferença entre sexos. Segundo este mesmo autor, e de acordo com os resultados obtidos no nosso estudo, em geral, existem porém mais semelhanças do que diferenças. Num artigo recente os investigadores Pope, Roper e Qualter (2012) referem mesmo vários estudos que reportam poucas ou nenhuma diferença ao nível da Inteligência Emocional entre o sexo feminino e masculino. Nesse mesmo artigo aparecem referenciados também outros estudos, nos quais o sexo feminino surge como mais capacitado para lidar e compreender as emoções, enquanto o sexo masculino surge com melhores resultados na regulação das emoções como aconteceu no nosso estudo. O Apoio fornecido no estágio também obteve uma média bastante satisfatória. Os estudantes perceberam-no globalmente de uma forma positiva. A média obtida foi superior à encontrada numa amostra de médicos a realizar o ano de internato (Gaspar & Jesus, 2011). Relativamente à influência do Apoio no estágio nas variáveis motivacionais, capacidades de Inteligência Emocional e capacidades comunicacionais pudemos verificar que o Apoio no estágio permite prever a variância de todas estas variáveis, sendo que o seu maior contributo foi maior ao nível da inteligência emocional sobretudo na dimensão de autoencorajamento, seguido da motivação intrínseca e das capacidades de comunicação assertiva. Estes resultados levam-nos a crer que a orientação prestada

pelo Orientador no decorrer do estágio é fundamental no desenvolvimento das capacidades cognitivo-motivacionais dos estudantes.

## 5. CONCLUSÃO

Os resultados deste estudo revelaram que o Apoio fornecido no estágio tem uma influência positiva significativa sobre a Motivação Intrínseca, a Inteligência Emocional e a Assertividade dos estagiários.

Na linha dos resultados obtidos em investigações anteriores, o Apoio fornecido no estágio tem assim uma importância fundamental para o desenvolvimento de competências motivacionais e relacionais dos estudantes, pelo que é importante desenvolver estratégias que permitam uma cada vez maior preparação dos Orientadores de estágio para serem promotores do desenvolvimento destas competências nos estagiários. Será importante continuar a estudar a relação entre estas e outras variáveis com o objetivo de perceber cada vez melhor a problemática dos estágios na sua componente formativa e na dinâmica relacional Orientador-Estagiário-Paciente.

Verificamos também que a maior parte dos estudantes está satisfeita com o curso que escolheram e têm o desejo de exercer a profissão no futuro. Os estudantes demonstraram também níveis de Motivação Intrínseca elevados sendo que neste estudo essa motivação parece diminuir quando a idade avança. Foram também os estudantes mais velhos que obtiveram scores mais elevados no que diz respeito à compreensão das emoções próprias assim como mostraram ser mais assertivos com a equipa.

Os estudantes demonstraram ser emocionalmente inteligentes e com boas capacidades de comunicação assertiva com a equipa e com os pacientes, sendo que as mulheres apresentaram uma maior assertividade com os pacientes do que os homens. Por sua vez os homens apresentaram maior capacidade de controlar as emoções do que as mulheres.

O objetivo principal deste estudo foi alcançado, tendo-se verificado a importância do Apoio fornecido no estágio para o desenvolvimento de competências emocionais, motivacionais e relacionais do estagiário. Ficamos também a conhecer melhor estes estudantes no que diz respeito às variáveis estudadas. Não obstante os resultados obtidos achamos importante continuar esta linha de investigação alargando-a a mais cursos com o objetivo de aprofundar cada vez mais o conhecimento relativo aos estudantes da área da saúde em Portugal.

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# STRESS IN PATIENTS UNDER INFERTILITY TREATMENT

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## ABSTRACT

Infertility has been a problem that increased throughout the years and has been causing many negative consequences to people who want to have a child. Stress is one of these negative consequences and can affect many other areas of life, such as professional, social and sexual; it can also affect the medical treatment (in a physiological level, such as not producing sperms), the identity of people who have difficulties in getting pregnant and their mental health. These researches show the latest studies that demonstrate the negative influence of stress in infertile people's lives and the importance of studying it. It was searched the key words "Stress" AND "Infertility Treatment" in academic journals between the years 2000 to 2016 in two databases: EBSCO and Scielo. In EBSCO it was found nineteen articles; however, three of them were about the experience of stress on patients under infertility treatment. In Scielo it was found six articles, but only two of them about the theme. In an overall review, most of the articles discusses about the high correlation between stress level and difficulty of getting pregnant and its physiological explanation; differences of the source of stress depending on the gender, level of stress depending on the patient's social status and self-esteem as a psychosocial factor associated with stress during the treatment. This research indicates the lack of studies around the impact of stress in patients under infertility treatment and the need for more studies about it, to improve the quality of life in infertility patients.

Keywords: Stress, Infertility, Infertility Treatment, Psychology.

## 1. INTRODUCTION

Infertility is defined as not being able to become pregnant (conceive) after one year of unprotected sex and without the use of birth control pills. The causes can be many, from a biological reason in one or both partners, or even unexplained in the physiological field and that would be psychological. Infertility can cause psychological stress, since the patient is exposed to large amounts of information, several invasive interventions and new medical treatments with medically assisted reproduction technologies (Moreira, Melo, Tomaz & Azevedo, 2006).

The Brazilian epidemiological data, on the theme, according to Melamed, Seger and Borges Jr. (2009), indicate that infertility affects 15% to 20% of couples in their reproductive years, Moura Souza and Scheffer (2009), otherwise, state that the infertility reaches between 25% to 30% of the world's population.

The psychological symptoms resulting from infertility are complex and influenced by many factors, such as gender, causes and duration of infertility, duration of treatment and the ability to adapt to this situation (Moreira *et al.*, 2006). Stress and infertility have been studied since the fifties and there is some controversy in the literature yet. Some authors take that there is a relationship between stress and infertility, while others deny it (Moreira *et al.*, 2006).

Moreira *et al.* (2006) believe that stress can influence the success of infertility treatment, as results indicate that the higher the level of anxiety lower the chance of pregnancy. Stress decreases the success rates by altering a series of neuroendocrine mechanisms (Farinati, Rigoni & Müller, 2006, p. 437).

There are risk factors that may lead to infertility such as sedentary habits, smoking, obesity, excessive consumption of drugs, sexually transmitted diseases or diseases that can lead to sequels as ovarian dysfunction obstructions or genetic modifications. Another risk factor that has increased with the time is the late pregnancy (after 40 years, when the production and quality of oocytes decreases), regarded by Moura Souza and Scheffer (2009) and Melamed, Seger and Borges Jr. (2009) as the main risk factor.

Fatherhood and motherhood is one of the major transitions in life for men and women, the stress of non-realization of the desire to conceive has been associated with emotional effects as: anger, depression, anxiety, marital

problems, sexual dysfunction, and social isolation. Couples experience a feeling of loss, decreased self-esteem, shame, guilt, sadness and anguish in the treatment of infertility. Motherhood and fatherhood are often life projects of several couples, representing the perpetuation of the family, strengthening of the relationship of the couple, status, affective deprivation, family expectations and even virility for men. When this dream is interrupted many feelings may show up and that's why the diagnosis of infertility can represent a crisis, which generates stress and influences on mental health of the couple. (Farinati, Rigoni & Müller, 2006; Melamed, Seger & Borges, 2009; Hasanpour et. al., 2014).

Depending on the capacity of adaptation and resilience of each couple and the many different ways that they choose to face a diagnosis of infertility and the treatment process, can cause an emotional instability that affects other areas of their lives, such as: social, professional, economic, family, marital relationship and even influence the success of treatment (Melamed, Seger & Borges, 2009).

Gradwohl, Osis and Makuch (2013) approach the issue of stigmatization of the couple on the real or imagined rejection in being unable to get pregnant, and how it affects their marital, sexual and interpersonal relationship. Is a set of situations that cause stress, not just the difficulty on getting pregnant by itself, but also the procedures and medical treatments; the authors state that stress can decrease sperm quality and generate ovulation disorders.

Infertility is increasing in the area of Health Psychology, since it is able to cause devastating effects on both individual and marital and destabilize the relations within the social support leading to a worst quality of life and have a destabilizing effect on the personality. So stress is a relevant factor in the treatment of infertility and not very much studied. This study aims to review two databases on the subject and verify what are the advances on the influences of stress in patients undergoing treatment against infertility over the past 16 years.

## 2. METHOD

The databases used during the search were EBSCO and Scielo. First, to give an overview on the topic, it was checked how many articles existed with the key word "Stress" and then only with the key word "Infertility Treatment"; After the research was carried out on both databases, with the keywords "Stress" AND "Infertility" between the age of 2000 to 2016. Table 1 shows how many articles were found as each keyword searched in two databases.

The articles were selected according to the title and summary by one of the researchers and the other checked the results. The keywords have been set as the goal of the research, which is to analyze how many articles there are on stress in patients who go through treatment for infertility and what are the variables studied.

**Table 1 - Number of articles found in each database using the keyword**

	<i>Stress</i>	<i>Infertility Treatment</i>	<i>Stress + Infertility Treatment</i>
<i>EBSCO</i>	44 841 articles	124 articles	19 articles
<i>Scielo</i>	620 articles	13 articles	6 articles

EBSCO's database was limited to articles on empirical studies in english, french, spanish and portuguese, published in academic journals. The search with the key word "Stress" has resulted in 44 841 articles; the search with the keyword "Infertility Treatment" resulted in 124 articles. After using the two key words together, the result was a sum of nineteen articles, but only three of them addressed the issue of stress experienced in patients who went through treatment against infertility according to their titles and summaries.

In Scielo's database, the search using the keyword "Stress" produced 620 articles; then, with the keyword "Infertility Treatment", has resulted in 13 articles. The both key words, on the same research, resulted in 6 articles and was limited to summaries only, since it did not hold a relevant number of articles. Among the six articles, only two of them had the focus on stress in patients undergoing treatment for infertility.

## 3. RESULTS

The most relevant variables studied in 5 articles found in EBSCO's databases and Scielo's, were: level of stress, stress level at stage of treatment, level of education, social level and social support status, self-esteem, relationships (sexual, marital, social), perception about parenting/ maternity, wellness, etc.

Turner, Reynolds-May, Zitek et al (2013) determined the levels of stress in adult females who had undergone the technique of In Vitro Fertilization (IVF) and compares those who carried out the first treatment with those who have done it more than once; it shows that the higher the level of stress, the lower the chance of successful treatment.

By the time were included 44 women who were undergoing IVF treatment and it was applied and evaluated three tests: State-Trait Anxiety Inventory (STAI, Spielberger, Gorsuch, Lushene, Vagg and Jacobs, 1983) it measures

anxiety; “Perceived Stress Scale” (PSS, Cohen, Kamarck and Mermelstein, 1983) it measures the degree to which individuals perceive their lives to be unpredictable, uncontrollable and overwhelmed) and “Infertility Self-Efficacy Scale” (ISES, Cousineu, Green, Corsini, Barnard, Seibring, 2004) it measures resilience, self-confidence and coping strategies in the diagnosis and treatment of infertility) in three different periods (before ovarian stimulation, one day before the fertilization and 5-7 days after embryo transfer).

STAI detected that the anxiety level was high in the three periods which it was applied, so this test, and the PSS have not changed with over time and the result had no deviations in patients who did IVF for the first time or have done it more than once. Otherwise, the ISES's test detected that the resilience and self-confidence have decreased during the different periods that the tests were applied, particularly in patients who have already done more than once. As a result, there is a greater chance of pregnancy in women who have received high score in the ISES and low score in the STAI and PSS, despite the stress be elevated in all cycles of treatment. The lower the stress on the day of fertilization, the greater the chance of becoming pregnant.

According to the authors Donkor and Sandall (2007), there is an impact of social stigma in stress and, consequently, in the treatment of infertility. Factors such as having a child, number of years spent in treatment and type of marriage were not important predictors of stress; However, the social status and level of education in infertile women were important predictors; those with a higher educational level and social status had a higher level of stress.

Shneider and Forthofer (2005), point out the issue of self-esteem as an important psychosocial factor and must be worked with patients. A prospective analysis of data on marriage, family and quality of life in a sample of 128 people (women with an average of 31 years and men with an average of 33 years) with an average of fifteen years of schooling. In the year 1988 each participant responded to an interview face to face and in the following years (1989 and 1990) the evaluation was carried out by telephone.

The measures employed were: demographic variables (age, sex, type of treatment against infertility, etc.); fertility problem stress (Abbey, Halman and Andrew, 1992)- measure the stress related to infertility); social support questionnaire (Sarason, Levine and Basham, 1987)- measure satisfaction with social support); spousal support (it was verified the perception of the person about the spouse related to respect, affection, affection and understanding); self-esteem (Rosenberg, 1965)- it measures the self-esteem; perceived health (Derogatis, Lipman, Rickels, Uhlenhuth and Covi, 1974)- measure the perception of the person about his or her health; importance of biological children (Abbey, Halman and Andrews, 1992)- measure the value that the person gives the paternity/ maternity and children); life events (the authors asked questions about events in life that were stressful, especially at the time of the follow-up, and that may have influenced the treatment) and attribution of responsibility (questions were made in order to verify the perception of responsibility about themselves, the spouse and the doctor, regarding their problem).

Self-esteem was the variable with the strongest correlation with stress (the lower self-esteem, higher level of stress), social support was also a relevant variable, seen as a protective factor and being larger in men than in women (smaller perception of social support, higher level of stress); changes in self-esteem are associated with the perception of the level of social support and vice versa; the higher the self-esteem of the person and their positive perception about your social support, lower the stress level. The authors conclude that there is a need to do more studies in this area, since the sample used was of Caucasians, middle-classes and who had access to treatment.

The article, “Estresse de homens e mulheres que buscam tratamento para infertilidade” (stress of men and women who seek treatment for infertility) (Gradwohl, Osis & Makuch, 2013), deals with the different sources of stress as the genre. That is, men and women who undergo infertility treatment have different sources of stress.

Was a cross-sectional study, and compared levels of stress in adult males and females who have initiate treatment to become pregnant. The sample was composed by 101 men and 101 women, and was it was applied the inventory of fertility problems (IPF) that is specific to evaluate stress and has relation with the prevalence in the confrontation of the situation of infertility. The authors conclude that there are differences in the variables that cause stress in both genres, and for women the social issues, maternity/paternity and childless life are higher stressor than for men. It is necessary to consider that motherhood is encouraged from childhood to women; for men, the marital relationship/ sexual variables were more stressful, since fatherhood is a project built over of adulthood. So it is important to work differently with each genre in psychological interventions in couples who are beginning a treatment against infertility (the focus on women should be to support the aspects of social relations, of motherhood and life without children and for men, the issues related to marital and sexual relationships).

In the article “Estresse e função reprodutiva feminina” (stress and female reproductive function) (Moreira, Lima, Sousa & Azevedo, 2005), it is addressed the issue of influence of stress in the functioning of the mechanisms responsible for the regulation of reproductive function in women. The author states that the effects of stress on the Hypothalamic-Pituitary-Ovarian (HPO) leading to anovulation, cannot be ignored, nor can be neglected the psychological consequences arising from infertility field, then the stress can be considered as cause and as a result of the treatment of infertility.

Each author had a focus and searched a different variable and table 2 shows the relations between the articles

according to the year (from the latest to the earliest) and the ones with same year were alphabetically organized. It is shown the article's titles, the database that which one belongs, and what were the variables and research results.

**Table 2 - List of authors, title, database, variables, and results of each article researched**

Source	Title	Database	Variables/ Results
<b>Gradwohl, Osis and Makuch (2013)</b>	"Stress in men and women who seek treatment for infertility."	Scielo	Variables - stress related variables as gender, social, marital and sexual relationship and motherhood/ parenthood.
			Result Woman - social issues, parenthood and life without children. Man – marital and sexual relationship.
<b>Turner, Reynolds-May, Zitek et al (2013)</b>	"Stress and anxiety scores in first and repeat IVF cycles: A pilot study."	EBSCO	Variables - stress level and anxiety in IVF cycles and results of treatment;
			Result - the higher the level of stress, the lower the chance of getting pregnant;
<b>Donkor and Sandall (2007)</b>	"The impact of perceived stigma and mediating social factors on infertility-related stress among women, seeking infertility treatment in Southern Ghana."	EBSCO	Variables - education level, have children, number of years that are going under treatment against infertility and social status;
			Result - only social status and lower levels of education can predict stress associated with infertility;
<b>Moreira, Lima, Sousa and Azevedo (2005)</b>	"Stress and female reproductive function."	Scielo	Biological variables (Hypothalamic-Pituitary-Ovarian axis) and stress.
			Result - stress as a cause and consequence of infertility treatments.
<b>Shneider and Forthofer (2005)</b>	"Association of Psychosocial Factors with the Stress of Infertility Treatment."	EBSCO	Variables – fertility problem, social support, spousal support, self-esteem, perceived health, importance of biological children, life events and attribution of responsibility;
			Result - self-esteem and social support stress are related variables; the smaller the variables, the higher the level of stress

The articles reviewed address different stress variables, such as self-esteem, social support, educational level, social status, level of stress on the day of treatment, relationship (such as marital and social), interpretation of paternity and maternity, life without children, differences in source of stress as genre, etc. and how this affects the success of the treatment. Despite having found a total of five articles (and the most recent are from the year 2013), all of them show the influence of negative stress (both psychologically and physiological) in the treatment against infertility and how it should be taken into consideration by the medical team assisting patients. None of them addressed in fault-related variables of being unable to conceive, to shame, family expectations, professional and economic situation, the resilience and the medical treatment itself (as it is extremely invasive) which according to Farinati, Rigoni and Müller (2006), Melamed, Seger and Borges (2009) and Hasanpour et. al. (2014) are important emotions experienced by patients and can even influence on stress. However, none empirical study had searched these variables.

The total number of articles between the years of 2000 and 2016, in two databases, which were related to the topic of stress in patients who undergo treatment against infertility were five, being the latest of 2013. This shows the importance of the realization of more empirical studies on the subject, and other variables, in order to offer a more efficient and humanized psychotherapeutic approach to patients.

#### 4. DISCUSSION

This brief review of articles in EBSCO and Scielo databases show which variables have been researched and stress-related outcomes in patients who undergo treatment against infertility in the last decade.

The level of stress in infertile people and that go through medical treatment are high, as confirmed by Turner,

Reynolds-May, Zitek et al (2013), both before and during treatment. Moreira, Lima, Souza and Azevedo (2005) state that this level of stress can lead to somatization and influence on physiological processes (such as sperm count and quality of eggs), especially of the HPO axis that can cause anovulation, harming the process of ovulation. So, physiological and psychological areas are related and can influence each other, which can affect the success of the infertility treatment.

There are several variables that influence the level of stress, like personal (self-esteem), social (support) and relational. The level of stress on the day of treatment can also predict its success or not, since the lower the level is, the greater the chance of getting pregnant (Turner, Reynolds-May, Zitek *et al.*, 2013; Shneider & Forthofer, 2005).

Another relevant factor is different variables associated to stress depending on the gender of the patient. Women have a higher relation of stress and social relationship, motherhood and life without children, otherwise for men the most significant issues are the marital and sexual relationships. (Gradvohl, Obana & Makuch, 2013).

So it is extremely important to initiate a multidisciplinary work, in which the emotional issues of patients are understood so that the process can be faced more positively and functionally.

The number of articles published were not significant and did not address all the issues that may be related to stress in patients during treatment of infertility (as the guilt of being infertile, shame, family expectations, professional and economic situation and the treatment itself that is invasive), which is relevant for Farinati, Rigoni and Müller (2006), Melamed, Seger and Borges (2009) and Hasanpour et. al. (2014) and can even predict the level of stress. It is still possible to make more empirical studies on the subject, in order to improve the quality of treatment and its success.

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# ASSESSING THE EFFECTIVENESS OF POST-INDUSTRIAL LANDSCAPE TRANSFORMATION AS AN URBAN DEVELOPMENT STRATEGY

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## ABSTRACT

The legacy of derelict, idled, obsolete, and often abandoned postindustrial structures and sites is arguably the result of human current and former uses of land, founded in human (ab)use of this limited and valuable resource, and in his increasing ability to affect large landscapes. Changes in society's values began in the 1960s enabled a different view according to which the former production and consumption patterns were no longer acceptable. As post-industrial landscapes become economically, environmentally and socially degraded, several planners, designers and urban developers started to react to decline, both by looking for answers to the social and economic problems caused by the growing post-industrial landscapes and by developing new methods to transform them into multifunctional landscapes, including sustainability aspects in the redevelopment process.

This paper presents the redevelopment project of Park Tejo-Trancão, considered a best-practice example both as redevelopment approach and as landscape transformation project with direct influence on urban growth. The performed analysis emphasizes that when reintegrated into the urban context, post-industrial landscapes represent valuable resources to society at different levels, improving land value and livability and contributing to increase life's quality, while diverting growth toward extant urban areas and reinstating natural processes and functions.

Keywords: Post-Industrial, Landscape Reclamation, Redevelopment, Urban Growth.

## 1. INTRODUCTION

Even if the relationship between postindustrial land transformation and sustainable urban design is normally studied through empirical studies with a considerable number of cases due, in part, to the inherent and intangible character of design, in order to understand and evaluate the complex relationship between postindustrial landscape redevelopment and urban design, considering an effective analysis towards the identification of the effective impacts of postindustrial transformation as a urban redevelopment strategy (Loures, 2011).

Given that, the present study focuses the profound analysis of a single postindustrial redevelopment project, developed 20 years ago, a period when the creation of new and more severe environmental legislation, and the public pressure related with the need to protect the environment, increased the necessity of converting post-industrial sites into multifunctional landscapes. Since the redevelopment project was developed almost two decades ago it is now possible to ascertain the effective impacts of the project, not only in the site where it was developed but also on its surroundings. Though it is generally recognized that landscape reclamation at large scale contributes to restore natural processes and functions, regenerating several areas of the city, while creating multifunctional landscapes and promoting sustainable growth (Collins, 2001; Lootsma, 2002), the real impact of postindustrial land transformation

approaches is not sufficiently studied in terms of reach, duration and revenue.

The proposed approach intends to analyze *Parque do Tejo e do Trancão*, one of the most emblematic postindustrial redevelopment projects developed in Portugal, during the twentieth century, and which impact spanned far beyond the intervention site, reaching a significance in terms of urban development that was surely unexpected.

## 2. CASE STUDY - FROM A DERELICT INDUSTRIAL SITE TO A PREMIUM URBAN LANDSCAPE

Contrariwise to the reform and redevelopment strategies that marked the central European countries since the 90's, postindustrial landscape reclamation as an urban redevelopment strategy was not a common approach in Portugal. In this regard, even if Portugal was a member of the European Community, for more than three decades few landscape reclamation projects have been developed and implemented. This scenario is not difficult to understand since for a long period there was no governmental program for brownfield redevelopment in Portugal (CABERNET, 2003), but also because Portugal had not followed the steps of several developed countries in which redevelopment of underused sites and landscapes have been used as a major urban sustainability approach, considering that it allows redevelopment, preventing the need for green space consumption (Loures, 2011).

However, even if there was only in recent years that part of the Portuguese stakeholders and decision makers changed their view and attitudes toward older industrial infrastructures and sites: initially considered blighted elements in an urban area, derelict, undesirable or redundant, in 1998 Portugal has implemented one of the most emblematic and holistic approaches towards postindustrial land transformation, the redevelopment project developed for the International Exhibition - EXPO 98. As mentioned before the analysis of this project constitutes an interesting opportunity since the impact of the project, spanned far beyond the intervention area, reaching unprecedented levels in terms of urban growth and city development.

### 2.1 Case study analysis - Parque do Tejo e do Trancão – brief description

Located at the oriental part of Lisbon, in an area marked by abandonment and environmental degradation at the confluence of two rivers from which it takes its name, “Parque do Tejo e do Trancão” is one of the most emblematic examples of postindustrial landscape transformation projects realized in Portugal. The 90 hectares urban park was developed by PROAP Estudos e Projectos de Arquitectura Paisagista, Lda. together with Hargreaves Associates (consultant).

Before being a park, the site, was composed by several industrial structures like a landfill, scraps, a sewage treatment plant and many obsolete industrial buildings (Craveiro, 2003; and Spagna, 2002). The construction of the railway line in the middle of the nineteenth century and the location of the port of Lisbon were determinant to the evolution of the study area as an industrial landscape. After the set up of some lighter industries (a saw mill, a flourmill, a calico factory, and a pottery factory) the forties witnessed the establishment of the first oil companies and the construction of an abattoir and a landfill (Castel-Branco, 1998b).

All together these industrial facilities contributed to increase the contamination levels of this landscape, which before the intervention was considered one of the most polluted areas of Lisbon (Castel-Branco, 1998a). This scenario - high indexes of contamination and visible degradation - coupled with the proximity of the Natural Reserve of the estuary of Tagus and the intention to develop the world exposition Expo'98 constituted decisive arguments for the intervention in this specific area. Still, as mentioned by Blokhuis and Schaefer (2007) the basis of this project was the long existing need to redevelop the eastern part of Lisbon, an area that showed lack of occupancy and obsolescence for a long time.

However, even if as mentioned by Castel-Branco (1998b, p.19) *“those who visited the area at the time it was dominated by containers giant oil tanks, and rubbish tips will never forget the anguish caused by feelings split between the quality of the views by the Tagus and the deterioration of the whole site”* the quality hidden by this scenario was evident and the potential of the area to be transformed into an urban/environmental park, combining human activity, technological infrastructures and environmental values and education (Comeau, 2009) was undeniable.

In this regard, acknowledging the innumerable benefits that the project would bring not only for the area but to the city as a whole, the Executive commission of the EXPO '98 proposed the development of the Parque do Tejo e do Trancão, launching and “invited only” international call for tenders in 1994, considering that *“once the concept and the purpose of the project had been developed, there was no problem of who would be given the responsibility for the design”* (Walker and Castel-Branco, 1998, p.47). Given the complexity of the task, the quality of the designers enrolled in the development of other major elements - e.g. the *Oriente* Station by Santiago Calatrava's, the Portuguese Pavilion by Siza Vieira, among others - and the limitations set by schedule, the invited international competition was considered the best approach (Walker and Castel-Branco, 1998).

In this regard, from a group of firms which have previously won similar competitions, seven candidates were invited (three Portuguese, two North Americans, a German, and a British one) (Walker and Castel-Branco, 1998). *“The program included a requirement for a local partner to facilitate implementation of the master plan. This requirement was also included with the intent of providing additional public stimulation as well as greater learning experience”* (Walker and Castel-Branco, 1998, p.48).

The invited firms were required to solve the general layout of the park with the existing infrastructures, such as the landfill, while refereeing to the overall theme of the World Exposition (The Oceans), responding to the treatment of the five elements of the program: areas for leisure sports; areas for competitive sports; areas for cultural activities; areas for passive activities and areas for environmental and artistic education) (Walker and Castel-Branco, 1998).

Considering the selection of the best proposal, the jury developed an evaluation method based on five criteria: creativity, layout of the park, integration of uses, feasibility of the solution and capacity of the team to complete the work (Walker and Castel-Branco, 1998, p.50). In this regard, the jury selected the proposal submitted by the team formed between the North American firm Hargreaves Associates and the Portuguese firm PROAP (Nunes and Martins, 2000), represented namely by George Hargreaves and João Nunes.

After the competition, there was a period in which it was not clear if the promoters were willing to develop the project, however, by the end of 1995, the EXPO '98 administration decided to attribute the develop of the first phase of the project to PROAP that required cooperation from Hargreaves Associates at the conceptual level (Nunes and Martins, 2000).

Considering the connectivity between the Park and the World Exposition 98, the first phase corresponded to the construction of the south side of the park (24 hectares), which was accomplished during 1997. In fact, considering the framework under which the park was developed, the implementation had to be accomplished by phases (three), once the financing for its construction depended on the sales of the urban components of 'Vila Expo'. The other two development phases were planned to be implemented gradually after the exposition.

With approximated 90 hectares, the park will be linked both physically and thematically with the Park Expo'98 which covering an area of 340 hectares was mentioned to be a self-contained urban center, with residences, stores, transportational infrastructure, parking facilities and parks, able to re-establishing the link between the city and the river, while contributing to define the city as a whole (Comeau, 2009). *“The plan called for the creation of an attractive public green area, equipped for a new leisure culture that would create demand for the urban real-estate development”* (Walker and Castel-Branco, 1998, p.46). In this sense, while regenerating a disturbed environment, the proposed design would transform the site into a new attraction within the greater Lisbon area (Comeau, 2009).

## 2.2 Significance & Uniqueness of the Project

This land transformation project was very significant not only because it promoted the redevelopment of a highly polluted postindustrial landscape, but also because it created a precedent for the transformation of similar areas around the country. In fact the redevelopment of this area functioned as a catalyst for urban development, influencing directly the development of the surrounding landscapes, and contributing to increase the attractiveness, and consequently the land value of this part of the city.

Additionally, this redevelopment constituted an example of how municipalities can work together towards common goals, and how it is possible to transform derelict sites into attractive landscapes, filling them with a new spirit and a new vitality, while increasing accessibility, services and public infrastructures, and citizens' quality of life.

However, even if it was acknowledged that the project would bring many benefits to the city -once it implicated the decontamination of the site and the creation of attractive conditions, through the construction of high quality multifunctional space where citizens could enjoy the riverfront area - not even the most optimistic previsions imagined the range of the impact this space would have in the city. Twelve years after conclusion this area is one of the most used public spaces of the Metropolitan area of Lisbon. In fact, the achievements of this redevelopment project where far higher than expected, as it is possible to confirm in the idea expressed by Castel-Branco (1998b, p.19) according to which even if *“the potential of the river was exciting (...) the sight and smell of the areas further inland disheartened even the most optimistic spirit”*. Conversely, the proposed design was not only able to create of a new public space (Blokhuys and Schaefer, 2007) emphasizing the potential of the proximity to the river, but also to influence urban growth, redirecting the expansion of the city and re-establishing the relationship between city and river.

In this regard EXPO'98 and consequently “Parque do Tejo e do Trancão” have been considered best-practice examples towards environmental and urban renewal (Blokhuys and Schaefer, 2007), given that their construction highlighted the advantages of building a large public space that respecting ecological principles are socially responsible and feasible from the economic point of view. Additionally, the proposed design contributed to the *“public promotion of the field of landscape architecture, a fledgling profession in Portugal”* (Castel-Branco, 1998a, p.47).



## 2.3 Redevelopment objectives

Following the main objectives defined in the urban development project established by “Parque EXPO, SA” - *e.g.* environmental requalification and urban revitalization - the proposed project aimed to develop a new urban centrality with educational, cultural and leisure activities capable of attracting millions of people yearly, while creating jobs, promoting wealth, and improving life’s quality (Craveiro, 2003). In this regard the introduction of citizens’ needs, identified through extensive studies regarding potential commercial and residential occupants of this area, within the redevelopment strategy proposed for the area was a significant objective of the project (Comeau, 2009). Still, as stressed out by Vaccarino (1995) the proposed design did not mean to find a final form to the park neither to establish rigorous rules of composition, but to create a space that might function as a catalyst for redevelopment considering both economic, environmental and social issues. Additionally, the envisioned project aimed to create a spatial organization which offers great scenic, visual and sensorial diversity, sustained by a structure that reflects the coherence and formal unity in the perception of the broad intervention (PROAP, 2008).

Still, the objectives inherent to the park were somehow connected with solving the problems inherent to the site, identified by Walker and Castel-Branco (1998, pp.45-46) are:

- the creation of a vast green area giving on to the river;
- increasing the value of the residential complexes proposed for the redevelopment area;
- correcting existing drainage systems contaminating adjacent areas and challenging other parties responsible to stop pollution of the Trancão;
- increasing public awareness through a precedent project for high quality environmental rehabilitation that would serve the Lisbon Metropolitan Area;
- to define the boundaries of the project and of the temporary and permanent building sites under way so as to minimize any negative impact on the park in the future; and
- Creation of an experimental area to define the criteria for the selection of the vegetation for EXPO’98, through determination of the resistance and adaptability of the various species to this *environment*.

Considering the aforementioned objectives and the proposed design strategy the park results somehow from a synthesis between traditional and recreational facilities for environmental education, considering the development of a multifunctional program (Lambertini, 2006). In fact the proposed design enabled the transformation of the former derelict site into a multifunctional landscape considering at the same level a place for leisure and recreation and environmental education.

## 2.4 Implemented Program and Design Strategy

The conceptual solution proposed by PROAP and Hargreaves Associates analyzed the problems of the place, converting them in opportunities for artistic expression. Besides the ecological and functional sense of the proposed structure, the solution serves the parallel intention of establishing a spatial organization to translate a coherence and formal unit reading the group. Following several land restoration measures applied in order to improve the environmental condition of the site, attention was given to shape the ecological and landscape structures considering wetland and habitat restoration and enlargement. Scenic values were also essential in the development of the concept of the park, supported by the creation of visual corridors and by the establishment of elevated platforms to observe the exceptional views on the river and the marsh (PROAP, 2008).

Though the proposed design would have to follow several recommendations regarding soil and water cleanup and remediation, the maintenance of the memory of the site was also considered a relevant aspect. In this regard, while some of the existing infrastructures were demolished (the storage tanks, the abattoir and the industrial front on the right margin of the Trancão River) others were recovered and transformed both for the Exposition and for the city (the Olivais Dock, the Saponata jetty, the cracking plant tower, the rubbish tip and the sewage farm) (Castel-Branco, 1998b). Besides the aforementioned infrastructures which constitute somehow the memory of the site, designers needed to account also the integration of the existing landfill and of the largest of the three sewage treatment plants serving Lisbon, in the proposed design.

Even if the inclusion of the landfill (which ended up being used by the designers as a way of telling the visitors a little about the history of the site) in the design did not require any special consideration besides the collection or elimination of the natural gas originated from the decomposition of the detritus of the capped landfill (Spagna, 2002), the sewage treatment plant, due to bad compatibility with some of the leisure and recreation activities programmed to the park, required a number of specific interventions regarding re-adaptation of the former plant to the new use of the surrounding landscape (Comeau, 2009; Spagna, 2002).

After resolved all the technical constraints of the site, the design team stated to develop one the structure of the park, throughout the creation of a unifying topography which would be used as a significant factor in the differentiation of a series of spaces and functions (PROAP, 2008). In fact, the evident sculptural modeling of soil and the presence of abstract structures, converted this project from a regular landscape architecture intervention to a land art one (Lambertini, 2006; and Spagna, 2002). However, even if the proposed design seems to be focused in land art considerations, it results from the combination between ecological, biophysical and aesthetic considerations, *i.e.* between the need to promote the rehabilitation of the site (considering both soil and water), the need to consider the characteristic of the site, and the will to develop a land art project.

In this scenario, revisiting the ideas put forward by Robert Smithson in his land art earthworks as the “Spiral Jetty” or the “Amarillo Ramp”, the design team envisioned a land model in which a new sequence of sharp aerodynamic ridges will emerge over the entire surface of the park, like dunes fashioned by the wind (Spagna, 2002). This proposal was both an attempt to symbolize the overall concept of the park (The Oceans) and tackle the previous flat arrangement of the site, giving a recognizable aesthetic and symbolic quality to the new park, while creating a dynamic design with places to seat, rest and play (sheltered from the wind) and places to enjoy the great vistas from the site to the river and to the city. Still, the way in which the sequence of dunes evolves throughout the park (oriented according to sun exposure and dominant winds) reveals that the design is not simply an aesthetic composition (Lambertini, 2006; and Spagna, 2002). Additionally, the proposed topography is accentuated both by the selected plant cover and the envisioned circulation system (figure 1).

**Figure 1 – Parque do Tejo e do Trancão, circulation and vegetation diagram**



Developed by Author. Used sources: Google Maps (2010) and PROAP (2008)

According to PROAP (2008) plantations were defined in order to match the envisioned ecological situations, anticipating, image wise, the results that would eventually be established throughout time. Considering the proposed topography different species were selected for the different biotopes. Similarly, the proposed path system, delineated according to a hierarchical network, defines a functional structure for the park, throughout which several uses, functions and programmatic areas are located, assuring also that park visitors might usufruct from a close contact with one of the main assets of the site, the river (Comeau, 2009; and Nunes and Martins, 2000).

Another important component considered in the proposed design was the program. Bearing in mind the development of a multifunctional and flexible park, the design promoted a wide range of activities associated to numerous formal and informal spaces, organized throughout the park, which will provide varied social, cultural and physical activities (PROAP, 2008; Spagna, 2002; Mateus, 1999; and Walker and Castel-Branco, 1998), namely: the environmental education center (which aims to help visitors to understand the various stages of recycling and how the systems work), the equestrian center, the arboretum, the park of the arts, the Trancão riverside area (with a plaza

and a promenade with shops, cafes and restaurants), the sport competition areas (including a golf center, several tennis courts and informal lawns for active sports as soccer and rugby), the sport recreation areas (including tracks for bicycles, docks for fishing, ramps for small boats, etc.), the informal playing fields and event areas (considering the possibility to house several cultural activities as exhibitions, theatre and any other cultural event), the south square, the recreational meadows, the new marsh areas, the marginal footpaths and piers, and the parking area, among others (figure 2).

**Figure 2 – Parque do Tejo e do Trancão, programmatic areas**



Developed by Author. Used sources: Google Maps (2010); and PROAP (2008)

As it was mentioned before the implementation of the park was planned to be accomplished in three different phases corresponding respectively to the south park, the central park, and the north park, which conclusion was foreseen for 2010 (Walker and Castel-Branco, 1998).

Though the third phase is not implemented yet, due to several reasons, the developed proposal offers users the opportunity to witness the complex relationship between nature and technology, allowing them to get involved in issues related to pollution, recycling, sustainability and ecology, and to benefit from the amazing conjugation of land, water and sky.

## 2.5 Lessons Learned, Project Critics and Limitations

The presented project highlights the fact that by promoting changes in land-use patterns and land-values and by developing territorial specialization and new infrastructure, it is possible to turn derelict landscapes (as the one in which the “Parque do Tejo e do Trancão” was created) into increasingly attractive sites (Blokhuys and Schaefer, 2007).

Moreover, the creation of the park was essential to convert one of the most polluted and repulsive areas of the city into one of the most attractive ones. This fact is even more relevant when analyzed under the lamps of the former characteristics of the site, which according to Andresen (1998a, p.8) was “(...) a place of chaos, a scary place”.

However, even if the “Parque do Tejo e do Trancão” project was considered a “(...) pilot project in Portugal, one in which the population was to witness the transformation of a run-down area of rubbish and urban waste into a living green area” (Walker and Castel-Branco, 1998, p.55), it presented some limitations since the beginning.

One of the most evident ones is related to the fact that the international competition was an “invited only competition”. In fact, this option, although anchored in the premise that the schedule was too tight, is somehow limitative, given that it does not offer equal opportunities for everybody. Actually, a well structured selection method could have solved this issue, especially when according to Walker and Castel-Branco (1998, p.48), the call for tenders for the “Parque do Tejo e do Trancão” used the International competition for “Parc de la Villete” (a totally opened competition in which 470 designers or design teams have participated (Chaslin, 1999)) as a model.

The other is connected to the used approach, which according to Andresen (1998b), considering the localization of the site between the municipalities of Lisbon and Loures (an area characterized not only by environmental but also by social problems) was “too much influenced by the arts, and too little by ecology” (Andresen, 1998b, p.X).

### 3. FINAL CONSIDERATIONS

The analyzed case study highlighted the fact that the incorporation of people’s preferences and needs in post-industrial landscape redevelopment might constitute a safeguard to achieve success and to develop a sense of belonging, reinforcing project acceptability, especially by local citizens. This fact is particularly relevant in countries, as is the case of Portugal, in which post-industrial landscape are commonly experienced negatively as fragmented and incoherent because it is difficult to conceive a legible whole. The analyzed project constitutes a representative example of post-industrial landscape reclamation project that enables a sense of spatial enlargement, with high degree of complexity and with varied ecological, economical, social and cultural benefits.

Moreover, the implementation of this redevelopment proposal had a positive cost-benefit relation not only because it enabled the rehabilitation of a significant landscape with high environmental value, but also because it contributed to reduce urban sprawl, allowing urban development by reusing derelict spaces in stead of consuming new ones.

This research highlighted that urban parks constitute a feasible use for large postindustrial sites, which contributes to strengthen the overall quality of the urban spaces in which they are inserted. Furthermore, it enabled us to conclude that the relevance and the social acceptability of a certain project should never be underestimated and that urban nature, especially urban parks, is extremely important for citizens’ quality of life, contributing to increase land value and fostering sustainable city development.

Nevertheless, though fostering sustainable city development, there is still a long way to go for this type of interventions to achieve a significant impact on urban sustainability, once the private sector prefers the more cost effective alternative to build new facilities than to renovate existing, abandoned and degraded ones (Blokhuys and Schaefer, 2007; Loures, 2006). Unfortunately, reclamation projects, as the one presented in this paper, continue to be associated with parallel goals that are not directly related with their positive impact on landscape and urban sustainability. Moreover, the current practice of post-industrial landscape transformation is mainly site-specific and driven by economic development motivations, not offering the full potential for sustainable reuse and revitalization beyond property lines (Loures and Burley, 2013).

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