DOCTOR OF PHILOSOPHY

Influence of Standardisation on Language Endangerment
A Study of Language Attitudes in Luxembourg and Belgium

Vari, Judit

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Bangor University/ Prifysgol Bangor

School of Languages, Literatures and Linguistics /

Ysgol Ieithoedd, Llenyddiaethau ac Ieithyddiaeth

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Andrisnak

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Table of Contents

Chapter 1. Abstract and introduction

1.1. Abstract

Language maintenance studies argue that introducing a standard variety will improve attitudes toward endangered vernaculars, e.g. Brenzinger et al. (2003) and Fishman (1991). However, a speech community can opt for different ways to introduce a standard variety with endogenous and exogenous standardisation processes, resulting in varying linguistic distance between a standard variety and its endangered vernacular, e.g. Auer et al. (2008). To-date, language maintenance research has not taken into account these differences in linguistic distance for a standard variety's positive attitudinal effect.

This thesis investigates the conditions for a standard variety's purported positive impact on attitudes towards endangered vernaculars. The hypotheses of this thesis draw on social psychological attitude theory and distinguishes between explicit attitudes based on deliberate processes vs. implicit attitudes based on automatic processes, e.g. Wilson et al. (2000). Social psychological research on implicit automatic attitudes implies that the more attitude objects resemble each other, the more likely they are evaluated in the same manner. I suggest that the resemblance of a standard variety and its endangered vernacular is governed by their linguistic distance, a result of the different nature of standardisation processes, i.e. exogenous and endogenous. Consequently, the first hypothesis of this thesis states that linguistic distance between a standard and its endangered vernaculars influences implicit attitudes towards the latter (H1a). Furthermore, the second hypothesis refines this influence, positing that only a close, endogenous standard variety will resemble its endangered vernaculars, share its prestige and thus positively impact on implicit attitudes towards these vernaculars (H1b).

These hypotheses were investigated in two endangered speech communities of Moselle Franconian, where speakers opted for two different ways to introduce a standard variety: While Luxembourg created an endogenous, close standard variety for Moselle Franconian vernaculars, i.e. Standard Luxembourgish, Standard German constitutes an exogenous, linguistically distant standard of Moselle Franconian vernaculars in the *Belgische Eifel* in Belgium.

Implicit attitudes were measured in Luxembourg and Belgium in two quantitative studies applying measures based on automaticity, i.e. Affective Priming and the Implicit Association Test (Fazio, 1995; Greenwald, et al., 1998).

Results of the first study support the hypotheses: The speech community with its unique standardisation process was the strongest predictor of implicit attitudes towards endangered vernaculars (H1a). In addition, speakers' implicit attitudes towards their endangered Moselle Franconian were more positive in Luxembourg (close standard) compared to implicit attitudes towards Moselle Franconian in Belgium (distant standard), (H1b). Surprisingly, the study also found that Luxembourgish participants implicitly preferred their vernacular over their standard variety, despite an abundance of sociolinguistic studies showing the prestige of standard varieties, e.g. Rosseel et al. (2018) and Speelman, et al. (2013).

The second study failed to elicit implicit attitudes, but provided valuable insights for the Affective Priming paradigm in Linguistics.

A third study explored explicit attitudes towards the standard variety and its vernacular, and additional standardised contact varieties with a survey in the speech communities. It investigated the unexpected results of study 1 and hypothesised that explicit attitudes towards Standard Luxembourgish would be more negative compared to Standard German due to its lower degrees of standardisation. This hypothesis was partially borne out. In addition, the lower degrees of standardisation of Luxembourgish also emerged in more positive attitudes towards other standardised contact varieties, such German and French. The investigation into how linguistic distance influences a standard's positive effect on explicit attitudes towards endangered vernaculars remained exploratory, since the thesis could not draw on social psychological insights. Results may suggest that linguistic distance might influence the standard variety's positive effect only on implicit attitudes towards endangered vernaculars, not explicit.

Overall, three factors emerged in this thesis to potentially influence a standard variety's positive attitudinal effect on its endangered vernaculars: a) linguistic distance, resulting from the different nature of standardisation processes, b) degrees of standardisation, and c) attitude type, i.e. explicit and implicit. Consequently, a standard variety's positive effect has clear limitations.

1.1. Introduction

In endangered speech communities, language planners frequently assume that revitalisation programs should start with the same first step: introducing a standard variety for developing literacy (Grenoble & Whaley, 2005). An abundance of language maintenance studies agrees that introducing a standard variety will raise the prestige of its endangered vernaculars (Brenzinger et al., 2003; Fishman, 1991; Lewis & Simons, 2010). Accordingly, it is argued that a standard variety positively impacts on attitudes towards its endangered vernaculars.

However, there is rarely such agreement in the respective speech community about how to form a standard variety. For example, two ideological camps heatedly debated two different ways to introduce a standard variety for vernacular Galician in post-1980s Galicia (O'Rourke, 2010, 2018). The *isolationists* called for the "new" Standard Galician, i.e. Galego normativo, to be independent from Spanish and Portuguese. In contrast, the *reintegrationists* argued that Standard Galician should mainly consist of Standard Portuguese. This way, the Galician vernaculars would be re-integrated into the language system they had historically belonged to. This re-integration, it was claimed, would lead to Galician profiting from the world-wide prestige of Portuguese. Arguments of *isolationists* and *reintegrationists* lacked scientific insights and remained vague: How would Galician vernaculars profit from the prestige of Standard Portuguese? Would vernacular Galician similarly profit from the prestige of an "own" standard variety? Overall, language planners in Galicia would have needed evidence from language maintenance studies on different ways of introducing a standard variety in other endangered speech communities. Understanding the workings and conditions of a standard variety's positive effect is essential for language planners in endangered speech communities in making informed decisions.

This thesis aims to improve our understanding of standardisation as a tool for language maintenance. In this work, I explore the conditions under which a standard variety positively affects attitudes towards its endangered vernaculars. Varying conditions could emerge with different ways of introducing a standard variety into an endangered vernaculars community, e.g. as proposed by *re-integrationists* and *isolationists* in Galicia. In the present work, I investigate these different conditions that emerge from standardisation processes by applying social psychological theory and methodology.

Chapter 2 contrasts theoretical and methodological approaches to attitudes which either focus on attitude content or underlying cognitive processes of attitude formation. Trends towards these process- or content-focused approaches are identified in social psychological and sociolinguistic attitude research. Most importantly, I criticise language maintenance research as lacking in process-focused approaches to attitudes which include the definitive criterion of automaticity. I suggest that importing insights from these process-focused attitudes models can especially improve the distinction between implicit and explicit attitudes in language maintenance research.

In chapter 3, common sociolinguistic approaches to standardising a language variety are described. Drawing on shared defining features of implicit automatic attitudes, I ask whether the way in which a standard variety is introduced matters for its purported positive effect, especially with regards to implicit attitudes towards its endangered vernaculars.

Chapter 4 describes the endangered Moselle Franconian communities in Belgium and Luxembourg, which opted for different ways of introducing their respective standard variety, i.e. Standard German and Standard Luxembourgish. The Moselle Franconian speech community in Belgium introduced Standard German, a prestigious standard of another speech community, as the *reintegrationists* suggested Standard Portuguese for Galicia. On the other hand, the Moselle Franconian speech community in Luxembourg created an "own" standard variety, i.e. Standard Luxembourgish, like the *isolationist* camp proposed with Standard Galician. Moselle Franconian like Galician is found to be an endangered language (UNESCO, 2017).

This thesis explores attitudes towards vernacular Moselle Franconian in Luxembourg and Belgium. In addition, it investigates attitudes towards their respective standard varieties, i.e. Standard Luxembourgish and Standard German, as well as towards additional standardised contact varieties in both speech communities, e.g. French. Overall, I conduct three quantitative attitudinal studies in these Moselle Franconian speech communities.

Chapter 5 presents two implicit attitude studies, which apply measurements of automatic implicit attitudes based on reaction time experiments. These studies explore differences in implicit attitudes in Belgium compared to Luxembourg. Through this, the thesis investigates under which conditions, namely by applying which standardisation processes, the respective standard variety might impact positively on implicit attitudes towards the endangered Moselle Franconian vernacular.

Additionally, in chapter 6, I present a survey study on explicit attitudes. The aim of this study is two-fold: on the one hand, it follows up on unexpected results from chapter 4 and on the other hand it is an exploratory investigation of another type of evaluation, i.e. explicit attitudes.

Due to the different methodological and theoretical approaches of study 1 and 3, these studies are presented as papers. The first paper has been published and the second papers' abstract was accepted for publication in a special issue of a journal. Unfortunately, such an outline of a PhD necessitates some repetitions, for example in the descriptions of the speech communities.

Chapter 7 summarises the findings of the three studies and discusses them with regard to the research questions of this thesis. It highlights the contributions of the present work and shows its caveats. The thesis concludes by highlighting avenues for future research.

Chapter 2. Approaches to attitudes: Definitions, methods and limitations

2.1. Theoretical approaches to (language) attitudes

The research field of social psychology aims to understand "how people's thoughts, feelings, and behaviours are influenced by the actual, imagined, or implied presence of others." (Allport, 1998, p. 3). Central to social psychology is the notion of social cognition, which refers to how people perceive, store and use information about themselves, social situations and social interaction partners, for overviews see Carlston (2013) and Sutton (2013). Social cognition focuses on the mental processes involved in these actions in order to make sense of the social world. Most importantly, attitudes are one way of dealing with this social world and form part of social cognition.

Consequently, since the early days of this research field, the concept of attitudes has always been pivotal in social psychology (Gawronski, Strack, & Bodenhausen, 2009) and a plethora of research spanning almost a century into this construct can be found (Ajzen, 1988; Allport, 1929; Anikin & Johansson, 2019; Bargh, Chaiken, Raymond, & Hymes, 1996; Chaiken, 1980; Crisinel & Spence, 2010; Dovidio, Kawakami, & Beach, 2001; Greenwald, McGhee, & Schwartz, 1998; Murphy & Zajonc, 1993; Zajonc, 1968).

Additionally, language attitudes form the very basis of a speech community in the Labovian sense in the research field of sociolinguistics (Labov, 1972; Patrick, 2002). Consequently, since the 1960s, "language attitudes have been integral to the sociolinguistic description of many speech communities" (Giles, 2003, p. 388). A host of sociolinguistic studies has investigated attitudes towards specific linguistic variants, including consonantal deletion (Díaz-Campos & Killam, 2012), accents, (Pantos & Perkins, 2012; Roessel, Schoel, & Stahlberg, 2018; Watson & Clark, 2015), whole language varieties (Price & Tamburelli, 2019), language varieties in certain contexts,

e.g. second language acquisition (Baker, Andrews, Gruffydd, & Lewis, 2011; Lambert, Gardner, Olton, & Tunstall, 1968), and many more aspects of language.

Research on language attitudes has always been interdisciplinary with cross-fertilisation between for example, social psychology and sociolinguistics (e.g., Lambert, Gardner, Olton, and Tunstall 1968; Giles & Marlow, 2011; Bourhis & Giles, 1976). Accordingly, definitions of attitudes in both research fields share the main two defining characteristics: evaluative character and influence on behaviour – for overviews see for example, Baker (1992); Cargile, Giles, and Ryan Bouchard (1994); Giles and Marlow (2011). The evaluative character of attitudes is emphasised in definitions such as "the disposition to respond towards an object in a positive or negative manner" (Ajzen, 1998, p. 65). This object can be any specific, abstract or social object —a person or an event for example— and is denoted "attitude object" in social psychological research. In sociolinguistics, attitude objects constitute linguistic aspects of any kind. Accordingly, Garrett (2010) following Sarnoff (1970) defines language attitudes as "an evaluative orientation to a social object of some sort…[here] language" (Garrett, 2010, p. 20)".

Besides this evaluative character, the influence of attitudes on behaviour is the second most common defining feature in sociolinguistics as well as in social psychology. Typically, attitudes are defined as exerting an influence on reactions of an individual towards the attitude object, for instance, reactions towards a person (Ajzen, 1988; Allport, 1929). Similarly, definitions of language attitudes emphasise the link to behaviour as "evaluative reactions towards different varieties or their speakers" (Ryan Bouchard, Giles, & Sebastian, 1982, p. 7)

Sociolinguistic studies use the term "attitudes" more or less interchangeably with "prestige" and "beliefs", only occasionally trying to disambiguate these terms (Baker, 1992; Giles & Marlow, 2011; Kristiansen, 2011; Trudgill, 1972). Section 2.1.2. reports on studies which distinguish between different types of prestige.

Overall, definitions of (language) attitudes share two features in social psychology and sociolinguistics: the evaluative character of attitudes and their influence on behaviour. However, theoretical approaches to attitudes in both research fields have different foci (for an overview see Olson & Kendrick, 2008). Major differences can be found between on the one hand, theoretical approaches which focus on the underlying cognitive processes of attitude manifestation and, on the other hand, theoretical approaches which focus on the content of attitudes. The next sections (2.1.1.

and 2.1.2.) elaborate on both approaches by including social psychological as well as sociolinguistic studies. Both sections pay special attention to approaches to language attitudes. Accordingly, I criticise especially approaches to language attitudes in section 2.1.3 and outline how language maintenance research approaches language attitudes (2.1.4).

2.1.1. Theoretical approaches to (language) attitudes focusing on underlying cognitive processes

The aim of this section is to give an overview of attitude models which are focusing on underlying cognitive processes. Overall, these models distinguish between implicit and explicit attitudes depending on how attitudes are expressed and what cognitive processes are required for this attitude expression. These process-focused approaches to attitudes have their origins in social psychological research and still constitute a major research interest in the field (for an overview see Devos, 2008). On the one hand, this section shows the common defining features of, especially, implicit attitudes in these approaches. On the other hand, it also presents differences in how explicit and implicit attitudes are linked in these models. In addition, the link between attitude and behaviour shall be discussed with findings from current social psychological attitudinal studies. Following social psychological practice, this section uses the denominations "implicit" and "explicit" attitudes instead of sociolinguistic terminology such as "overt/covert", "subconscious/conscious", "private/public" attitudes. Finally, this section concludes with approaches to especially language attitudes which are based on underlying cognitive processes.

In social psychological research, there has been an ongoing debate about whether attitudes are constructed in context on-line, or are being stored in memory as fixed concepts (Chaiken, 1980; Devos, 2008; Olson & Kendrick, 2008; Wilson et al., 2000). The distinction between implicit and explicit attitudes provides one way to address both of these views of attitudes, since some attitude models conceive explicit attitudes as attitudes stored in memory and implicit attitudes as constructed in context on-line (Wilson et al., 2000).

These two attitude types — explicit and implicit attitudes — have dominated social psychological research since the 1980s (Chen & Chaiken, 1999; Devos, 2008; Olson & Kendrick, 2008). Most

studies prior to the end of the 20th century focused on investigating only implicit attitudes. Although these were defined in contrast to explicit attitudes, the main research interest of social psychology was exclusively implicit attitudes at this time (Dovidio, Kawakami, Smoak, & Gaertner, 2009). In recent decades, social psychological research on implicit attitudes aimed to overcome this isolation and started to investigate the link between explicit and implicit attitudes (Fazio & Towles-Schwen, 1999; Gawronski & Creighton, 2013; Greenwald & Nosek, 2009; Wilson et al., 2000). Generally, implicit and explicit attitudes are found to have very low correlations (Greenwald, Nosek, & Banaji, 2003). Some researchers explain these low correlations with methodological issues, such as the structural fit of the measurement (Devos, 2008; Payne, Burkley, & Stokes, 2008). However, this divergence between explicit and implicit attitudes gave rise to different theories about their interconnectedness or lack thereof. The next section presents firstly a summary of common defining features of explicit and implicit attitudes that all current social psychological approaches to attitudes share. Secondly, it elaborates on three main attitude models in social psychology that discuss the link between explicit and implicit attitudes, namely single, dual and interactive attitude models. Further, the section also focuses on the different ways of attitude formation in these models. Finally, the section summarises the common implications that these three attitude models have regarding the influence of attitudes on behaviour.

Common features in process-focused approaches to explicit and implicit attitudes

Social psychological studies identified a range of features to define implicit attitudes. Social psychological research emphasises that implicit attitudes might involve an unawareness of the stimuli that are eliciting the implicit attitude, or an unawareness of the implicit attitude itself. Additionally, individuals might also be unaware of the origins of their implicit attitude or finally, they might be unaware of the attitude measurement process. But, most importantly, all definitions of implicit attitudes encompass the notion of automaticity, for which a plethora of studies found supporting evidence (Bargh, Chaiken, Govender, & Pratto, 1992; Bargh & Williams, 2006; Chaiken, 1980; Fazio et al., 1986). Overall, social psychological research agrees that the underlying processes of implicit attitudes are unintentional, uncontrolled and autonomous and they are found to require only scarce cognitive resources and limited time (De Houwer & Moors, 2007; De Houwer, Teige-Mocigemba, Spruyt, & Moors, 2009; Fazio & Olson, 2003; Klauer, 1997). Some

frameworks also emphasise that implicit attitudes are associative and affective evaluations are part of an impulsive system (Deutsch & Strack, 2006; Gawronski & Bodenhausen, 2006).

In contrast, social psychological research identifies explicit attitudes as being based on controlled and systematic processes of which individuals are aware (Chen et al., 1999) and which require higher degrees of cognitive capacity, time and motivation. In some definitions, explicit attitudes are defined as based on the propositional evaluations part of a reflective system, in contrast to the associative affective processes behind implicit attitudes (Deutsch & Strack, 2006; Gawronski & Bodenhausen, 2006).

Overall, social psychological research agrees that implicit attitudes are activated first, before explicit attitudes. The activation of implicit attitudes is automatic, and since it only requires limited cognitive resources, it is based on heuristic modes of processing (Chaiken, 1980; Chen & Chaiken, 1999). Heuristics are "short-cuts of thinking", i.e. pre-established social cognitive processing mechanisms, which are more efficient and moderately accurate, with numerous biases. The activation of a specific implicit attitude can be determined by the availability, accessibility and applicability of certain heuristics. First, the relevant judgment heuristic must be available for retrieval and accessible at the specific point in time for a current, specific attitude object. Most importantly, the heuristic needs to be relevant to the current task. The applicability of a heuristic is determined by how much the stored attitude object matches the current attitude object, that is to say how much the new person/event/object that an individual encounters matches previously evaluated persons/events/objects. Similarly, further evidence shows that the similarity between the stored attitude object and the current attitude object influence the activation of a specific implicit attitude. For example, representative heuristics impact on implicit attitude activation, since individuals are found to estimate the probability that object, event, or person A belongs to class or process B based on the similarity between A and B (Tversky & Kahneman, 2004). Typically, individuals find that a shy person is more likely to be a librarian than a sales person, since the person is representative of the stereotypical class of librarians. This judgement is made despite individuals knowing that the probability of meeting a sales person is higher than that of meeting a librarian. Accordingly, numerous studies in the research field of prejudices and stereotyping found evidence of how stereotype activation depends on whether the stimulus, i.e. the current attitude object, matches a pre-existing category of stimuli as attitude objects (Dovidio et al., 2001; Dovidio et al., 2009; Gilbert & Hixon, 1991).

To sum up, social psychological attitudinal studies define implicit attitudes as results of uncontrolled, automatic processes, in contrast to systematic, controlled processes underlying explicit attitudes. There is a general agreement that implicit attitudes are activated first, depending on their availability and accessibility. Most importantly, implicit attitude activation depends on the similarity of the attitude object to which the individual is exposed, to the attitude object which is stored in the individuals' mind and attached to a specific evaluation.

Besides these commonalities, there is significant disagreement over how explicit and implicit attitudes are interconnected and three types of attitude models can be identified in social psychological research: single attitude models, dual attitude models and interactive attitude models.

Single attitude models

Single attitude models (Fazio, 1995; Fazio & Olson, 2003; Fazio & Towles-Schwen, 1999; Olson & Fazio, 2009) assume that there is only one single attitude in individuals' minds. Implicit and explicit attitudes are not distinct mental representations, but rather represent different points of measurement in the attitude expression process. The point of departure is the automatically activated attitude, which influences behaviour directly if it is unimpeded by conscious, deliberate processes. Implicit measures – see section 2.2.2. – capture this first, automatically activated attitude representation called implicit attitude. The influence of this first implicit, automatic attitude hinges on two mediating factors, namely motivation and opportunity, which in turn are influenced by social desirability and resources in cognitive capacity and time. Figure 1 sums up the different flows of attitude expression, with the thickness of the "stream" representing the extent of influence. Most notably, opportunity acts as a gateway, regulating whether motivational factors influence judgment or behaviour in controlled processes. Accordingly, measures of explicit attitudes capture the same attitude representation, but only further "downstream" in processes of attitude expression. If motivation and opportunity are both high, conscious and deliberate processes can exert their influence on attitudes (Figure 1, case D). However, the automatically activated attitude is the only one present if only one of these two factors, i.e. either motivation or opportunity is high (Figure 1, case B and C), or both are low (Figure 1, case A). In some cases, if presented with the opportunity,

individuals are motivated to correct the biased automatic attitude and occasionally this leads to an overcorrection into a contrary judgement or behaviour.

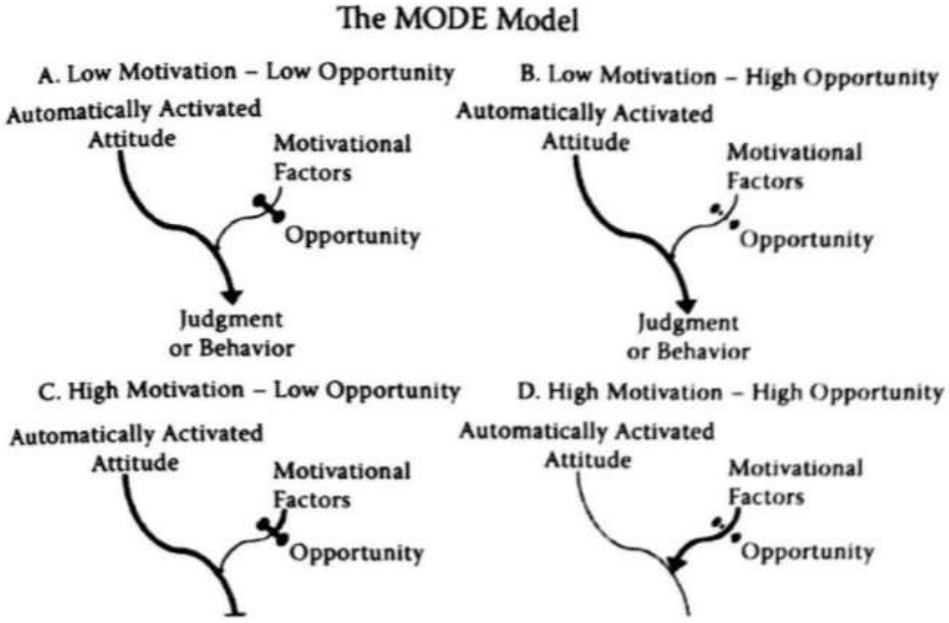

Figure 1 Single attitude model, e.g. the MODE model, Olson and Fazio (2009, p. 25)

Dual attitude models

Contrary to the single attitude models, dual attitudes models (Chen & Chaiken, 1999; Greenwald & Nosek, 2009; Wilson et al., 2000) assume that individuals can have different, even conflicting attitudes towards the same attitude object. An implicit attitude and an explicit attitude can be simultaneously present as distinct representations in individuals' minds.

Wilson et al. (2000) classify in their dual attitude model four types of dual attitudes, that is cases of conflicting attitudes and their interaction. These four types of dual attitudes depend not only on individuals' motivation and cognitive capacity, but also on the awareness of the implicit attitude. A summary of the four types of dual attitudes can be found in Figure 2.

First, in the case of *repression,* individuals are not aware of implicit attitudes, but have the cognitive capacity and motivation to override them and express often overcorrected explicit attitudes. Second, dual attitudes can emerge in *independent systems,* when implicit and explicit attitudes co-exist in individuals' minds. Since the implicit attitude is automatic, individuals are not aware of it, and thus this type of dual attitudes does require only scarce cognitive or motivational efforts. Third,

in the case of *motivated overriding*, individuals are aware of their automatic implicit attitude and have the resources and motivation to override the explicit attitude. Finally, *automatic overriding* differs from *motivated overriding* only in the limitation of cognitive resources. Figure 2 sums up the different types of dual attitudes:

Types of Dual Attitudes

Aspects of automaticity	Repression	Independent systems	Motivated overriding	Automatic overriding
Awareness of A_I?	No	No	Yes	Under some conditions
Capacity and motivation needed to override A_I with A_E?	Yes	No	Yes	No

Note. A_I refers to an implicit attitude, whereas A_E refers to an explicit attitude toward the same attitude object.

Figure 2 Four types of dual attitudes, (Wilson et al., 2000, p. 105)

Overall, dual attitude models frequently assume that explicit attitudes can be changed relatively easily, whereas implicit attitudes are more persistent since they are habitual and mainly subconscious (Chen et al., 1999; Dovidio et al., 2009; Wilson et al., 2000). Consequently, dual models regard attitude change as showing a developmental course and impacting first on explicit attitudes. A change in implicit attitudes occurs only when the changes in explicit attitudes become internalised as implicit automatic attitudes.

Interactive attitude models

Dual models were criticised for being biased towards the assumptions that the two different attitudes types would be in conflict and therefore not considering a potential congruency of implicit and explicit attitudes (Deutsch & Strack, 2006; Perugini, 2005). Social psychological research further elaborated dual attitude models, in order to address this criticism and incorporate the interplay between explicit and implicit attitudes in more detail.

Interactive attitude models (Deutsch & Strack, 2006; Gawronski & Bodenhausen, 2006; Gawronski et al., 2009) still assume two distinct, separate attitudes, one explicit and one implicit, and are therefore dual attitude models.

Most importantly, interactive attitude models emphasise the interplay between the underlying processes of implicit and explicit attitudes, namely affective evaluative associations and propositional evaluative mental processes. In interactive models, this interplay shows in corrective mechanisms checking the cognitive consistency between different evaluations. Figure 3 shows a schematic representation of an interactive attitude model. After a first affective association is activated automatically (Figure 3, left: input stimuli → Association Activation), propositional processes check the validity of this first response by checking for cognitive consistency (Figure 3, top: Propositional Reasoning ⇔ Association Activation). Typically, cognitive consistency is achieved if the first automatic affective evaluation is consistent with the individuals' general knowledge about the world in the form of related propositions. These related propositions can be of either evaluative or non-evaluative character about the same or other attitude objects. If the first automatic affective evaluation and these related propositions are found to be inconsistent, this inconsistency can be resolved by rejecting the first affective associative response. Alternatively, propositional processes search for other additional propositions, and/or they re-interpret the validity of conflicting propositions. The more cognitive capacity, motivation and time an individual has, the more related propositions can be checked for consistency with the first, automatic, affective evaluative response (Figure 3, top: multiple interaction arrows between Propositional Reasoning ⇔ Association Activation).

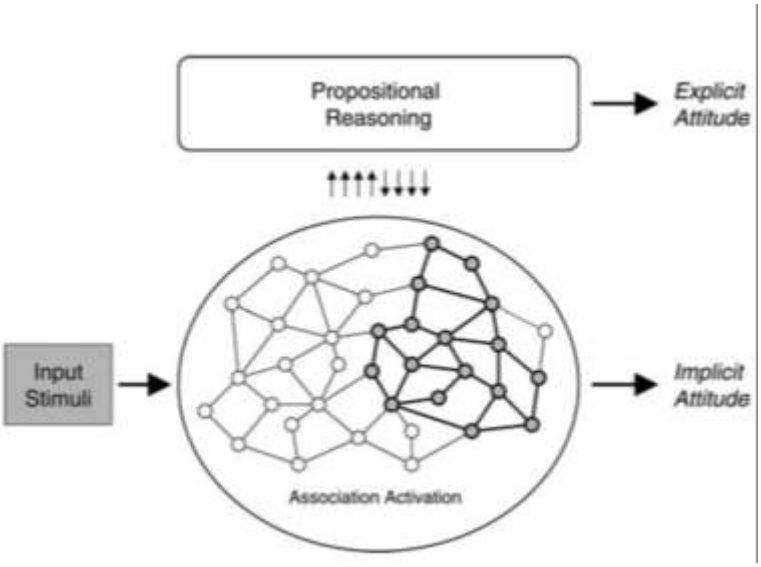

Figure 3 An interactive attitude model, e.g. the APE model (Gawronski & Bodenhausen, 2006, p. 697)

Attitude change can take place in two ways in interactive models. Associative affective evaluations (implicit attitudes) can become propositional (explicit). Conversely, when new propositions become associative, explicit attitudes can become implicit. Research into interactive attitude models shows that propositional learning and associative learning influence both attitudes (Whitfield & Jordan, 2009). This influence can be direct, when propositional learning impacts on explicit attitudes and associative learning on implicit attitudes. Alternatively, the influence can be indirect, when it is mediated through the other attitude type, for example when propositional learning impacts on implicit attitudes via explicit attitudes.

Ultimately, significant differences can be found in the above presented three attitude models as a result of different answers to the question "how many attitude representations are there?" (Greenwald & Nosek, 2009, p. 80) and "how are these representations linked?" However, despite these significant differences between attitude models, their predictions for behaviour are to some extent similar (Dovidio et al., 2009). The following section summarises social psychological research on the predictive value of implicit and explicit attitudes for different types of behaviour in different attitude models.

Common implications of process-focused attitude models for the attitude-behaviour link

Single, dual and interactive attitude models have common implications for the predictive value of implicit and explicit attitudes. In all attitude models, the context and the type of behaviour needs to be considered with regard to its connection to a specific attitude (Olson & Kendrick, 2008). Overall, explicit attitudes are better predictors for deliberate and well-planned behaviour, while in contrast, implicit attitudes predict better either habitual or spontaneous behaviour, for overviews see Devos (2008) and Perugini (2005). The context of behaviour influences whether the cognitive capacity, time and motivation are present to elicit explicit attitudes, instead of the first, automatic, implicit attitudes (Fazio & Towles-Schwen, 1999; Gawronski & Creighton, 2013). In addition, there is overwhelming evidence that implicit attitudes are better predictors of behaviour, especially in socially sensitive domains, such as intergroup relationships, e.g. race and gender (Devos, 2008;

Dovidio et al., 2001; Dovidio et al., 2009; Dovidio, Kawakami, & Gaertner, 2002; Greenwald, Poehlman, Uhlmann, & Banaji, 2009).

Besides these commonalities, single, dual and interactive attitude models imply different patterns of interaction between explicit and implicit attitudes when influencing a specific type of behaviour.

Dual attitude models are described as predicting behaviour in a double dissociative pattern (Greenwald & Nosek, 2009; Perugini, 2005). Research into these attitude models found substantial evidence for this pattern: implicit attitudes correlate only with habitual or spontaneous, automatic behaviour, whereas explicit attitudes correlate only with more deliberate behaviour (Devine & Sharp, 2009; Dovidio et al., 2001; Dovidio et al., 2009; Dovidio et al., 2002; Wilson et al., 2000).

Interactive attitude models, also being dual attitude models, similarly imply a dissociative predictive pattern of implicit and explicit attitudes. More specifically, automatic affective processes (implicit attitudes) activate a habitual, pre-stored behavioural schema, which can be overridden by propositional processes (explicit attitudes) to execute planned behaviour (Deutsch & Strack, 2006). Additionally, this type of attitude model also implies a potential interaction between explicit and implicit attitudes when influencing behaviour. Research found evidence supporting the interaction pattern between implicit and explicit attitudes influencing behaviour in synergy (Perugini, 2005).

The dissociative predictive pattern of dual attitude models is also present in single attitude models: Implicit measures of an attitude representation predict only habitual or spontaneous behaviour, and explicit measures of the same attitude representation predict only deliberate and well-planned behaviour (Fazio, 1995; Fazio & Towles-Schwen, 1999; Olson & Fazio, 2009). However, single attitude models are also described as predicting behaviour in an additive pattern, with each attitude measure having a unique predictive value of its own. This way, both explicit and implicit attitude measures are thought to predict the same behaviour together, with different proportions in the variance of behaviour depending on the degree of motivation and opportunity. Empirical evidence into such predictive patterns is inconclusive (Perugini, 2005).

Overall, as shown above, there is a plethora of research into the predictions of each attitude model regarding behaviour, for overviews see Devos (2008) and Perugini (2005). The attitude models' predictions are similar to some degree and there is substantial evidence for explicit attitudes being

better predictors for deliberate and well-planned behaviour, in contrast to implicit attitude predicting better either habitual or spontaneous behaviour. However, at least to my knowledge, only one study tested the specific predictive patterns—dissociative, additive or interactive—of different attitude models in a comparative study including the measurement of behaviour (Whitfield & Jordan, 2009). More comparative research is needed to provide answers for questions such as "how many attitude representations are there and how are they linked?" Since attitudes are hypothetical constructs that cannot be directly measured (Greenwald & Nosek, 2009), only the explanatory power of each attitude model for specific behaviour can support one specific attitude model.

To sum up, the previous sections described on, on the one hand, commonalities of process-focused approaches to attitudes in general as well as their differences. These approaches commonly define implicit attitudes to be based on automatic cognitive processes which require scarce cognitive resources and a limited amount of time. Participants are found to be unaware of different aspects of implicit attitudes such as the attitude object and they have limited control over the expression of their implicit attitudes. On the other hand, the three most influential social psychological attitude models, i.e. single, dual and interactive, were presented in order to show how differently explicit and implicit attitudes can be linked. The next section focuses on specifically language attitudes and discusses how theoretical approaches towards them are based on underlying cognitive processes.

Process-focused approaches to language attitudes: Implicit/covert/indirect vs. explicit/overt/direct

Theoretical approaches to language attitudes often distinguish between covert vs. overt attitudes (Agheyisi & Fishman, 1970; Baker, 1992; Garrett, 2010; Labov, 1972) and employs various different labels, such as implicit vs. explicit, private vs. public, conscious vs. subconscious language attitudes (Giles & Marlow, 2011; Kristiansen, 2011; Labov, 2001; Trudgill, 1972). Some approaches to language attitudes use the criterion of attitude awareness, i.e. consciousness, to distinguish between explicit and implicit language attitudes (Kristiansen, 2015; Kristiansen & Jorgensen, 2008). Therefore, they ultimately focus on underlying cognitive processes of attitudes drawing on social psychological insights from automatic vs. controlled processes of social cognition (Chaiken, 1980; Fazio, Sanbonmatsu, Powell, & Kardes, 1986). Typically,

implicit/covert language attitudes emerge when individuals are less aware of language attitudes, for example positive attitudes towards French, or when they are less aware of the attitude measurement, for example the way attitudes towards French are elicited and expressed (Babel, 2016; Giles & Marlow, 2011; Kristiansen, 2011; Kristiansen & Jaworski, 1997; Labov, 1972; Lambert, Anisfeld, & Yeni-Komshian, 1965; Lasagabaster, 2004). In contrast, individuals are more conscious of explicit/overt language attitudes and their measurement.

Furthermore, these levels of awareness are intertwined with social biases influencing attitudes towards language varieties and linguistic features, e.g. Lambert et al. (1965). More specifically, if individuals are aware of the object of the study, i.e. the language attitude, and the way it is measured, they can influence their evaluative reaction and report an attitude which they assume to be socially acceptable. Consequently, social biases are thought to impact mainly on explicit/overt attitudes not on implicit/covert attitudes (Kristiansen, 2011; Kristiansen & Jaworski, 1997; Kristiansen & Jorgensen, 2008; Labov, 2001; Lambert et al., 1965).

In addition, overt/explicit vs. covert/implicit language attitudes are occasionally labelled direct vs. indirect language attitudes, for example Smit (2000). Studies distinguish between direct and indirect language attitudes by either applying the criterion of attitude awareness as well, or their distinction is based entirely on the attitude measurement itself, that is use of direct or indirect methods, see section 2.2.1. and Baker (1992); Cooper and Fishman (1977); Garrett (2010).

Research on language attitudes has only started to consider the criterion of automaticity from social psychological attitude models in the last decade (e.g. Babel, 2010; Campbell-Kibler, 2012, 2013; McKenzie & Carrie, 2018; Pantos, 2015; Rosseel, Speelman, & Geeraerts, 2018; Speelman, Spruyt, Impe, & Geeraerts, 2013; Watson Todd & Pojanapunya, 2009). These studies define implicit attitudes as being based on automatic processes and explicit attitudes on controlled processes, drawing on common defining features in current social psychological attitude models presented at the beginning of this section (Chaiken & Ledgerwood, 2007; Chen, Duckworth, & Chaiken, 1999; Fazio & Towles-Schwen, 1999; Wilson, Lindsey, & Schooler, 2000).

Overall, the last section presented theoretical approaches to (language) attitudes which focus on the underlying cognitive processes of attitude manifestation. I described common defining features of implicit and explicit attitudes shared by social psychological attitude models, on which recent

language attitudinal studies draw. More specifically, the last section elaborated on the criterion of automaticity in distinguishing between explicit/overt and implicit/covert attitudes. In addition, I presented the differences between social psychological attitude models in linking explicit and implicit attitudes. Despite these differences, the section showed how an abundance of social psychological research gives insights into the predictive value of the different attitude types, explicit/overt vs. implicit/covert, for different kinds of behaviour. The section concluded by outlining process-focused approaches to, specifically, language attitudes which mainly include only the feature of attitude awareness without the notion of automaticity.

2.1.2. Theoretical approaches to (language) attitudes focusing on attitude content

Besides process-focused approaches to (language) attitudes, approaches to (language) attitudes in sociolinguistic and social psychological research can also focus on varying attitude content. The following section explores five different aspects of these content-focused approaches to (language) attitudes. First, it shows how the covert/implicit vs. overt/explicit attitude distinction can also be based on attitude content, even if the previous section identified this approach to be process-focused. The section then presents four additional reoccurring aspects of content-focused approaches: the tripartite structure of (language) attitudes, attitudes towards specific (language) behaviour, (language) attitude dimensions of solidarity/warmth vs. status/competence, and finally, language attitudes as part of a larger sociolinguistic research stance.

Covert/implicit/vs. overt/explicit attitudes

Previously, section 2.1.1. presented theoretical approaches which distinguish between covert/implicit vs. overt/explicit attitudes based on underlying cognitive processes. However, numerous studies focus rather on attitude content when distinguishing between covert vs. overt language attitudes, or include both foci, i.e. content-focused and process-focused (e.g. Labov, 2001). These studies often discuss covert vs. overt language attitudes intertwined with prestige (Chambers, 1980; Labov, 1972). Prestige is, on the one hand, often used interchangeably with positive attitudes, but on the other hand, studies frequently differentiate between attitudes and

prestige. Prestige is assigned by a whole speech community as social evaluation, similarly to stigma, while there is a trend towards defining attitudes as being held by individuals (Kristiansen, 2011, Labov, 2001). More specifically, overt prestige is associated with the social significance of specific linguistic variants which speakers are aware of and are ready to report (Trudgill, 1972, Labov, 2001). In contrast, "hidden values beneath" are found to be the source of covert prestige (Trudgill, 1972, p.184). Overt and covert prestige can be part of both, i.e. process-focused and content-focused approaches to (language) attitudes: First, they both include attitude content with either the content of hidden values or the content of open social evaluation such as specific linguistic variants. In addition, lower and higher levels of consciousness are intertwined with sources of covert and overt prestige. Sources of covert prestige such as "values beneath" refer to a lower level of consciousness, in contrast to individuals being highly aware of the social significance of linguistic variants. Lower and higher levels of consciousness, i.e. awareness, imply a focus on the underlying processes of attitude expression. Consequently, theoretical approaches to language attitudes which include the notion of covert vs. overt prestige can be process-focused as well as content-focused.

Overall, these studies find positive covert attitudes, i.e. covert prestige, towards non-standard linguistic variants of speakers from lower social classes (Chambers, 1980; Trudgill, 1972). Some studies identify the emergence of new forms of prestige, i.e. modern prestige, as opposed to traditional prestige (e.g. Grondelaers et al., 2016). This modern prestige is less based on "hidden values" and is more dependent on overt usage in the media and associations with coolness and dynamism (e.g. Grondelaers & van Gent, 2019). In general, the distinction between covert vs. overt and modern vs. traditional prestige tends to be mostly part of attitude content focused approaches without considering underlying cognitive processes and especially automaticity.

The tripartite structure of (language) attitudes

One of the most widespread content-focused approaches to attitudes in social psychology and sociolinguistics is the tripartite structure of (language) attitudes. The division of attitudes into three components is said to date back to Plato (Ajzen, 1998; Baker, 1992), but it was mainly an integral part of social psychological research on attitudes in the 20th century (Ajzen, 1988; Bizer, Barden,

& Petty, 2003; Olson & Kendrick, 2008; Rosenberg, 1966; Tesser & Shaffer, 1990). However, it is still occasionally applied in current attitudinal studies in psychology (e.g., Harnish, & Roster, 2019). The tripartite structure has greatly influenced sociolinguistic research into language attitudes (Baker, 1992; Cargile et al., 1994; Cooper & Fishman, 1977; Edwards, 1994; Garrett, 2010; Giles & Marlow, 2011) and is still frequently used in present day sociolinguistic studies to define language attitudes (Hawkey, 2020; Kircher & Fox, 2019).

Studies which apply the tripartite structure distinguish between three different components based on the content of attitudes: cognitive, affective and behavioural (Olson & Kendrick, 2008). The cognitive component of attitudes encompasses the thoughts and considerations of individuals regarding the attitude object, such as an aspect of language. This might entail specific attributes and concepts, which are ascribed to this specific aspect of language. The affective component concerns the feelings and moods that individuals associate with the attitude object, for example, specific aspects of language. Finally, the behavioural or conative component of attitudes describes the readiness for action, for example the readiness to use a specific language variety. Attitude components can be incongruent and are occasionally thought to merge into a single subordinate construct (Baker, 1992; Olson & Kendrick, 2008; Rosenberg, 1966).

Attitudes towards specific (language) behaviour

The *Theory of Planned Behaviour* which developed from *The Reasoned Action Approach* is a content-focused approach to (language) attitudes which was especially popular in the 1980s and 1990s in social psychological research (Ajzen, 1991, 2012; Ajzen & Madden, 1986; Fishbein & Ajzen, 1975). This theory distinguishes between three attitudinal components of a behavioural intention: firstly, the individual's beliefs about a specific behaviour; secondly, other, relevant people's beliefs about this behaviour; and thirdly, the individual's perceived control over the behaviour. Research on language attitudes identifies this behaviour as, for example, language usage in specific contexts such as the classroom (Girardelli, 2016; Underwood, 2012). The *Theory of Planned Behaviour* found its application even in historical studies on language attitudes (e.g. Maitz, 2005)

(Language) attitude dimensions of competence/status vs. warmth/solidarity

From the beginnings of social psychological research, competence and warmth have been identified to be the fundamental dimensions of social cognition, i.e. the way individuals make sense of their social world; for an overview see for example, Fiske, Cuddy, and Glick (2007). Decades of social psychological research established that individuals perceive each other based on liking (warmth, trustworthiness) and on respect (competence, efficiency) and accordingly hold different attitudes depending on which of the two dimensions attitudes refer to.

Similarly, research into language attitudes commonly distinguishes between the so-called "language attitude dimensions" of status and solidarity (Lambert et al., 1968; Ryan Bouchard & Carranza, 1977). Following insights from social psychological dimensions of social cognition, the status dimension of language attitudes concerns the link between for example a language variety and socio-economic status, upward social mobility and power in general. In contrast, language attitudes on the solidarity dimension reflect individuals' feelings of belonging and can be regarded as indicating individuals' social identity with aspect of languages (Tajfel, 1982). However, the two attitude dimensions are occasionally further divided into additional dimensions in language attitude research (Baker, 1992). For example, in Lambert (1967), two "solidarity-like" dimensions are contrasted with an attitude dimension of status. In contrast, Cargile (1997) identifies two "status-like" dimensions with one solidarity dimension. In research on language acquisition, these attitude dimensions have different labels, i.e. instrumental vs. integrative, and most commonly refer to the motivation to learn a foreign language (see for example, Gardner, 1972 and 1988).

Overall, a plethora of studies on language attitudes has focused on attitude content when they distinguished between solidarity vs. status dimensions of attitudes, see for example Baker et al. (2011); Bellamy (2012); Cargile (1997); Kircher (2012); Kircher and Fox (2019); Lambert (1967); McKenzie (2015); McKenzie, Kitikanan, and Boriboon (2015); O'Rourke (2010).

Language attitudes in broader sociolinguistic frameworks: language ideology and language regard

The final aspect of content-focused approaches to language attitudes is their contextualisation within larger sociolinguistic theoretical frameworks.

Most prominently, language attitudes emerge in research on language ideology (Gal & Irvine, 1995; Giles, 2003; Woolard, 1992; Woolard & Gal, 2001; Woolard & Schieffelin, 1994). Language ideologies can be conceived as *global attitudes* towards language (for example, Baker, 1992; Garrett, 2010). Language ideologies are not so much attitudes of individual speakers but rather social evaluations of a speech community with specific characteristics such as prescriptivism and purism. More specifically, language ideologies constitute the practice by the socially dominant group of imposing a specific language variety as the more correct, legitimate and even more moral. This dominant language variety is supposed to be in need of protection from detrimental influences of non-dominant varieties. A form of language ideology is the standard language ideology where a standard variety is the dominant language in a speech community as opposed to the non-dominant vernacular varieties (see section 3.1. and Milroy, 1991). On the one hand, research on language ideologies constitutes mainly content-focused approaches to language attitudes. Language ideologies encompass specific content, i.e. sociocultural aspects of language, which often emerge in codifications of norms and values (Sallabank, 2013a). On the other hand, sociolinguistic studies also identify the systematic and subconscious nature of language ideologies, touching on issues of underlying processes of attitude manifestation.

Additionally, research on language attitudes can be situated in the larger context of *language regard* and *folk linguistics*, see for example Preston (2010, 2018). This sociolinguistic research stance aims to reach beyond the exclusively evaluative dimension of language attitudes and open its scope to all types of non-linguists' perceptions of language (Preston & Niedzielski, 2013). This broader scope includes the salience and awareness of linguistic variants in geographical space, which is the focus of perceptual dialectological studies, e.g. (Hundt, 2018; Kiesewalter, 2019; Purschke, 2018, 2019) and see also section 2.4.1. Language regard and folk linguistics were originally mainly content-focused by identifying the meta-linguistic knowledge of speakers. But these approaches have started to include a focus on underlying cognitive processes when investigating this meta-linguistic knowledge (e.g. Campbell-Kibler, 2012).

To sum up, approaches to (language) attitudes distinguish between covert/implicit vs. overt/explicit attitudes based on attitude content as well, not only by focusing on underlying processes, as described in section 2.1.1. In contrast, the majority of social psychological research bases the distinction between implicit and explicit attitudes only on underlying cognitive processes as

described in section 2.1.1. independently of attitude content (for an overview see Olson & Kendrick, 2008). In addition, approaches to (language) attitudes focus on attitude content when they include either a tripartite structure with cognitive, affective and behavioural components, beliefs about specific behaviour in the *Theory of Planned Behaviour*, or dimensions of solidarity/warmth vs. status/competence. Finally, language attitudes are contextualised in wider frameworks such as language ideology or language regard. In these contexts, approaches tend to focus on attitude content but have recently started to incorporate underlying cognitive approaches of attitude manifestation.

2.1.3. Criticism of approaches to language attitudes

Overall, approaches to language attitudes have been criticised for generally being atheoretical or for not engaging with social psychological attitude theory and its evolution (Babel, 2016; Baker, 1992; Maitz, 2011; Rosseel, 2017).

More specifically, language attitudinal studies have been identified as being occasionally atheoretical (Baker, 1992; Rosseel, 2017). Typically, numerous studies use the method of attitude measurement, i.e. direct and indirect, to define language attitudes, for example Simpson (2013). This way, they neglect to engage with any theoretical approaches to language attitudes. Consequently, these studies leave it unclear whether conflicting findings of direct and indirect measures are the result of different types of attitude representations in speakers' minds.

Furthermore, language attitudinal studies are criticised for seldom driving attitude theory to consider the unique aspects of language and language attitude measurement (Baker, 1992; Lehnert, 2018). Exceptions include certain example studies that challenge the "speaker evaluation paradigm" as a conceptual overlap between speaker evaluation and language attitudes, see section 2.2.1. and Lehnert and Hörstermann (2019); Lehnert, Krolak-Schwerdt, and Hörstermann (2018a, 2018b); Schoel et al. (2012). Similarly, rarely do studies test common approaches to language attitudes, such as attitude dimensions, for unique linguistic phenomena, for example new types of language contact varieties such as multiethnolects (Kircher & Fox, 2019).

The content-focused approaches to language attitudes have been criticised for disregarding, on the one hand, the limitations of the tripartite structure of attitudes which are discussed in social

psychological research and, on the other hand, the trend in social psychology to focus on the underpinning processes of attitudes, rather than their content, i.e. cognitive, affective, and behavioural components (Clore & Schnall, 2005; Olson & Kendrick, 2008; Sutton, 2013; Tesser & Shaffer, 1990).

Importantly for this thesis, the numerous process-focused approaches to language attitudes were subject to extensive criticism. Section 2.1. showed that the majority of the process-focused approaches to language attitudes distinguish between covert/implicit vs. overt/explicit attitudes based on participants' awareness, see for example Kristiansen (2015). Researcher criticised that the criterion of awareness was applied in studies on language attitudes without further theoretical discussion and empirical investigation (Babel, 2016; Rosseel, 2017).

The distinction between covert/implicit vs. overt/explicit language attitudes frequently lacks defining features from sociopsychological research, reaching beyond the criterion of awareness. Since the 1980s, social psychological studies (Chaiken, 1980; Fazio et al., 1986) have used the criterion of automaticity to distinguish between implicit vs. explicit attitudes. The criterion of automaticity encompasses the notion of awareness since individuals are thought to have automatic attitudes of which they are not aware (see section 2.1.1). However, the notion of automaticity reaches beyond awareness including criteria such as limited cognitive resources and time. Overall, researchers criticise that the extensive cross-fertilisation between social psychological and sociolinguistic attitudinal studies has come to a halt after the 1960s and only re-started in the last decade with studies on implicit automatic language attitudes (e.g., Rosseel, 2017).

2.1.4. Theoretical approaches to language attitudes in language maintenance research

The concept of language attitudes also emerges in sociolinguistic studies of language change and in the field of language maintenance studies (Fishman, 1964; Weinreich, 1953). The present work situates its investigation in the research field of language maintenance. The following section provides a brief overview of the general framework of this research field and discusses the role language attitudes play.

Language maintenance research into multilingual communities focuses on a minority variety that is potentially endangered by a majority variety (Edwards, 1994, 2010; Fishman, 1964). This endangerment is due to a dominance of one language variety over another. The notion of "dominance configuration" (Fishman, 1964, p. 39), has been present since the beginning of research into multilingual speech communities.

The notion of dominance persists in the research field, even with the concept of a stable diglossia (Ferguson, 1959; Hudson, 1994, 2002). Ferguson (1959) argues that a diglossic contact situation establishes an equilibrium between the language varieties with a functional separation and different ways of acquisition, so that no language variety is dominant overall in the speech community. However, research questions the existence and duration of such an equilibrium (Hudson, 2002), especially in modern day speech communities. Therefore, language varieties in a contact situation are established in a "dominance constellation" in the vast majority of language maintenance studies (Brenzinger et al., 2003; Edwards, 1992; Fishman, 1964, 1991, 2001; Laakso, Sarhimaa, Spiliopoulou Åkermark, & Toivanen, 2016; Lewis & Simons, 2010).

In a language contact situation with a dominance configuration, the non-dominant variety is endangered. Studies describe the vitality of this endangered variety with the concepts of language shift and language maintenance (Fishman, 1964). Typically, language death equals a completed language shift, since the loss of a variety in a speech community implies its shift to another variety. Conversely, a certain degree of language vitality equates with language maintenance. "Language shift" and "language maintenance" are the most widely established terms for these developments in multilingual speech communities, for example Clyne (2003). Although (socio-) linguists have suggested alternatives like "language retention", "language persistence" and "language displacement" (Weinreich, 1953). Numerous frameworks outline the continuum between "language maintenance" and "language shift" to measure the vitality of a language variety (Brenzinger et al., 2003; Edwards, 1992; Fishman, 1991; Giles, Bourhis, & Taylor, 1977; Laakso et al., 2016; Lewis & Simons, 2010; Minasyan & de Queirós Mattoso Shafe, 2011).

Language attitudes as factors for language vitality

These frameworks identify different factors that can contribute to the vitality of a language variety, for instance speaker numbers, domains of language usage and intergenerational transmission, for an overview see Obiero (2010). Particularly important for this investigation is that language attitudes are among these vitality factors. Overall, language maintenance research focuses on language attitudes because of their assumed influence on behaviour, which in this context equals language usage (Sallabank, 2011b). The degrees of language usage in turn influence the intergenerational transmission of a variety, which is crucial for its vitality (Fishman, 1991, 2001). Ultimately, language maintenance research argues that the more positive attitudes towards a language variety are, the more it is used by speakers in different domains. Finally, higher degrees of usage result in higher degrees of language vitality

Approaches to language attitudes in language maintenance studies and their criticism

In language maintenance research, the theoretical approaches to language attitudes are similar to the content-focused and process-focused approaches that were discussed at the beginning of this chapter. This research field also investigates attitude dimensions of solidarity vs. status and distinguishes between explicit/direct/overt attitudes vs. implicit/indirect/covert attitudes in a situation of potential language endangerment. Additionally, language maintenance studies also situate language attitudes towards majority and minority varieties in larger theoretical frameworks of language ideology and language regard.

The criticism of general theoretical approaches to language attitudes, which was discussed previously in section 2.1.3, also applies to language maintenance studies. Approaches to language attitudes in this research field can also be criticised as being atheoretical and lacking insight into social psychological attitude definitions and their evolution. Most importantly, language maintenance studies have not yet included the criterion of automaticity into their definition of covert/implicit vs. overt/explicit attitudes, unlike some recent sociolinguistic studies (Campbell-Kibler, 2012; McKenzie & Carrie, 2018; Pantos & Perkins, 2012). These recent sociolinguistic attitudinal studies included automaticity based on social psychological attitude definitions (Fazio & Towles-Schwen, 1999; Gawronski & Creighton, 2013; Wilson et al., 2000). At least to my knowledge, such insights into social psychology are not present in language maintenance research, where implicit/covert and explicit/overt attitudes are only distinguished based on the attitude

content with overt vs. covert prestige or based on the criterion of individuals' attitude awareness and the method of data collection. This disregard is especially problematic, since language attitudes are assumed to play a pivotal role in language maintenance research as indicators of language vitality. In particular the distinction between implicit/covert vs. explicit/overt is crucial in this research field, as demonstrated in the following section.

The predictive value of implicit/covert attitudes for language usage

Language maintenance studies that investigate implicit/covert and explicit/overt attitudes in endangered speech communities, report different and sometimes even conflicting results, see for example Price and Tamburelli (2019). This mismatch between covert/implicit vs. overt/explicit language attitudes provides an explanation for a common and problematic issue: numerous language maintenance studies find positive attitudes towards endangered varieties, but simultaneously their limited usage (Ghimenton, 2015; Ó Hifearnáin, 2013; Simpson, 2013). This phenomenon could potentially lower the predictive value of language attitudes and thus potentially its usefulness in indicating language vitality. However, language maintenance studies argue that only individuals' explicit/overt attitudes are positive towards lesser used endangered language varieties, in contrast to their implicit/covert attitudes (Ó Hifearnáin, 2013; Sallabank, 2013a). Since explicit/overt attitudes are thought to be influenced by social desirability, implicit/covert attitudes are argued to predict better behaviour; that is to say actual language usage (Sallabank, 2011b).

However, this claim lacks substantial empirical evidence from studies on language attitudes in general, and language maintenance studies in particular. This lack of empirical evidence is first due to the trend of focusing on the investigation of explicit/overt language attitudes (Garrett, 2010). Researchers find in some endangered speech communities significantly more studies on explicit/overt attitudes, for example see Price & Tamburelli (2019). Furthermore, if studies investigate implicit attitudes, or both, implicit and explicit attitudes, they rarely directly link their attitude measures to measures of behaviour, such as language usage, in an experiment. However, such a link is necessary to establish the predictive value of either implicit attitudes or of both attitude types in contrast. The lone exceptions are two studies, which link implicit attitudes and behaviour as questionnaire completion ratios (Kristiansen & Jaworski, 1997) and individual degrees of speakers' accommodation in accent (Babel, 2010).

In addition, attitudinal studies occasionally establish a link between their own measurement of language attitudes, and findings regarding language usage in previous studies (Kristiansen, 2015; Kristiansen & Jorgensen, 2008).

In the context of language maintenance, language usage is rarely established experimentally at all and almost never linked to attitude measures. At least to my knowledge, only two studies linked attitudes and behaviour experimentally in endangered speech communities. In Wales, a study investigated implicit attitudes towards Welsh and English with the co-operation of participants in completing a questionnaire, which was measured as the behavioural dependent variable, (Bourhis & Giles, 1976). In addition, Hawkey (2020) investigated explicit attitudes as predictors for speakers' choice of specific variants of Catalan in a translation task and found correlations between attitude dimensions, that is solidarity and status, and the use of supralocal and local variants. Overall, no study has so far compared the predictive value of covert/implicit vs. overt/explicit attitudes for behaviour, namely actual language use, in an experimental approach. This shortcoming needs to be addressed by future research in the field of sociolinguistics and language maintenance (see also section 7.3). For now, the application of social psychological attitude research can improve our understanding of the link between language attitude and language usage in language maintenance research. An abundance of social psychological studies provides empirical evidence for the claim that implicit attitudes are better predictors of actual language usage (see section 2.1.1.).

To sum up, language attitudes play a crucial role as indicators of language vitality in language maintenance research. Especially implicit/covert attitudes are identified to be good predictors of language usage, and thus language vitality. This claim lacks substantial empirical evidence in language maintenance research in particular, and in research on language attitudes in general. In addition, the definition of implicit/covert attitudes in language maintenance research does not include the criterion of automaticity, unlike recent studies on language attitudes which draw on social psychological attitude models.

2.1.5. Interim conclusions

Section 2.1. discussed different theoretical approaches to (language) attitudes in sociolinguistics, especially language maintenance research, and in social psychology. Overall, approaches to (language) attitudes either focus on attitude content or on underlying cognitive processes of attitude manifestation. In general, both approaches tend to include a high degree of cross-fertilisation between research fields such as social psychology and sociolinguistics, for example with the tripartite structure of (language) attitudes.

However, studies on language attitudes started to incorporate the social psychological criterion of automaticity only in the last decade in order to distinguish between implicit vs. explicit attitudes. This development in studies of language attitudes cannot be found in language maintenance research, despite the crucial role of attitudes in this research field. More specifically, implicit attitudes are thought to be good predictors of actual language use in the home domain and thus of language vitality. However, language maintenance studies lack empirical evidence for this claim. This impedes our understanding of language attitudes and questions the usefulness of the notion of language attitudes in language maintenance research.

Social psychological attitude models which distinguish between explicit and implicit attitudes generally agree on the definitive criterion of automaticity. Automatic vs. controlled processes are found to govern implicit vs. explicit attitudes and they have been investigated in social psychology since the 1980s (Chaiken, 1980). Research on automatic processes explored the conditions for the activation of the same implicit attitudes by different attitude objects, for example with studies on the applicability heuristics and stereotyping. Findings indicate that the resemblance of attitude objects matters for their shared implicit evaluation.

Despite the differences between the process-focused attitude models in social psychology, they share common predictions for individuals' behaviour. A plethora of research shows that implicit attitudes are better predictors of spontaneous or habitual behaviour in socially sensitive contexts than explicit attitudes.

I suggest applying process-focused attitude models from social psychology in language maintenance research in order to redefine the distinction between the two attitude types, implicit/covert vs. explicit/overt. The present work addresses thereby the shortcomings of

approaches to language attitudes in language maintenance. In addition, it follows new trends in broader sociolinguistic research that encompass the notion of automaticity from research on social cognition. While this work does not suggest applying a specific attitude model, e.g. dual attitude models (Greenwald & Nosek, 2009; Wilson et al., 2000), it proposes the use of common defining features of these process-focused attitude models in language maintenance research on language attitudes. These common defining features present in all process-focused attitude models in social psychology include the criterion of automaticity to distinguish between explicit and implicit attitudes.

The present work identifies the implications of social psychological research for the predictive value of attitudes in language maintenance. An application of process-focussed attitude models from social psychology also corroborates the claim in language maintenance studies that implicit language attitudes are better predictors of language change and language use in endangered speech communities. More specifically, I propose that language usage in the home domain in an endangered speech community is habitual and spontaneous behaviour in a socially sensitive context. Consequently, social psychological attitude research predicts that implicit language attitudes will be better indicators of habitual and spontaneous language usage in the home domain. Therefore, social psychological attitude research implies that implicit language attitudes are also better indicators of language vitality in language maintenance research.

The differences in theoretical approaches to (language) attitudes are based on their focus, i.e. content-focused or process-focused, and these differences show also in methodological approaches to attitudes in social psychology and sociolinguistics. The next section elaborates on different methodologies of mainly process-focused approaches to attitudes, and particularly outlines measures of implicit/covert language attitudes.

2.2. Attitude measurement

The cross-fertilisation between social psychology and sociolinguistics includes methodologies to qualitatively and quantitively investigate (language) attitudes. The overview in this section focuses on different methods of measuring specifically language attitudes.

Language attitudinal studies which yield qualitative data consist mainly of open-ended questions in questionnaires (Hawkey & Mooney, 2019), ethnographic observations (Gal, 1979; Gumperz, 1964; Redinger, 2010), sociolinguistic interviews (Karatsareas, 2018; O'Rourke, 2018), focus groups (Bellamy & Horner, 2018; Price & Tamburelli, 2016), discourse analysis and content analysis of language codification and policies (Bellamy & Horner, 2018; Horner, 2009). Qualitative data is frequently part of the more "socially grounded" approaches to language attitudes, for example the investigation of *global attitudes* as *language ideologies*, see section 2.1.2. Overall, the collection of qualitative data reflects a theoretical focus on attitude content rather than underlying cognitive processes, see section 2.1.2.

Section 2.1.5. showed that the focus of this thesis is on underlying cognitive processes of language attitudes and specifically implicit/covert attitudes due to this work's context in language maintenance research. Consequently, I will not further elaborate on methods used to collect qualitative attitudinal data.

Instead, I would like to give a brief overview of methods used to quantitively measure (language) attitudes in connection to theoretical approaches which are mainly based on underlying processes of attitudes. Following process-focused theoretical approaches to attitudes, social psychological and sociolinguistic studies measure explicit/overt (section 2.2.1.) vs. implicit/covert attitudes (section 2.2.2.). The overview focuses on latter methods for measuring implicit/covert (language) attitudes and also includes their criticism as well as new methodological advances, such as methods to elicit implicit automatic attitudes. This section concludes by outlining methodologies used in language maintenance research to measure attitudes and by criticising the lack of methodological advances in this research field (section 2.2.3).

2.2.1. Measurement of explicit/overt (language) attitudes

Generally, research on language attitudes measures overt/explicit attitudes with so called direct methods, and covert/implicit attitudes with indirect measures. Direct measures are overt methods of attitude elicitation, in which participants simply directly express their evaluation of language varieties in general, or their evaluation of specific aspects of language. This can take the form of a questionnaire with semantic differentials (Osgood, 1952) and/or Likert-type scales, or the use of a

label rank test, in which participants rank the labels of language varieties according to their preferences (Kristiansen & Jorgensen, 2008). Participants in such studies are aware of the attitude object as well as the direct attitude measure. In addition, such direct methods comprise responses based on controlled processes requiring motivation, time and cognitive resources. Consequently, direct methods measure (language) attitudes which are explicit/overt in nature following all process-focused approaches to attitudes (see section 2.1.1): On the one hand, direct methods elicit language attitudes which are explicit in nature based on the criterion of awareness. On the other hand, direct methods elicit attitudes which are also identified to be explicit based on the criterion of automaticity.

The majority of studies on language attitudes construct and apply their own questionnaires, despite the availability of standardised language attitude questionnaires (Schoel et al., 2012). In general, these questionnaires structurally fit the studies' theoretical approach to language attitudes, for example incorporating attitude dimensions, see section 2.1.2., and for example Deminger (2000), Hawkey (2020) and Kircher (2012). Direct measures can also reflect the tripartite structure of language attitudes or include the three attitudinal components of the *Theory of Planned Behaviour* (Ajzen, 2006; Girardelli, 2016; Underwood, 2012).

Alternatively, some language attitudinal studies tailor their questionnaires only to the specific sociolinguistic situation, without reflecting their theoretical approach in their methodology (Fehlen, 2009; Gilles, Seela, Sieburg, & Wagner, 2010). Overall, direct attitude measures are identified as having dominated language attitude research (Garrett, 2010).

Overall, direct methods measure (language) attitudes which are explicit/overt in nature according to process-focused approaches applying both criteria, i.e. automaticity and awareness. In addition, direct methods, such as questionnaires, can also be used to measure the content of language attitudes.

2.2.2. Measurement of implicit/covert (language) attitudes

In contrast to explicit/overt attitudes, studies of language attitudes measures covert/implicit attitudes with so called indirect measures. The "indirectness" of this measure corresponds on the one hand to the criterion of unawareness/ subconsciousness, which some process-focused

approaches to language attitudes use to define implicit attitudes (see section 2.1.1). This link of indirect measures and unawareness is described in the following section, while indirect measures and the criterion of automaticity are addressed later in the subsequent sections.

In studies with indirect measures, participants are supposed to remain unaware of the attitude object, such as a specific language variety, and/or they are unaware of the language attitude measurement (Garrett, 2010; Kristiansen & Jorgensen, 2008; Labov, 1972). Typically, participants are not directly asked about their preferences regarding a language variety or an aspect of language, but these preferences can be inferred indirectly from the evaluation of a speaker. This experimental paradigm, also called *speaker evaluation paradigm* (Cargile et al., 1994; Ryan Bouchard et al., 1982), normally includes audio speech samples of representative speakers, who are then evaluated by participants using questionnaires. Some of these questionnaires for speech evaluation have been standardised (Giles & Rakić, 2014; Mulac & Lundell, 1982; Zahn & Hopper, 1985). In addition, some of these *speaker evaluation* questionnaires also reflect content-focused approaches to language attitudes by including for example attitude dimensions of solidarity and status (Mulac & Lundell, 1982; Ryan Bouchard & Carranza, 1975).

The most widely used *speaker evaluation paradigm* is the Matched Guise Technique (Lambert, Hodgson, Gardner, & Fillenbaum, 1960) and variants of it, such as the Verbal Guise Technique, for example Carrie & McKenzie (2018). Typically, in a Matched Guise experiment, participants listen to multiple recordings of numerous speakers. In these recordings, each speaker is repeated a number of times, with each recording of one speaker differing from his/her other recordings only in respect to the linguistic variable under investigation, for example regional accent or language variety. Meanwhile, other features are kept as constant as possible, that is content of the recordings, speech rate etc. Most importantly, participants are unaware of the fact that a single speaker was recorded several times and thus their diverging evaluation of the same speaker is indicative of a different evaluation of the linguistic variable under investigation. This way, the unawareness criterion of implicit language attitudes does not only include the unawareness of the language attitude itself, but also the unawareness of its measurement. Furthermore, the Verbal Guise experiment is a variant of the Matched Guise, with separate speakers for each level of the linguistic variable under investigation: there is for example one speaker for each regional accent, instead of one speaker producing different regional accents as in the Matched Guise Technique (McKenzie, 2015; McKenzie & Gilmore, 2017).

Criticism of the Speaker Evaluation Paradigm

The Matched Guise has been discussed controversially, see for overviews Agheyisi and Fishman (1970), Garrett (2010), Giles (1991) and Kircher (2016). Criticism touches on issues such as the exaggerated salience of the linguistic variables under investigation in the juxtaposition of speech samples. Speakers and speech samples have been criticised as lacking representativeness and authenticity in Matched Guise Experiments, for example, by disregarding the interaction of speakers. Furthermore, the neutrality of the content of speech samples was challenged. Finally, researchers judged the construct validity to be potentially problematic with this attitude measurement (Garrett, 2010). They questioned whether participants perceive speech samples to represent the linguistic variable towards which researchers aim to measure attitudes or whether they might perceive speech samples to represent a different attitude object. Recently, studies found evidence for differences between speaker evaluation and language attitudes (Lehnert & Hörstermann, 2019; Lehnert et al., 2018a, 2018b), which raises concerns regarding generally measuring language attitude with the *speaker evaluation paradigm* (Cargile et al., 1994; Ryan Bouchard et al., 1982).

Most importantly for this thesis, the *speaker evaluation paradigm* has been criticised as constituting a measure of explicit rather than implicit language attitudes when applying the criterion of automaticity (Adams, 2019). Indirect measures, such as the Matched Guise Experiments, only meet the criterion of unawareness, but participants have the opportunity, without time or cognitive limitations, to activate controlled processes for their evaluation of the speaker in the *speaker evaluation paradigm*. Thus, process-focused approaches including the criterion of automaticity identify indirect measures based on the *speaker evaluation paradigm* to measure attitudes which are explicit/overt in nature.

New approaches to the indirect measurement of language attitudes

As discussed in section 2.1.1, in the last decades, language attitudinal studies have started to apply the criterion of automaticity to defining overt/explicit and covert/implicit attitudes (Babel, 2010; Campbell-Kibler, 2012; Pantos & Perkins, 2012; Rosseel et al., 2018). The defining feature of

automaticity is present in all types of social psychological attitude models which are based on underlying cognitive processes (see section 2.1.1.) More specifically, these models identify automatic processes as underpinning implicit attitudes, requiring only limited cognitive resources and time. On the contrary, controlled processes, which require greater cognitive resources and time, underly explicit attitudes.

Therefore, studies on language attitudes which incorporate automaticity into their definitions, also apply newly imported methodologies to measure implicit attitudes. These methodological advances in language attitudinal studies came after a period of methodological stagnation since the 1960s and are now occasionally even regarded as being superior to typical indirect measures such as the Matched Guise Technique (Preston, 2018). These new methodologies are adapted versions of established attitude measures applied in, for example, social psychology.

In social psychological research, automatic processes underlying implicit attitudes have been measured with psychophysiological measures such as EEG and fMRI e.g. (Cacioppo, Crites, Berntson, & Coles, 1993; Ito & Cacioppo, 2000; Lewis, Critchley, Rotshtein, & Dolan, 2006; Seib-Pfeifer & Gibbons, 2019).

Besides these psychophysiological measures, social psychological research uses indirect measures to elicit implicit attitudes, for overviews see Fazio and Olson (2003), Klauer (1997) and Schwarz (2008). These measures go beyond the indirect measures presented at the beginning of this section, where participants are assumed to be unaware of the attitude object and/or the process of attitude measurement. The indirectness of sociopsychological measures lies in a systematic influence of attitudes on participants' performance in different tasks. Depending on the size of this influence on the performance, researchers can infer the underlying attitude (Schwarz, 2008). Typically, participants' performance is measured in reaction time and accuracy in these experimental paradigms, but measurement can also include a variety of dependent variables, such as attributed meaning of symbols.

Overall, a range of behavioural indirect measures can be found, which are variations of three major methodologies. Firstly, *Affective Priming* measures (Bargh et al., 1992; Fazio et al., 1986; Herring et al., 2013), sometimes also called *Evaluative Priming* in the literature and its variant, *Masked Affective Priming* (Frings & Wentura, 2003). Secondly, the *Implicit Association Test* (Greenwald et al., 1998; Greenwald et al., 2003; Greenwald et al., 2009; Nosek, Greenwald, & Banaji, 2005),

which also has variants in form of the *The Go/No-Go Association Task* (Nosek & Banaji, 2001) and the *Extrinsic Affective Simon Task* (De Houwer, 2003). Finally, the *Affect Misattribution Procedure* is also applied to measure implicit attitudes (Payne, Cheng, Govorun, & Stewart, 2005).

At least to my knowledge, only Affective Priming and the Implicit Association Test have found their applications in studies of language attitudes (Babel, 2010; Campbell-Kibler, 2012; Rosseel et al., 2018; Speelman et al., 2013). Therefore, only these two experimental paradigms will be discussed in the following sections in order to suggest their application in language maintenance research.

Overall, Affective Priming (AP) and the Implicit Association Test (IAT) are applied to measure implicit attitudes in a plethora of studies from different research fields, such as health sciences, education sciences and political sciences. The attitude measures have been used to investigate attitudes towards a variety of attitude objects, such as food, religion, ethnicity and music (Anikin & Johansson, 2019; Czyzewska & Graham, 2008; Friese, Bluemke, & Wänke, 2007; Glock & Karbach, 2015; Goerlich et al., 2012). AP and IAT experiments have been conducted with a whole range of different stimuli, from auditory, verbal and non-verbal, olfactory, and also in a cross-modal application (Degner, 2011; Hermans, Baeyens, & Eelen, 1998; Vande Kamp, 2002). In general, the most common stimulus type is visual (Bargh et al., 1996; Fazio et al., 1986; Hermans, De Houwer, & Eelen, 1994; Spruyt, Hermans, Houwer, Vandromme, & Eelen, 2007)

Affective priming (AP)

The origins of this indirect attitude measure lie in in semantic priming paradigms, which are used in research into memory studies and social cognition, for an overview see De Houwer et al. (2009) and Herring et al. (2013).

This experimental paradigm works on the assumption that an affectively valent prime stimulus will facilitate the response to a target stimulus of the same affective valence (Fazio, 1995; Fazio & Olson, 2003; Fazio et al., 1986). The degree of facilitation is called priming effect. The affective congruency of prime and target stimuli – both being either positive or negative – has been shown to affect participants' performance in two types of tasks: pronunciation and evaluation tasks

(Spruyt et al., 2007). More specifically, in the pronunciation task, participants are quicker to pronounce positive target words, e.g. “holiday”, after the presentation of a positive prime picture, e.g. a baby. In the evaluation task, participants are quicker to evaluate target words, e.g. “holiday”, as positive, after a positive prime picture, e.g. a baby. In addition, participants’ evaluation is more accurate in the case of emotional congruency, for instance the evaluation of “holiday” as positive after a picture of a baby. Typically, the evaluation task is used to measure implicit attitudes with the AP (De Houwer et al., 2009). In implicit attitude studies, prime stimuli are used to represent the attitude objects under investigation, such as gender and ethnicity. In addition, target stimuli have a normed valence, which was previously established idiosyncratically for each participant (Fazio, 1995; Fazio et al., 1986) or in a separate, large-scale norming study (Bradley & Lang, 1999). Most importantly, the prime and the target stimuli in the AP experiment have no semantic connection, unlike in semantic priming paradigms.

There are two underlying cognitive mechanisms of Affective Priming effects, which are identified in social psychological literature. First, spreading activation accounts and second, response activation accounts, which are sometimes also called response competition accounts. (De Houwer et al., 2009; Herring et al., 2013; Klauer, 1997).

According to spreading activation accounts (Collins & Loftus, 1975), the prime stimulus activates a network of concept nodes that are interconnected and contain semantic information as well as evaluative information. This way, in case of affective congruency, the prime pre-activates the evaluation of the target and thus the evaluation of the target is facilitated. This earliest explanation of Affective Priming effects is now complemented by the response activation accounts/competition accounts in social psychological literature (De Houwer et al., 2009). In these accounts, the prime stimulus activates a specific unique response based on the valence of the prime, for example keypress for negative evaluation. However, this prime induced response is never executed, since participants are supposed to only react to, that is to say evaluate, the target stimulus. If the first, prime induced response is congruent with the actual response to the target stimulus, the reaction to the target is facilitated. On the contrary, if this first prime induced response is incongruent with target stimulus response, the response selection to target stimulus is slowed down since both response selections are in competition.

Implicit Association Test (IAT)

This indirect measure is based on the assumption that implicit attitudes can be inferred from the strength of the association of two categories, the target and the attribute category and their sub-categories (Greenwald et al., 1998; Greenwald et al., 2009; Nosek et al., 2005). The target category is, unlike in the AP experimental paradigm, the attitude object under investigation, for example gender with the sub-categories of female and male. In addition, the attribute category can be any concept or feature, such as profession with the sub-categories science and art, but it usually represents emotional valence with positive vs. negative categories in attitudinal studies.

More specifically, this experimental paradigm includes two binary categorisation tasks that alternate. Participants categorise attribute stimuli in two attribute sub-categories and additionally, they categorise target stimuli in two target sub-categories. Both categorisation tasks are done by keypress. The fulcrum of this experimental paradigm is the key mapping. Typically, one target category is mapped together with one attribute category on the same key, e.g. key "E" for "positive" and "female", and simultaneously, key "I" for "negative" and "male". After some blocks of this combined mapping, the keys switch for the target category only, and inverted blocks follow. Key "E" is still assigned to "positive" but now with "male" and simultaneously key "I" is still assigned to "negative", but now in combination with "female". The assumption of the IAT is that participants' performance, that is reaction time and accuracy, depends on the degree to which categories assigned to same key (e.g. "female" and "positive") are associated in their memory. The stronger the association, the better the participants' performance in the categorisation tasks. Overall, this improvement in performance is called IAT effect. Finally, IAT effects show the preference of one attitude object over another, when combined with a specific emotional valence as attribute category (Greenwald et al., 1998; Nosek et al., 2005). For example, attitude object "female" can be preferred for positive emotional valence over attitude object "male". This preference is assumed to be the implicit attitude towards the attitude object, i.e. positive attitudes towards the female gender (De Houwer et al., 2009).

Social psychological literature discusses two main cognitive mechanisms behind the IAT effect—response activation/competition and differential task switch—with the former potentially also

underlying the cognitive mechanisms of the AP. Firstly, according to the response activation/competition accounts (De Houwer, 2001; De Houwer et al., 2009), participants' performance is better when both stimulus types, attribute stimuli and target stimuli, induce the same response, i.e. left key press for "negative" and "male". In an incongruent trial, when there is no association between the categories mapped on the same key, two responses compete in the response selection stage.

In addition, the differential task switch is identified as underlying IAT effects (De Houwer, 2001; De Houwer et al., 2009). Since target and attribute stimuli are presented in alternating order, participants constantly need to switch between two tasks: target categorisation, e.g. attitude object "female" or "male", and attribute categorisation, e.g. "postive" or "negative". This task switch comes with task switch costs (Mayr & Kliegl, 2003; Wylie & Allport, 2000), which results in participants being slower and less accurate overall. However, if participants strongly associate the specific attribute and target categories mapped on the same key, the responses do not require a task switch. In this case, the responses to target and attribute stimuli align. For example, instead of categorisating a target stimulus, e.g. "word: girl", into the category of "female", participants can also categorise this target stimulus on the basis of the attribute category, e.g. valence as "positive", since it requires the same key press. In case of congruent key mapping, there are no task switch costs between categorisation tasks, since the task remains the same: participants categorise target stimuli, e.g. "word: girl", based on their valence, e.g. "positive", instead of the target category, e.g. "female", and simultaneously they categorise the attribute stimuli, e.g. "word: love" also based on their valence. This way, performance is better in cases when participants associate the two categories mapped on the same key.

Overall, following the shared definition of implicit attitudes in different social psychological attitude models (see section 2.1.1.), Affective Priming and Implicit Association Tests have been overwhelmingly argued to represent implicit attitude measures (De Houwer & Moors, 2007; De Houwer et al., 2009; Hermans et al., 1994). More specifically, these experimental paradigms elicit attitudes based on automatic, affective, associative processes with limitations of cognitive resources and time constraints (see section 2.1.1.)

Caveats and criticism of Affective Priming and Implicit Association Test

Despite their wide-spread use, both attitude measures, the AP and the IAT have been subject to criticism touching on issues of validity, reliability and statistical analysis (De Houwer et al., 2009; Meissner, Grigutsch, Koranyi, Müller, & Rothermund, 2019)

First, the validity of a measure refers to the question of whether a testing method really measures the construct it aims to explore. Accordingly, the AP and the IAT are critiqued for potentially not measuring attitudes in general or not specifically implicit automatic attitudes, but other confounding variables.

Numerous factors are discussed as possibly confounding the AP and the IAT measures, including cognitive abilities, age, the salience and contrast of stimuli (De Houwer et al., 2009; Klauer, 1997; Meissner et al., 2019). Meissner et al. (2019) even questioned the validity of the IAT by arguing that attitudes cannot be inferred from the strength of the association of concepts, which is the fundamental proposition of the IAT (Fazio & Towles-Schwen, 1999; Greenwald et al., 1998; Meissner et al., 2019; Wilson et al., 2000). Furthermore, social psychological studies demonstrated that both measures are sensitive to stimulus context (Schwarz, 2008; Wittenbrink, Judd, & Park, 2001), which is frequently ignored in these experimental paradigms (Bargh et al., 1992; Fazio et al., 1986). For example, the presentation of a picnic scene vs. a street setting influenced the implicit automatic attitude towards black individuals (Wittenbrink et al., 2001). Sociolinguistic applications of the IAT tried to address this issue with a contextualised IAT for language attitudes (Rosseel, 2017). In addition, different stimulus processing strategies, global vs. detailed, have been shown to influence automatic implicit attitudes (Alexopoulos, Lemonnier, & Fiedler, 2017).

The construct validity of implicit/indirect measures does not only concern the question of whether a testing method measures the intended construct, that is the individual's attitude, but also whether this construct is an implicit, automatic attitude as well, as defined in social psychological attitude research. All current social psychological attitude models imply that implicit attitudes are based on automatic processes, thus cannot be controlled and influenced by social biases. However, there is some evidence showing the malleability of automatic implicit attitudes with participants who can "fake" their implicit automatic attitudes under certain conditions (Agosta, Ghirardi, & Zogmaister, 2011; Blair, 2002; Degner, 2009; Fiedler & Bluemke, 2005).

The validity of implicit attitude measures was also questioned due to their modest correlation with behaviour in general (Meissner et al., 2019). However, this criticism does not take into account the almost equally modest correlation of explicit attitudes with behaviour (Greenwald et al., 2009), and the context and type of behaviour. This thesis suggests that these modest correlations only highlight the need for further research into the mediating factors of attitudes in general, such as context, processing strategies and salience among many more.

Furthermore, indirect measures such as the IAT and AP were criticised as showing problems regarding internal and external reliability. Internal reliability refers to the test method reliably measuring the same construct consistently with each item, i.e. stimulus. External reliability refers to the replicability of the results with the same measure and population of interest. Research demonstrated reliability issues, both internal and external, especially with the AP (De Houwer & Moors, 2007; Fazio & Olson, 2003; Rosseel, 2017). On the contrary, the IAT shows better external and internal reliability overall (Greenwald et al., 1998; Nosek et al., 2005). Research identifies the explicitness with which the attitude object is made clear to participants to be the reason for these differences between the two implicit measures (De Houwer & Moors, 2007; De Houwer et al., 2009). More specifically, the AP measures implicit attitudes towards different representative stimuli of an attitude object, without explicitly naming the attitude object. Depending on participants' focus and other mediating factors, participants potentially infer different attitude objects from the representative stimuli. Since the IAT provides labels, and thus explicitly states the attitude object, the reliability of this implicit measure is better.

Finally, research criticised the processing and statistical analysis of data in the AP and IAT paradigm (Wolsiefer, Westfall, & Judd, 2017). In both experimental paradigms, reaction time and accuracy are collapsed into overall attitude scores towards the specific attitude object (Bargh et al., 1992; Fazio et al., 1986; Greenwald et al., 2003). This way, the systematic variation in the trial-by-trial responses to each item is ignored. This processing of the data in the AP and IAT experiments was shown to significantly exaggerate all effects, especially the priming effects in the AP paradigm (Wolsiefer et al., 2017). Accordingly, the magnitude of any effect on the behavioural task could not be interpreted only as influence of the implicit attitude, but was also due to the processing of the data. However, only the magnitude of the effects was found to be influenced, not the direction of the effect. Therefore, the valence of the inferred attitude remained the same, notwithstanding the data processing.

Most issues regarding potential caveats of implicit measures will be addressed in the design of the experiments of this thesis. The description of participants, stimuli and procedure in each study (see Chapter 5) show how this thesis takes into account the criticism of the IAT and AP.

To sum up, studies have applied direct methods, such as questionnaires, to measure explicit language attitude. Attitudes elicited by direct methods are found to be explicit in nature applying both defining criteria of process-focused approaches to attitudes, i.e. awareness and automaticity. Indirect methods, such as the Matched Guise Technique, have been applied to measure implicit attitudes and they have attracted a great deal of controversy, for example Garrett, Coupland and Williams (2003). Most importantly, researchers suggest that only indirect methods such as the *Implicit Association Test* and *Affective Priming* measure implicit attitudes when process-focused approaches apply the criterion of automaticity.

2.2.3. Attitude measurement in language maintenance research

Section 2.1.4. demonstrated that language maintenance studies mainly incorporate the same content-focused and process-focused approaches to attitudes which are present in general studies of language attitudes. These include, for example, language attitude dimensions of status and solidarity, and most importantly, the distinction between implicit/covert vs. explicit/overt attitudes. However, this distinction is based only on the criterion of awareness/consciousness in language maintenance studies, unlike recent sociolinguistic studies, which distinguish between explicit/overt and implicit/covert attitudes based on the criterion of automaticity. The theoretical approaches from section 2.1.4. are also reflected in the methodology applied in language maintenance studies for measuring language attitudes.

Generally, in the research field of language maintenance, standardised language vitality frameworks include a methodology to some degree, since they themselves provide factors for the language vitality measurement (Brenzinger et al., 2003; Giles et al., 1977; Laakso et al., 2016; Lewis & Simons, 2010). However, a methodology for measuring language attitudes is not specified in these frameworks, with one exception in which a questionnaire is provided (Laakso et al., 2016). Similar to studies on language attitudes in general, language maintenance research measures

explicit/overt attitudes with direct measures such as questionnaires (Deminger, 2000; O'Rourke, 2010; Ó Hifearnáin, 2013), and implicit/covert attitudes with indirect measures such as the Matched Guise Technique or Verbal Guise Experiments (Bourhis & Giles, 1976; Loureiro-Rodriguez, Boggess, & Goldsmith, 2013; Németh, 2010; Price & Tamburelli, 2019). Likewise, there is a trend in language maintenance research to apply more qualitative methods, and if quantitative methods are used, direct methods rather than indirect methods are applied (Gal, 1993; Hawkey, 2020; Humphreys, 1993; Murchu, 1993; O'Rourke, 2010; Ó Hifearnáin, 2013; Riehl, 2007; Sallabank, 2013b; Simpson, 2013)

At least to my knowledge, no study in the field of language maintenance has applied indirect methods from social psychological research, such the IAT or AP to measure automatic implicit attitudes.

2.3. Chapter conclusions

Two different theoretical approaches to (language) attitudes, i.e. process-focused and content focused, were discussed in section 2.1. The section showed that approaches to language attitudes only recently started to incorporate the criterion of automaticity in attitude models which focus on underlying processes of attitude manifestation.

Language maintenance research identifies language attitudes to be indicators of language vitality and especially emphasises the important role of implicit attitudes as predictors of actual language usage. In this research field, explicit and implicit attitudes are distinguished based on the criterion of attitude awareness and the influences of social biases. Overall, language maintenance research disregards new approaches from language attitudinal studies that incorporate the defining feature automaticity and insights from process-focused attitude research in social psychology.

Section 2.1.1 presented commonalities and differences in social psychological studies which focus on underlying cognitive processes of attitudes. Despite significant differences in these attitude

models especially in the linking of implicit and explicit attitudes, the section highlighted some shared features of single, dual and interactive attitude models. Overall, all these models base their definition of explicit and implicit attitudes on the automaticity of attitudes. Automatic processes underpin implicit attitudes, requiring only limited cognitive resources and time. In contrast, explicit attitudes are based on controlled processes, requiring a higher degree of cognitive resources and time. Social psychological research into these automatic and controlled processes also focused on the conditions of attitude activation (Chaiken, 1980; Chen & Chaiken, 1999; Fazio, 1995; Gawronski et al., 2009). Studies found that similarity of different attitude objects matters for the activation of the same implicit attitudes, which shows, for example, in studies on applicability and representative heuristics (Devine & Sharp, 2009; Kahneman & Tversky, 1972; Tversky & Kahneman, 2004). In addition, current social psychological models share common predictions for individuals' behaviour. A plethora of research shows that implicit attitudes are better predictors of spontaneous or habitual behaviour in socially sensitive contexts than explicit attitudes, e.g. Greenwald et al. (2009) and Perugini (2005).

The present work suggests the use of common defining features of process-focused social psychological attitude models to distinguish between implicit/covert vs. explicit/overt attitudes in language maintenance studies. This work does not suggest applying a specific attitude model, for example, dual attitude models (Greenwald & Nosek, 2009; Wilson et al., 2000), but rather focuses on the commonalities of social psychological studies on underlying cognitive processes of attitude manifestation. This way, the definition of implicit language attitudes in language maintenance research is improved by social psychological insights in general, such as the role of automaticity. Furthermore, findings from social psychological attitudinal studies can corroborate that implicit language attitudes will be better indicators of actual language usage as it is claimed in language maintenance research (Sallabank, 2011a). More specifically, language usage in an endangered speech community is habitual or spontaneous behaviour in a socially sensitive context, and for such a type and context of behaviour, implicit attitudes are found to be the better predictors (Greenwald et al., 2009; Perugini, 2005).

Section 2.2. showed that the different criteria of process-focused theoretical approaches to (language) attitudes are also reflected in different methodologies. Most importantly, indirect attitude measures, such as the Matched Guise Technique, do not measure implicit attitudes

following attitude definitions which apply the criterion of automaticity (Fazio & Towles-Schwen, 1999; Wilson et al., 2000). On the contrary, indirect attitude measures such as the Implicit Association Test (IAT) and Affective Priming (AP) tap into automatic processes and thus elicit attitudes which are implicit according to process-focused approaches including the criterion of automaticity. Now, this thesis suggests also applying these implicit attitude measures in language maintenance research.

The next chapter gives a general outline of language standardisation and more specifically its role in language maintenance research. The aim of the chapter is to demonstrate how attitude definitions including the notion of automaticity (see section 2.1.1.) could improve our understanding of standardisation as a tool of language maintenance.

Chapter 3. Approaches to Standardisation: Definitions, methods and limitations

As described in section 2.1.4., language maintenance research identifies language attitudes as indicators of language vitality. In addition, this research field suggest numerous factors that can improve attitudes towards endangered varieties (Brenzinger et al., 2003; Fishman, 1991; Lewis & Simons, 2010). The introduction of a standard variety into an endangered speech community is among these factors. This section gives an overview of language standardisation in general and specifically its role in language maintenance research. The overview aims to show how language maintenance research commonly disregards differences in language standardisation processes. Finally, section 3.5. and 3.6. will discuss how these shortcomings in language maintenance research could be addressed when applying process-focused attitude definitions and the criterion of automaticity, as described in section 2.1.1.

Standardisation and standard varieties are argued to be present in all modern-day speech communities (Ammon, 1989, 2004; Haugen, 1966, 1997). Sociolinguistic and dialectological research distinguishes between the standard variety and standardisation, the latter being the process of language planning aiming to create a standard variety (Ammon, 1987; Gal, 2006; Lippi-Green, 1994; Milroy, 1991; Schmidlin, 2011). The following section gives first a summary of different definitions of a standard variety, before elaborating on this work's definition of a standard variety from a perceptual dialectological perspective. In addition, different theories of standardisation processes are summarised in order to highlight that there are two different ways to introduce a standard variety into a speech community. Furthermore, arguments in language maintenance studies are presented as to why introducing a standard variety into an endangered community has a positive effect, and the empirical evidence for this claim is reviewed. The section closes by drawing conclusions how our understanding of standardisation in language maintenance could be improved when definitions of language attitude followed process-focused approaches with the criterion of automaticity (see section 2.1.1.). Finally, the research questions and hypotheses of this thesis are presented following these conclusions.

3.1. Definition of a standard variety

Overall, there is little agreement about what constitutes a standard variety in linguistic research. Typically, two main features can be found in the various definitions: uniformity and prestige. First, a standard variety is more or less uniform with a low degree of variation (Ammon, 1989, 2004; Haugen, 1966, 1968; Stewart, 1968). However, the degree of uniformity is contested ranging from "minimum of variation" of the standard variety (Haugen, 1972, p. 249) to significant degrees of variation in concepts such as polynominal standard varieties (Jaffe, 2007, 2015) and pluricentric/ pluriareal languages (Ammon, 1996; Clyne, 1992; Schmidlin, 2011). The second shared feature of these definitions is the prestige that the standard variety holds. More specifically, this prestige shows in the usage of the standard variety in prestigious domains of language usage and by prestigious model speakers (Ammon, 1989, 2004; Haarmann, 1990). In some approaches, this prestige is regarded as being linked to prescriptivism, with little or no tolerance of variation within a standard variety (Lippi-Green, 2000; Milroy, 2001; Woolard, 1992).

Beyond this point, there is significant disagreement about what constitutes a standard variety. It is outside the scope of this work to give an in-depth account of the different research stances. Such an account would need to touch upon issues from the macro-perspective, for example convergence and divergence processes (Auer, Hinskens, & Kerswill, 2008; Trudgill & Kerswill, 2008) and micro-perspective, for example individuals' norm awareness in specific contexts such as education (Davies, 2006; Davies & Ziegler, 2015). In the following, the main approaches to defining a standard variety are instead summarised. To facilitate the summary, I will present four of the main differences – among many more – between the definitions of a standard variety; ideological vs. functional approaches, unimodal approaches with a written standard vs. multimodal approaches with a written and spoken standard, the standard and its vernaculars in a dichotomy vs. on a continuum, user-based vs. usage-based approaches.

3.1.1. Ideological vs. functional definitions

The first difference in defining a standard variety can be found between functional and ideological approaches. Ideological approaches define the standard variety as an abstract, unattainable goal of language standardisation processes. Typically, a standard is viewed as "an idea in the mind rather than reality" (Milroy, 1991, p. 22). Overall, ideological approaches to language standardisation emerge in the larger theoretical framework of *language ideology*, which section 2.1.2. already elaborated on. As described, language ideologies show generally in shared beliefs and specifically in codifications and norms arising with the standardisation of a variety (Lippi-Green, 1994, 2000; Woolard, 1992; Woolard & Gal, 2001; Woolard & Schieffelin, 1994). More specifically, language ideologies are *global attitudes* towards language varieties (Baker, 1992) and of an unconscious nature. Similarly, the *standard language ideology* (Lippi-Green, 2000) encompasses beliefs that the standard variety is a superior variety compared to the vernacular. Since the standard variety is perceived as more legitimate, prestigious and more correct (Milroy, 1991; Milroy & Milroy, 1997, 1999), it needs to be protected from supposed deterioration. However, its protection is unspecific and more emotional in nature than actually practical, since the object of protection, that is the standard variety, is assumed to be abstract (Milroy, 1991).

Contrastingly, functional approaches define the standard variety as a concrete and tangible variety that has specific societal functions in a speech community (Ammon, 1987, 1989, 2004; Haarmann, 1989; Haugen, 1968; Stewart, 1968). These functions are within prestigious domains of language usage, namely H(igh) domains. Sociolinguistic frameworks define domains as language usage in relation to person, place and topic (Fishman, 1965; Greenfield & Fishman, 1970). In these frameworks, High domains, also abbreviated as H-domains, denominate domains of language usage where a H(igh) variety is used in diglossic situations (Ferguson, 1959), or more generally the most prestigious variety is spoken and written (Fishman, 1965, 1991; Kloss, 1978). Typically, H(igh) domains are found to be the educational, governmental and work sphere, as well as places of worship. Functional approaches include in their definition of a standard variety its usage in such domains. However, a standard is not just defined by specific societal functions in specific domains but also by the number of societal functions it has in a speech community, that is to say, the number of domains of usage. Following functional approaches, a standard variety is the most uniform

variety that has "the minimal variation in form and […] the maximal variation in function" (Haugen, 1972, p. 249).

Some functional approaches further distinguish between two types of a standard variety. An *informal standard* (Stewart, 1968) or *standard of usage*/*Gebrauchstandard* (Ammon, 2003) is based on norms emerging from actual linguistic behaviour in specific prestigious functions. On the contrary, a *formal standard* (Stewart, 1968) or *codified standard/kodifizierter Standard* (Ammon, 2003) is only to be found in codified norm texts. However, it is thought to exist as a distinct variety, unlike the abstract standard variety in ideological approaches.

Overall, the majority of functional definitions emphasise that a standard variety is to some degree genetically related to its vernaculars (Chambers, 1980; Kloss, 1978, 1993). This structural relation is especially prominent in functional approaches, where the standard variety is described as acting as a "roof" for its vernacular varieties (Ammon, 1989; Kloss, 1978). A variety is thought to be "roofing" over other structurally related varieties, when the "roof" has a prescriptive relationship with the "roofed" varieties. The analogy of a roof emphasises that a standard variety is thought to potentially protect its vernaculars from language contact with other unrelated standardised varieties, see for example *dachlose Außenmundarten/ roofless dialects* (Kloss, 1978, 1993).

However, some functional approaches do not assume a standard variety needs to be necessarily genetically related to its vernaculars (Gilles, 2019; Muljacic, 1989). Instead, they use the presence or absence of a close genetic relation as a criterion to distinguish between a structural and a functional standard. On the one hand, a functional standard is genetically unrelated to its vernaculars, such as French to the Alsatian vernaculars, but has functions of a standard variety in the speech community, for example its usage in H-domains (Muljacic, 1989). In multilingual communities, these functional standard varieties are similar to what language maintenance studies identify to be *majority languages* (Edwards, 2012; Fishman, 1964, 1991, 2001), which potentially endanger the unrelated vernaculars.

Alternatively, a structural standard variety is introduced as the genetically closest related standard variety to its vernaculars, for instance Standard Luxembourgish in Luxembourg. However, a structural standard variety can still vary in its linguistic distance from the vernaculars. For example,

Standard German is linguistically more distant from its Bavarian vernacular than Standard Luxembourgish from its Moselle Franconian vernacular, even if both Standard German and Standard Luxembourgish are the genetically closest standard varieties and thus structural standards. Like a functional standard, a structural standard variety has all the societal functions of a standard variety in a speech community (Chambers, 1980; Kloss, 1978).

Furthermore, in more complex multilingual speech communities, a functional standard is thought to sometimes be distantly genetically related to its vernaculars, such as German in Luxembourg (Gilles, 2019). Sociolinguistic studies in Luxembourg identify Standard German to be a former structural standard of the Moselle Franconian speech community (Auer, 2011; Kloss, 1978). But after the introduction of a "new", linguistically more closely related standard variety, i.e. Standard Luxembourgish, German is now mainly described to be a functional standard of the Moselle Franconian vernacular (Gilles, 2019; Muljacic, 1989).

3.1.2. Unimodal, written vs. multimodal definitions

Modality is the second aspect in which differences in defining a standard variety show. A major focus can be found on the visual mode, that is, the medium of writing. Typically, all definitions of a standard variety emphasise the importance of codification (Ammon, 1987, 1989; Ferguson, 1968; Stewart, 1968). This codification is mainly thought to be made of written codices such as dictionaries, grammars etc. The more codified a variety is in written form, the more standardised it is thought to be (Ammon, 1989; Ferguson, 1968, 1993; Stewart, 1968).

Unimodal definitions of a standard variety are not common, since mainly only lay people think of the standard variety as exclusively written based on written codification (Dittmar, 2004; Milroy & Milroy, 1999). In most studies, standardisation processes are regarded as being intertwined with literacy, since a written form of a variety requires some degree of standardisation (Ferguson, 1968, 1993; Grenoble & Whaley, 2005; Kloss, 1978).

The majority of definitions are multimodal and also include a spoken standard variety, sometimes called a "pragmatic standard", as well as a written standard (Ammon, 1989; Auer, 2005, 2011; Hagemann, 2013; Stewart, 1968). The spoken standard can also have different degrees of written

codification. See for example the discussion of German and British English as spoken standard varieties in Durrell (1999). Besides its potential written codification, a spoken standard also emerges on the one hand in individuals' actual language production in specific functions (Deppermann, Kleiner, & Knöbl, 2013), similar to the above mentioned *informal standard* (Stewart, 1968)/ *standard of usage*/*Gebrauchsstandard* (Ammon, 2003). On the other hand, a spoken standard norm is also present in individuals' norm awareness of linguistic behaviour (Deppermann, Knöbl, & Koplenig, 2015; Kristiansen & Coupland, 2011). Numerous studies found evidence for norms of usage of a spoken standard that were unwritten, although speakers were still aware of them (Costa, 2018; Davies, 2006, 2018; Scharloth, 2006; Schmidlin, 2011). Research finds that these norms of a spoken standard are frequently oriented towards the written standard following the principle "speak as you write" (Ammon, 1989; Auer, 2005; Deppermann et al., 2015; Lippi-Green, 1994). However, the degrees of variation that are accepted for the spoken standard are significantly higher than for the written standard variety (Durrell, 1999; Kiesewalter, 2019), see for example the Norwegian context (Haugen, 1966, 1968).

3.1.3. Definitions of standard vs. vernacular on a continuum or in a dichotomy

The third difference in definitions of the standard variety lies in its opposition and relation to other varieties. There is disagreement in research as to whether the standard and the vernacular constitute a continuum or a dichotomy (Britain, 2004; Löffler, 1983; Stehl, 1994). Different linguistic traditions can be found in continental European linguistics and Anglo-Saxon linguistics, for detailed comparisons see Dittmar (2004); Durrell (1999); Schmidlin (2011). Continental European linguistic literature identifies other sub-varieties between the poles of the (non-) standard-continuum such as sub-standards and regional standard varieties (Auer, 2005, 2011; Auer et al., 2008; Riehl, 1999; Scheutz, 1999; Stehl, 1994). Conversely, Anglo-Saxon linguistic literature mainly dichotomises between standard and vernacular varieties, without these sub-varieties (Britain, 2004; Chambers, 1980; Milroy, 1991; Trudgill, 1999).

3.1.4. Definitions of standard vs. vernacular: User-based or usage-based

Finally, differences can be found in whether the variation between standard and vernacular variety is either user-based, or usage-based. Following the user-based perspective, sociolinguistic and dialectological approaches define the (non-) standard variety as linked to users who have a specific social status and/or come from a specific geographical region. More specifically, the standard variety is associated with the upper class, while the vernacular with the working class (Labov, 1971, 1972, 1997). The prestige of the social group gives the standard variety its own prestige (Edwards, 1992; Trudgill, 1999). The upper class is considered to comprise the native speakers of the standard variety, but other speakers might strive to acquire the standard variety. This *social dialect* is also described as including formal and informal registers (Trudgill, 1999). In addition, the social status of standard speakers can also be based on professions, rather than class. For example, teachers and news speakers are thought to be model speakers of the standard variety, with the authority to impose standard norms (Ammon, 1989, 2004).

Furthermore, user-based approaches to defining the standard variety can include the geographical location of speakers. These approaches highlight that the standard is based on the variety used by speakers located in the centre of political and economic power in a speech community (Kloss, 1978; Milroy, 1991; Stewart, 1968).

On the contrary, usage-based approaches argue that the standard variety is socially and geographically unmarked, see for an overview Dittmar (2004). The standard variety is rather a lingua franca, a common language of different vernacular speakers for purposes of mutual intelligibility (Auer, 2005, 2011). Accordingly, speakers vary between standard and vernacular based on the context specific features, e.g. communication with outsiders (Halliday, 2007 [1969]). Other context specific features are the formality of the situation, which is generally emphasised in functional definitions of the standard variety (see functional vs. ideological definitions). Similarly, the standard variety is defined as being a formal register (Ferguson, 1968, 1994; Halliday, 2007 [1969]) used in H(igh) domains.

Definitions of a standard variety are criticised for having been established without a sound empirical fundament (Deppermann et al., 2013; Durrell, 1999, 2007; Heeringa, Kleiweg, Nerbonne, & Gooskens, 2006; Löffler, 1983; Nerbonne & Heeringa, 2010). More specifically, numerous sociolinguistic and dialectological studies rely only on introspection, or alternatively, they analyse a selection of texts or speakers taken to be representative of the (non-) standard variety (Ammon, 1995; Auer, 2005, 2011; Auer et al., 2008; Scheutz, 1999). However, sampling methods do not necessarily ensure a representative sample of (non-) standard speech, nor does the selection of the texts (Helfrich, 1999; Riehl, 1999; Stehl, 1994; von Nolcken 1999).

In addition, the definitions of the (non-) standard varieties are criticised for lacking any representation in the individuals' minds, and thus not holding up on the micro-level of linguistic analysis (Durrell, 1999; Löffler, 1983; Preston, 1989). This is especially true for objects of study on the continuum between standard variety and vernacular, for example, regional standards, regiolects and sub-standards, which speakers rarely identify as separate varieties (Durrell, 1999; Lenz, 2003; Löffler, 1983; Preston, 1989)

3.2. Defining a standard variety in this thesis: a perceptual dialectological perspective

Perceptual dialectological definitions of (non-) standard varieties address exactly these issues of methodology and the validity of the constructs in speakers' minds. In the following section, I give a short overview of the research stance of *perceptual dialectology* and *folk linguistics* and elaborate how a standard variety can be defined following this approach. Finally, the definition of a standard variety in this thesis is discussed within the perceptual dialectological framework.

Perceptual dialectology is often seen as branch of folk linguistics, for example Preston (1999a) and Purschke (2019). Folk linguistics is speaker-centred approach to linguistics as it focuses on what professionally untrained people say about language production, language evaluation and the exploratory factors behind their statements (Preston, 1999a, 2018). Historically, folk linguistics

was understood as the false beliefs of common people in contrast to scientific and specialist knowledge (Preston, 2016). Since the 1970s, the justification of speaker-centred approaches in linguistics has been argued extensively, see for example Kristiansen (2015); Preston (1989, 1999b), but it is beyond the scope of this work to engage with these arguments in depth. Overall, it is argued that "what non-linguists believe, constitutes precisely that cognitive reality" (Preston, 1989, p. 326), which explains actual language production in interaction with scientific knowledge. These non-linguistic beliefs can together with (socio-) linguistic knowledge contribute to our understanding of individuals' linguistic behaviour. For example, speakers' notion that a standard is prestigious can explain together with the linguistic knowledge that there are different types of standard varieties the actual usage of a standard variety. In addition, the description of this "cognitive reality" of speakers is important in order to plan and assess interventions to change linguistic practice, for instance, in endangered speech communities. For example, it is necessary to investigate speakers' perception of language usage in education to assess the impact of language maintenance efforts in this domain (Hawkey, 2014; Price & Tamburelli, 2016).

In addition, perceptual dialectology and folk linguistics are also seen as embedded in the larger framework of *language regard,* e.g. Preston and Niedzielski (2013); Purschke (2018). In section 2.1.2., language regard was put forward as one example of larger frameworks in which language attitudes are situated. Accordingly, language attitudinal studies are often thought to be part of the research field of folk linguistics (Preston, 1999b, 2018), since both are speaker-centred approaches.

Overall, the definition of a standard variety from a perceptual dialectological perspective is based exclusively on speakers' perception. This focus on speakers' minds was criticised to be absent in other approaches to define standard varieties, see beginning of this section.

Typically, perceptual dialectological studies aim to identify linguistic variants, for example, the pronunciation of <ng> in German, which speakers perceive to be more or less "standard like" (Kiesewalter, 2019). In multilingual speech communities, this perception of "standardness" can also include the presence or absence of language contact phenomena. Take, for instance, Spanish interferences in Galician or Catalan (Hawkey, 2014; O'Rourke, 2018). Studies show differences between the linguistic variants speakers perceive to be standard and the linguistic variants that are codified as spoken and written standard varieties (Deppermann et al., 2013; Deppermann et al.,

2015; Kiesewalter, 2019; Schmidlin, 2011). In addition, speakers' distinction between standard and vernacular variants does often not necessarily align with the dichotomous distinction or the continuum between standard and vernacular as postulated by theoretical frameworks, for example Lenz (2003).

Furthermore, perceptual dialectological studies also aim to establish what the meaning of a standard variety is for its speakers. More specifically, speakers' definitions of a standard variety can include the above discussed features such as the link to a social class, geographical region, specific H(igh) domains of language usage (Christen, 2010; Grondelaers & Kristiansen, 2013; Preston, 1989). However, unlike in numerous other approaches, these defining features of a standard variety are established in speakers' perception with sound methodology, for example, by using speech evaluation tests and mental maps (Dailey-O'Cain, 1999; Hundt, 2018; Kiesewalter, 2019; Kristiansen, 2010; Preston, 1999a; Purschke, 2019; Schmidt, 2010; Schmidt & Herrgen, 2011; Villarreal, 2018). When establishing speakers' perception of standard and vernacular varieties, perceptual dialectological studies often include affective evaluation as positive and negative attitudes towards linguistic variants and varieties (Eichinger & Stickel, 2012; Lenz, 2003; Preston, 1989). The approaches to attitudes in perceptual dialectology can be content-focused as well as process-focused, depending on whether the workings or the content of speakers' perception are investigated, see also section 2.1.2.

In general, perceptual dialectological and language attitudinal studies show that attitudes towards standard varieties tend to be more positive overall than towards non-standard varieties, see for example: Giles and Marlow (2011); Lasagabaster (2004); Neises (2013); Rosseel et al. (2018); Speelman et al. (2013). This includes the evaluative features that have been mentioned above in ideological approaches to defining a standard variety. More specifically, speakers report that a standard variety is "more correct" and "more prestigious", for example Eichinger and Stickel (2012); Neises (2013); Preston (1989).

Overall, in this thesis, the definition of a standard variety is in line with a perceptual dialectological perspective and this is also reflected in the methodology of this work. Accordingly, the definition of a standard variety and its vernacular is based on speakers' perception, which this thesis establishes empirically in a norming study (see section 5.2.5.).

This thesis denominates the varieties under investigation as *standard variety* versus *vernacular*. In the field of linguistics, terminology differs and is linked to specific traditions and research stances. A summary of this different terminology is beyond the scope of this work, but for overviews see Ammon (2004); Britain (2004); Dittmar (2004). The denomination standard variety is chosen over labels such as *H-variety* (Ferguson, 1959), *roofing variety* (Ammon, 1989; Kloss, 1978, 1993), *standard dialect* (Trudgill, 1999), because of its lack of a specific link to a theoretical framework. The label standard variety is used in numerous definitions from different approaches to standardisation (Ammon, 1989; Chambers, 1980; Giles & Marlow, 2011; Sallabank, 2013a; Stewart, 1968; Woolard, 1992).

In addition, this thesis uses the term vernacular to denominate the variety in contrast to the standard variety. I chose vernacular over other labels, most commonly *dialect* (Christen, 1998; Gilles, 1999) and *non-standard* (Hinskens, 2007; Trudgill, 1999). The decision not to use the label dialect was based on its conflicting meaning in the Anglo-Saxon and continental European linguistic traditions (see for an overview Britain, 2004). In the Anglo-Saxon linguistic traditions, a dialect can be localised socially—as a social dialect of a class—as well as geographically—as a dialect of a specific region (Chambers, 1980). On the contrary, in continental European linguistic traditions, dialects are exclusively varieties based on geographical location and some degree of genealogical relatedness (Mattheier & Wiesinger, 1994; Wiesinger, 1982b).

Furthermore, this thesis does not apply the label non-standard, since it is mainly an umbrella term commonly used to describe a range of varieties that are opposed to the standard variety (Dittmar, 2004). This range can encompass different registers (Trudgill, 1999), or different levels of "non-standardness", such as regiolects, vernacular and traditional dialects (Auer, 2005; Hinskens, 2007; Jaffe, 2007).

Alternatively, the thesis denominates the varieties in opposition to the standard variety as vernacular. Historically, the label vernacular has been linked to Labov's definition of a variety associated with the working class and with L1 acquisition (Labov, 1971, 1972, 1997), see also Coupland (2016) for a critical analysis. However, now the term is used in different approaches to denominate the variety in opposition to the standard (Milroy & Margrain, 1980; Sallabank, 2013b; Stewart, 1968) with and without its original link to class.

Besides the labels of vernacular and standard variety, this work also uses the respective labels of these varieties in the speech communities under investigation (see chapter 4). Following the perceptual dialectological approach, these labels are established empirically by a norming study exploring speakers' perception (see section 5.2.5.).

In addition, standard variety in this thesis mainly refers to a spoken standard. More specifically, the two studies in chapter 5 of this thesis focus on the spoken medium, whereas the study in chapter 6 does not specify a medium of usage. Overall, the reason for this focus on the spoken medium is to ensure the comparability between the two varieties, without issues relating to the medium of writing, such as unfamiliarity with written vernaculars. This is in line with perceptual dialectological approaches using commonly auditive stimuli to avoid the confounding variable of writing (Deppermann et al., 2015; Kiesewalter, 2019; Preston, 1989)

To summarise, section 3.1. and 3.2. showed that there are four main differences – among many more – between the definitions of a standard variety: ideological vs. functional approaches, unimodal approaches with a written standard vs. multimodal approaches with a written and spoken standard, the standard and its vernaculars in a dichotomy vs. on a continuum, and user-based vs. usage-based approaches. Section 3.2. also elaborated the definition of a standard variety from a perceptual dialectological view, which can include all of the above discussed differences, but focuses on the speakers' perception of a standard variety. Finally, the section concluded that this work's definition of a standard variety follows a perceptual dialectological approach, with a spoken standard variety defined by speakers and labelled as standard and vernacular.

3.3. Standardisation processes

The process resulting in a standard variety is called *standardisation* (Ammon, 1987; Lippi-Green, 2000; Milroy, 1991). Standardisation is either described as the natural process of language evolution (Coulmas, 1989) or, more commonly, as the outcome of conscious, deliberate language planning (Ferguson, 1968; Fishman, 1991; Haugen, 1966; Ray, 1968).

There is an abundance of theoretical frameworks aiming to describe the different phases of the standardisation processes (Ammon, 1989, 1995; Auer, 2011; Chambers, 1980; Haugen, 1966; Kloss, 1978; Stewart, 1968). For overviews of theoretical frameworks of standardisation see Deumert and Vandenbussche (2003); Kristiansen and Coupland (2011). The next section elaborates on a common point emerging from these theoretical frameworks: the identification of two different ways to introduce a standard variety into a speech community. Furthermore, it discusses the first way: creation of an endogenous standard, and the second way: association with an exogenous standard, separately. Finally, I consider the implications for the linguistic distance between the standard and its vernacular depending on the route the speech community took to introduce a standard variety.

Commonalities in standardisation frameworks: Two ways to introduce a standard variety

All theoretical approaches to standardisation have in common the first step of the process: identifying a norm on which the standard variety is based. There is general agreement that the introduction of the standard variety can happen in two different ways: either the speech community can create a "new", endogenous standard variety or it can associate its vernaculars with a given, exogenous standard variety that is also the standard variety of a different speech community.

These two ways of introducing a standard variety are present in the influential frameworks of standardisation. On the one hand, they are discussed directly with concepts such as the *selection stage* (Fishman, 2001; Haugen, 1966; Milroy, 2001), *endoglossic* vs. *exoglossic* (Auer, 2005, 2011), *endonormativity* vs. *exonormativity* (Ammon, 1989; Stewart, 1968) and *in-diglossia* vs. *out-diglossia* (Kloss, 1976). On the other hand, some theoretical frameworks do not discuss these two separate ways of introducing a standard variety directly, but it is implied in their discussion of other concepts, such as the *heteronomy* vs. *autonomy* of varieties (Chambers, 1980; Stewart, 1968). More specifically, previously heteronomous varieties, namely dialects, can become autonomous "new" languages if an endogenous standard variety is created. But dialects can also share an autonomous centre of a standard variety in cases of *shared autonomy* (Chambers, 1980), which is equivalent to an exogenous standard.

3.3.1. Creating a "new" endogenous standard variety: Polycentric and monocentric approaches

When a speech community is creating a "new", endogenous standard variety, this can involve either monocentric and polycentric standardisation processes (Deumert & Vandenbussche, 2003; Haugen, 1966). Monocentric standardisation promotes one specific variety as the single centre of the "new" standard, for example the variety of a specific social group or region. For instance, sociolinguistic research describes the "Copenhageness" of Standard Danish (Kristiansen & Jaworski, 1997). Additionally, monocentric standardisation can choose an old centre for the "new" standard. This involves the focus on one supposedly common original variety of a speech community that now solely exists in archaic model texts (Haugen, 1966). For instance, this was partially the case for the "new" Greek Standard *katharevousa* in the late 18th century with its numerous Ancient Greek features derived from model texts.

Conversely, polycentric standardisation bases the "new", endogenous standard variety on several varieties of the speech community. Accordingly, this endogenous standard variety is a composite of different features from different vernaculars of a speech community and their combination is often based on the frequency of usage (Haugen, 1966). In addition, a linguistic and diachronic comparison of all the related varieties of the speech community could also aid the construction of a hypothetical original variety, which constitutes the "new" standard variety, as seen with the creation of Nynorsk (Jahr, 2003).

In modern-day speech communities, the creation of a "new", endogenous standardised variety tends to be based on a mixture of polycentric and monocentric processes (Deumert, Vandenbussche, 2003). A prominent example is the standard variety of the Basque speech community, *euskara batua*. Standardisation processes in the Basque speech community only date back to the late 19th century, with the standardisation of orthography and grammar taking place only in the 1960s (Urla, Amorrortu, Ortega, & Goirigolzarri, 2018). This "new" endogenous standard variety is on one hand the result of an archaising monocentric standardisation, selecting Classical Lapurdian as the base for the "new" standard. On the other hand, a polycentric frequency

approach to standardisation led to the inclusion of current varieties from all regions of the speech community based on the frequency of usage of the specific variants (Urla et al., 2018; Zuazo, 2007).

Overall, depending on what type of standardisation process aided the creation of an endogenous standard variety—whether it was monocentric, polycentric, or mixed—some vernaculars might be linguistically closer to the endogenous standard variety than others, such as the vernacular of a geographical region on which a monocentric endogenous standard variety is based (Auer, 2005, 2011).

3.3.2. The second way to introduce a standard variety: Association with an exogenous standard variety

The second way to introduce a standard variety into a speech community is the association of the vernaculars with an exogenous standard variety. Definitions of exogenous standardisation processes in theoretical frameworks are diverse, for a concise overview see Schmidlin (2011). There is general agreement that an exogenous standard is distant to its vernaculars, even if the basis for this distance differs (Auer, 2005, 2011; Haugen, 1966; Kloss, 1976). More specifically, this distance of an exogenous standard variety is generally defined by a structural linguistic distance between the standard and its vernaculars. Alternatively, exogenous standardisation is established by models of language usage from a different speech community, with the underlying assumption of a structural linguistic distance. In the following, both bases for the distance of the exogenous standard variety to its vernaculars are discussed, before presenting the concept of pluricentrism, which is a trade-off between exogenous and endogenous standardisation processes.

First, the distance of an exogenous standard variety from its vernacular is generally defined as a structural linguistic distance (Auer, 2005, 2011; Kloss, 1976, 1978, 1993). This structural linguistic distance is established very differently in theoretical frameworks of standardisation since this involves the contested distinction between a language and a dialect. Typically, an exogenous standard variety is said to be generally unrelated to its vernaculars (Kloss, 1976). This occasionally even involves a speech community with an exogenous standard being regarded as a bilingual speech community (Auer, 2005, 2011). If the exogenous standard is assumed to be completely

genetically unrelated to its vernaculars, exogenous standardisation becomes intertwined with the concept of a functional standard, see section 3.1.1. Other frameworks define the linguistic distance between a standard variety and its vernaculars to be structural and attitudinal at the same time (Auer, 2005, 2011). Accordingly, an exogenous standard is not only based on structural linguistic features, but also on speakers' perception of linguistic distance. A plethora of sociolinguistic research shows how this perception of linguistic distance is influenced by whether varieties are thought to be dialects or languages (Chambers, 1980; Kloss, 1978, 1993; Trudgill, 1992).

Furthermore, different models of language usage are identified as basis of exogenous standard varieties. The defining characteristics of these models can remain vague when exogenous standardisation is only said to be "based upon foreign models of usage… [from]… another country" (Stewart, 1968, p. 534). Alternatively, Ammon (1989, 1995) identifies in a more detailed analysis two different bases of exogenous standardisation processes. On the one hand, exogenous standardisation processes are based on models of written and spoken language usage, such as texts and speakers from another speech community. On the other hand, they can be established by codices, that is to say dictionaries, grammar etc., issued by language authorities of a different speech community. He further distinguishes degrees of exonormativity, i.e. exogenous standardisation, opposed to endonormativity, i.e. endogenous standardisation. These degrees depend on whether a speech community imported either only models of language usage, such as model texts and speakers, or the codices, or indeed both from another speech community (Ammon, 1989). However, the concept of exonormativity does not elaborate on the structural linguistic distance between the exogenous standard and its vernaculars explicitly. Nevertheless, the underlying assumption is present that a model of language usage from a different speech community will be more structurally distant compared to "models of usage native to that country" (Stewart, 1968, p. 534).

In addition, in many theoretical frameworks, the concept of pluricentricity is intertwined with exogenous vs. endogenous standardisation processes, despite attempts to disentangle these concepts (Ammon, 1989; Schmidlin, 2011; Stewart, 1968). Overall, research defines pluricentric languages, German and English for example, as having several centres with a national norm (Clyne, 1989, 1992; Stewart, 1968). Some theoretical approaches argue that an exogenous standard variety is not necessarily pluricentric, e.g. Stewart (1968). A case in point is an exogenous standard variety from a different speech community that does not have its own set of norms, i.e. national variety, in

its “new” speech community. Consequently, endogenous standardisation processes of the otherwise exogenous standard variety are needed to create a national centre of a pluricentric language (Ammon, 1989, 1996). Overall, the concept of pluricentric languages is a trade-off between endogenous and exogenous standardisation processes from a perspective of nation states rather than speech communities. However, the concept involves both defining characteristics of exogenous standardisation, namely models of language usage and structural linguistic distance.

To sum up, the second way to introduce a standard variety into a speech community is to import an exogenous standard from another speech community. The definitions of an exogenous standard variety vary, including differences in models of usage, codices and structural and attitudinal distances. Nevertheless, theoretical frameworks of standardisation all assume that an exogenous standard variety is linguistically more distant to the vernaculars with which it is associated compared to an endogenous standard variety.

To summarise, section 3.3. has shown that there is a general agreement about the two ways to introduce a standard variety into a speech community in the major theoretical frameworks of standardisation processes: the creation of a “new” endogenous standard variety, or the association of the vernaculars with an exogenous standard variety from another speech community. Due to monocentric and polycentric processes of endogenous standardisation, the linguistic distance can vary between an endogenous standard variety and its vernaculars. However, compared to an endogenous standard, an exogenous standard variety is thought to be always more distant from the vernaculars it is associated with. This distance is based on models of language usage from a different speech community, and structural and perceived distance. Overall, different ways of introducing a standard variety into a speech community result in a different linguistic distance between the standard variety and its vernaculars.

3.4. Motivations behind standardisation in language maintenance research

In section 2.1.4., I introduced the field of language maintenance research, which focuses on endangered speech communities. Overall, this research field aims to identify factors contributing to the vitality of an endangered variety. More specifically, the section showed that attitudes are considered to be among these language vitality factors. Implicit attitudes are suggested to play an especially important role for actual language behaviour and thus language vitality.

In addition, section 3.2. discussed the definition of a standard variety from a perceptual dialectological approach. The section highlighted that numerous perceptual dialectological studies show a more positive evaluation of standardised varieties compared to vernaculars.

Now, this section discusses the motivations behind language maintenance research suggesting the introduction of a standard for an endangered vernacular. With an aim to disambiguate terms used to denominate the *endangered variety*, the present work henceforth applies the following terminology: it distinguishes between an *endangered vernacular*, spoken in an *endangered speech community* (e.g. the Galician vernaculars), and the variety that was introduced as its *standard (variety)* (e.g. Standard Galician, *galego normativo)*. However, I will occasionally use the umbrella term *endangered language*, such as Galician. The term endangered language encompasses in this work both, the endangered vernaculars and as well as their standard variety. This thesis uses the term endangered language on the one hand, for the sake of brevity when discussing an issue concerning both varieties, i.e. the endangered vernacular and its introduced standard variety. On the other hand, the thesis also uses the term endangered language when reporting previous research that happens not to distinguish between the endangered vernacular and its standard variety.

Overall, language maintenance studies argue that the introduction of a standard variety bolsters attitudes towards endangered vernaculars. After discussing arguments for this positive attitudinal effect, this section presents the mixed results of attitudinal studies in endangered speech communities. Finally, the section concludes with possible interpretations of these mixed results and their meaning in relation to the argued positive effect of standardisation.

In this section, I use the general term *attitude* and do not distinguish between explicit and implicit attitudes. The reason for this is two-fold: first, the language attitude studies presented below do not distinguish between two attitude types in theoretical arguments and second, they investigate only one type of attitudes, that being explicit attitudes. More specifically, arguments for the positive effect of a standard on attitudes towards endangered vernaculars do not distinguish between the types of attitudes held. In addition, despite using different methods, all studies in this section investigated attitudes which process-focused approaches including the criterion of automaticity would identify as explicit attitudes (see section 2.1.1.). As discussed in section 2.2.3, no attitudinal study in language maintenance so far has applied measures of automatic implicit attitudes, such as AP and the IAT. The majority of attitudinal studies discussed in the next section used either qualitative methods or quantitative direct methods, such as attitude surveys. Thus, they measured mainly attitudes of explicit nature also when the criterion of awareness is applied to define this "explicitness", see section 2.1.1.

3.4.1. The positive effect of standardisation on attitudes: gain in functions comes with gain in prestige

The majority of language maintenance efforts in endangered speech communities aim to introduce a standard variety, for overviews see Grenoble and Whaley (2005); Lane, Costa, and De Korne (2018). Language activists and researchers argue that the introduction of a standard variety has various positive effects, among them a raise in prestige of the endangered language, e.g. Patrick, Murasugi and Palluq-Cloutie (2018).

More specifically, research highlights that a standard variety has additional societal functions compared to its vernaculars due to its properties as a standard, for example, usage in administration, education and so on, see section 3.1. When a standard variety is introduced into an endangered speech community, these additional societal functions are thought to complement the functions of the endangered vernaculars (Fishman, 1991). In endangered speech communities, speakers tend to only perceive varieties with numerous societal functions as full-fledged languages (Bellamy & Horner, 2018; Weber, 2009). This status as a *language* is considered more prestigious, as opposed to the endangered language being perceived as a *dialect* (Fishman, 1991; Grenoble & Whaley, 2005).

Besides the number of societal functions, the nature of these functions is thought to contribute to the endangered vernaculars' raise in prestige (Brenzinger et al., 2003; Lewis & Simons, 2010). In general, speakers consider the usage of an endangered language in some functions and domains more prestigious than in others, for example, in education (Fishman, 1986, 2001). Numerous language maintenance studies argue that literacy carries especially high prestige and developing literacy in the endangered language will potentially improve attitudes towards it (Grenoble & Whaley, 2005; Hornberger, 2008; Patrick et al., 2018). However, the development of literacy requires some degree of standardisation (Grenoble & Whaley, 2005). Similarly, only the introduction of a standard variety enables the usage of the endangered language in prestigious functions such as education.

To sum up, language maintenance researchers have argued that the introduction of a standard variety into an endangered speech community has a positive effect, since the standard variety complements the endangered vernacular with its societal functions and prestige.

Notably, the above arguments for a positive effect do not take into account whether an endangered speech community introduces an exogenous or an endogenous standard. Section 3.3. showed that there is a general agreement in theoretical frameworks that the standardisation of any variety can follow two routes: the creation of a "new" endogenous standard or the association of the vernaculars with an exogenous standard variety. One difference between these two types of standard varieties is their linguistic distance to their vernaculars, with a larger linguistic distance for the exogenous standard variety compared to the endogenous standard. However, major language maintenance frameworks do not discuss this varying linguistic distance and its potential consequences for the standard variety's positive effect.

3.4.2. The positive effect of standardisation on attitudes: empirically established?

Language maintenance research does not only argue a positive attitudinal effect of a standard variety, but also aims to investigate it empirically. An abundance of language maintenance studies explores attitudes towards endangered languages (Deminger, 2000; O'Rourke, 2010; Ó Hifearnáin, 2013; Sallabank, 2013a). However, at least to my knowledge, there is no longitudinal study that

explores attitudes towards an endangered vernacular empirically before and after the introduction of a standard variety into a speech community. This longitudinal investigation of attitudes would only be possible in speech communities that introduced their current standard variety in the 20th or 21st century, such as Galicia or the Basque country. For other endangered speech communities, for example, the German minority in Hungary, this investigation of attitudes would be in the field of historical linguistics, since the introduction of a standard variety started there in the 16th century.

However, how standardisation affects attitudes in endangered speech communities can be empirically established, despite this lack of longitudinal studies. More specifically, current attitudinal research in endangered speech communities relates its findings to previous studies conducted before the introduction of a standard variety. This diachronic comparison of attitudinal studies shows mixed results in relation to the effect of standardisation: attitudes towards endangered languages vary depending on the type of attitude measurement (see section 2.2.) and on participants' characteristics, such as age and gender, for example O'Rourke (2010). In addition, attitudinal studies also yield different results depending on whether they assume the endangered language to be homogeneous or heterogeneous.

In fact, numerous attitudinal studies assume the endangered language to be homogeneous (Bellamy & Horner, 2018; Deminger, 2004; Fehlen, 2009; Gilles et al., 2010). This way, they do not distinguish between, on the one hand, attitudes towards the standard variety of the speech community and, on the other hand, its endangered vernaculars. Similarly, these attitudinal studies do not engage with the potential impact of different standardisation processes (exogenous or endogenous) and the varying linguistic distance between vernaculars and their standard. Overall, these studies show that there are more positive attitudes towards the endangered language in general after the introduction of a standard variety into the speech community (Bellamy & Horner, 2018; Fehlen, 2009; Gilles et al., 2010; O'Rourke, 2010).

In addition, several attitudinal studies assume the endangered language to be heterogenous. Accordingly, these studies distinguish between the standard variety and its vernaculars in the endangered speech community (Loureiro-Rodriguez et al., 2013; O'Rourke, 2018; Urla et al.,

2018). Overall, these attitudinal studies yield different results regarding the positive effect of standardisation.

On the one hand, several of these studies find a positive attitudinal effect, a result that is also present in studies assuming the homogeneity of the endangered language. More specifically, they report that speakers hold positive attitudes towards the newly introduced standard without the devalorisation of its endangered vernacular (O'Rourke, 2018; Urla et al., 2018). Typically, these studies find attitudes towards a heterogenous endangered language to be more positive overall within the speech community after the introduction of a standard.

On the other hand, some studies find more positive attitudes only towards the newly introduced standard variety and not its endangered vernaculars, see for example, Loureiro-Rodriguez et al. (2013). Consequently, they show that a devalorisation of endangered vernaculars takes place after a standard variety has been introduced into the endangered speech community (Loureiro-Rodriguez et al., 2013; O Hifearnain, 2008).

In addition, some studies find occasionally unfavourable attitudes towards the newly introduced standard variety in the endangered speech community, as shown for Standard Irish in the Gaeltacht region (O Hifearnain, 2008; Ó Hifearnáin, 2013). Simultaneously, attitudes towards the endangered vernaculars are occasionally more positive than towards the newly introduced standard. However, attitudes towards endangered vernaculars, such as the vernacular in the Gaeltacht, frequently remain negative in contrast to the prestigious majority language, that is, another standardised contact variety such as English.

3.4.3. Interpretation of mixed results for a standard variety's positive effect

Two findings of the above studies contest whether introducing a standard variety into an endangered speech community has a positive effect. On the one hand, negative attitudes towards endangered vernaculars indicate that the very variety that should have been bolstered, is influenced negatively. On the other hand, negative attitudes towards the newly introduced standard variety contest its positive effect as well. More specifically, these negative attitudes question whether the standard variety has any prestige that can complement its vernaculars. However, this putative prestige is how language maintenance studies argue the positive impact of a standard variety

(Fishman, 1991, 2001). The following section shows how language maintenance research interprets these findings.

Firstly, negative attitudes towards endangered vernaculars are argued to be a result of the hegemony of the new standard, especially by ecological approaches to language maintenance (Bradley & Bradley, 2014; Grenoble, 2011; Haugen, 1972; Mühlhäusler, 1992; Sallabank, 2010, 2011a). This new standard language ideology (see section 2.1.1.), entails prescriptivism, rendering the endangered vernaculars "less correct". This lack of legitimacy is believed to be detrimental for their perception as varieties in their own right (Woolard & Gal, 2001). As was previously the case for the majority language, now the new standard variety in the endangered speech community damages linguistic diversity (Lippi-Green, 2000; Milroy, 1991).

This detrimental effect of the standard variety is thought to be potentially intertwined with a lack of social cohesion (Fishman, 1991; Grenoble & Whaley, 2005). Speakers of endangered vernaculars that are linguistically closer to the newly created standard variety could have an advantage in acquiring it. Thus, they might have better access to power via education and the governmental and work sphere. Consequently, these speakers and their vernacular are perceived more positively than other vernacular speakers more distant to the standard variety. Overall, this interpretation considers issues of linguistic distance between the newly introduced standard and its endangered vernaculars. However, it does only involve monocentric or polycentric approaches to creating a "new", endogenous standard variety without considering that endangered vernaculars could be also associated with an exogenous standard variety (see section 3.3).

Secondly, negative attitudes towards the newly introduced standard variety are also not consistent with a positive attitudinal effect in the endangered speech community. As shown in section 3.1., a standard variety is per se defined as being more prestigious than its vernaculars. This was corroborated by a plethora of attitudinal studies in the broader field of sociolinguistics, for an overview see Giles and Marlow (2011); Preston (1989). Both, explicit and implicit attitudes, following all process-focused definitions, are found to be more positive towards the standard variety compared to its vernaculars (Eichinger & Stickel, 2012; Neises, 2013; Rosseel et al., 2018; Schoel et al., 2012; Speelman et al., 2013).

In language maintenance research, a standard variety is argued to potentially lack prestige due to its lack in authenticity[1] (Mühlhäusler, 2003; O'Rourke, 2018; O Hifearnain & O Murchadba, 2011). Studies report that especially speakers of a more distant endangered vernacular perceive the new standard variety as artificial (O Hifearnain, 2008; Ó Hifearnáin, 2013). Thus, these vernacular speakers do not hold positive attitudes towards the newly introduced standard variety. At least to my knowledge, these discussions do not include sociolinguistic frameworks of endogenous and exogenous standardisation (see section 3.3.).

This lack of authenticity is also thought to be intertwined with an incomplete standardisation process. Studies emphasise that newly introduced standard varieties, such as Standard Luxembourgish, have potentially not completed the standardisation process in contrast to more established standard varieties, such as Standard German (Ammon, 1995; Ferguson, 1993; Gilles, 2015; Kloss, 1978). The newly introduced standard variety might have not yet reached the last stage of standardisation, that is, the full implementation in the endangered speech community, with its acceptance (Gilles, 2015; Haugen, 1966). Therefore, speakers show negative attitudes towards the newly introduced standard variety compared to their endangered vernacular.

Research also discusses the lack of a clear standard preference as typical for standardisation processes in modern-day minority speech communities (Lane et al., 2018; Sallabank, 2010). These standardisation processes are argued to be more democratic compared to nation states imposing a hegemony of a standard variety in previous centuries. Standardisation processes in minority language communities are thought to include a tentative acceptance of pluralism (Jaffe, 2007, 2015) and are more characteristic of a grassroots movement debating the linguistic norms (Urla et al., 2018).

To sum up, negative attitudes towards endangered vernaculars, as well as towards the newly introduced standard variety challenge the supposedly positive attitudinal effect of standardisation. Language maintenance research provides explanations that centre around: the hegemony of the "new" standard variety, or in contrast, its lack of authenticity and incomplete standardisation, and

[1] The discussion of a lack of authenticity is also intertwined with the perception of so called "new speakers" who only acquired the "new" standard variety of an endangered vernacular via education (Hornsby, 2015; Hornsby & Vigers, 2018; O'Rourke & Walsh, 2015)

finally, the acceptance of pluralism. The perceived and actual linguistic distance between the newly introduced standard variety and its vernacular emerges as a potential explanatory factor for attitudinal results (Hawkey & Mooney, 2019; O Hifearnain, 2008). However, this interpretation does not include a distinction between exogenous and endogenous standardisation processes.

3.5. Chapter conclusions

Chapter 3 gave an overview of language standardisation in general and specifically within language maintenance research. More specifically, it established how this work defines a standard variety from a speaker-centred, perceptual dialectological perspective.

Furthermore, the chapter elaborated on different standardisation processes that mainly follow two routes: either the speech community creates an "own" endogenous standard variety or associates its vernaculars with an exogenous standard variety. These different standardisation processes result in varying linguistic distance between the newly introduced standard variety and its vernaculars. Typically, an exogenous standard is linguistically more distant to its vernaculars compared to an endogenous standard variety.

Finally, the chapter focused on the role of standardisation in language maintenance research. Language maintenance studies argue that introducing a standard variety positively impacts on attitudes towards endangered vernaculars. Typically, the functions and prestige of a standard variety are assumed to complement the endangered vernaculars. These additional functions and prestige are thought to lead, overall, to more positive attitudes towards the endangered language.

The present work criticised language maintenance research for disregarding whether an endangered speech community introduces an exogenous or an endogenous standard variety when claiming its positive effect. In addition, language maintenance research does not distinguish between explicit and implicit attitudes when arguing a standard variety's positive effect. Attitudinal studies in endangered speech communities show mixed results regarding the positive effect of standardisation. These mixed results can be explained partially by whether or not studies take into account the linguistic distance between endangered vernaculars and the standard variety. In

addition, attitudinal studies occasionally include linguistic distance as an explanatory factor, without elaborating on endogenous and exogenous standardisation processes.

Recall that section 2.1.4. and 2.2.3. showed that attitudinal studies in language maintenance have not yet applied process-focused theoretical and methodological approaches to language attitudes which include the criterion of automaticity. Accordingly, the attitudinal studies investigating a standard variety's effect for an endangered vernacular have also not profited from insights of such process-focused approaches.

3.6. Research questions and hypotheses

Section 2.1. presented differences between theoretical approaches to (language) attitudes which focus on cognitive processes or attitude content. Overall, this work suggested using common defining features of social psychological process-focused models of attitudes for the distinction between implicit/covert vs. explicit/overt attitudes in language maintenance studies. Consequently, definitions of implicit language attitudes in language maintenance studies would need to include the notion of automaticity, which is wide-spread in social psychology.

In addition, the research fields of social psychology, sociolinguistics and language maintenance imply that implicit language attitudes are better predictors of actual habitual language usage. While language attitudinal studies mainly lack empirical evidence for this claim, an abundance of social psychological research has found automatic implicit attitudes to better predict habitual and spontaneous behaviour in other contexts (Chen et al., 1999; Perugini, 2005). Since language usage is behaviour, I suggest that these findings imply that automatic implicit language attitudes are likely to be stronger predictors of habitual and spontaneous language usage, and thus more reliable indicators of language vitality. In accordance with these findings, in section 2.3., I suggested adopting definitions of implicit automatic language attitudes in language maintenance research.

Automatic evaluation processes, which underly implicit attitudes, were described in section 2.1.1. These processes imply the circumstances in which different attitude objects are evaluated implicitly in the same manner. Typically, representative and applicability heuristics and a plethora of attitudinal studies in stereotyping shows that the similarity of attitude objects matters for their

shared implicit evaluation. For example, if attitude object A resembles attitude object B, implicit attitudes towards them will be similar.

Chapter 3 provided an example of a language maintenance effort that could profit from the application of process-focused attitude definitions which include the notion of automaticity. More specifically, the chapter gave an overview of standardisation in sociolinguistic frameworks in general and specifically in the field of language maintenance research. Standardisation frameworks in sociolinguistics agree that there are two types of standard varieties, exogenous and endogenous, differing in linguistic distance between the standard variety and its vernaculars. However, despite these sociolinguistic frameworks, language maintenance research often disregards linguistic distance between the standard variety and its endangered vernaculars. In particular, language maintenance studies argue that introducing a standard variety improves attitudes towards endangered vernaculars, without considering potentially different effects for an exogenous or endogenous standard. Typically, the prestige of a standard variety is thought to complement the endangered vernacular and thus improve attitudes towards it in general. But language maintenance research leaves it unclear as to whether the prestige of an exogenous standard is assumed to complement its vernaculars as well as an endogenous standard variety. In addition, language maintenance studies argue that a standard variety has a positive attitudinal effect without distinguishing between implicit and explicit attitudes, neither based on sociolinguistic, nor on social psychological attitude definitions. Overall, empirical evidence supporting the positive attitudinal effect of standardisation is inconclusive and is provided by language maintenance studies that do not apply measures of automatic implicit attitudes. Studies comparing attitudes towards an endangered language before and after the introduction of a standard show mixed results. These studies occasionally include linguistic distance in their interpretations of these mixed results. For example, they report a distant standard variety as being perceived as artificial and thus negative. However, at least to my knowledge, these language maintenance studies do not engage with differences between endogenous vs. exogenous standardisation processes.

To sum up, language maintenance research does not investigate systematically whether the positive attitudinal effect of a standard variety is influenced by its linguistic distance to its endangered vernaculars. In addition, language maintenance studies do not distinguish between implicit and explicit attitudes, when arguing a standard variety's positive attitudinal effect. This impedes our

understanding of standardisation as a tool of language maintenance that is used in almost every modern-day endangered speech community (see section 3.4.).

Most importantly, in section 2.3., the present work suggested that definitions of automatic implicit attitudes could help to gain a better understanding of the workings of standardisation as a language maintenance effort. Automatic processes underlying implicit attitudes, as shown in social psychological research, beg the question of how the resemblance between a standard variety and its vernaculars matters for implicit attitudes. These automatic processes could be influenced by the linguistic distance between a standard and its vernaculars, which in turn is the result of the different nature of standardisation processes, i.e. exogenous vs. endogenous (see section 3.3.). Consequently, the first research question of the present work asks whether the nature of the standardisation processes plays a role in speakers' implicit automatic attitudes towards their endangered vernaculars (RQ 1a).

More specifically, social psychological research found that the resemblance of attitude objects matters for their shared automatic implicit evaluation. Overall, I propose that the different nature of standardisation processes – resulting in varying linguistic distance – is responsible for governing the shared implicit evaluation of the standard and its vernacular. Ultimately, the degree of shared evaluation between the standard and its vernacular influences implicit automatic attitudes towards the endangered vernacular. Therefore, I hypothesise that the nature of the standardisation processes, resulting in differences in linguistic distance, will have an effect on speakers' automatic implicit attitudes towards their endangered vernaculars (H 1a).

If hypothesis 1a is borne out, and the nature of standardisation processes, resulting in varying linguistic distance, is found to influence automatic implicit attitudes towards the endangered vernaculars, this influence will need to be described more precisely. Consequently, the second research question asks how a linguistically close standard impacts differently on automatic implicit attitudes towards endangered vernaculars, compared to a linguistically distant standard variety. In addition, this work suggests including standardisation frameworks with the notion of endogenous vs. exogenous standardisation processes in order to describe linguistic distance. Accordingly, the second research question asks how a close, endogenous standard variety impacts differently on

automatic implicit attitudes towards its endangered vernaculars compared to a distant, exogenous, standard variety (RQ 1b).

When attitudinal studies occasionally include linguistic proximity in language maintenance research, they discuss the artificiality of a distant standard variety. This linguistic distance is assumed to be the reason for more negative attitudes towards the newly introduced standard variety. Again, the application of process-focused attitude research can clarify this recurring assumption and shed light on the conditions under which the prestige of a standard variety complements its endangered vernaculars and thus has a positive effect.

Recall that social psychological research showed attitude objects resembling each other to be implicitly evaluated in a similar manner. Previously, it was suggested that the perceived resemblance between attitude objects is largely equivalent to the linguistic distance between a standard and its vernaculars, which will in turn be responsible for governing their shared automatic evaluation. Consequently, a close, endogenous standard variety and its vernaculars are evaluated in a similar manner as they resemble each other. Since the standard variety is generally shown to be evaluated positively (see section 3.1. and 3.2.), this shared automatic evaluation includes mainly positive features. More specifically, this work proposes that the prestige of a close, endogenous standard variety will complement its endangered vernaculars, unlike a linguistically distant exogenous standard variety. Consequently, I hypothesise that a linguistically close, endogenous standard variety will impact more positively on automatic implicit attitudes towards endangered vernaculars, compared to a linguistically distant, exogenous standard (H1b).

Overall, H1a can be refined with a potential direction: given that linguistic distance influences the attitudinal impact of the standard variety, the more refined hypothesis H1b suggests that a close, endogenous standard variety will be more beneficial for automatic implicit attitudes towards endangered vernaculars.

This hypothesis can be further refined resulting in two different predictions about how the positive effect of a close, endogenous standard variety will show. First, automatic implicit attitudes towards endangered vernaculars in a speech community with a close, endogenous standard variety will be more positive compared to the same attitudes in a speech community with a distant, exogenous standard variety (prediction I).

In addition, a positive effect will also show in automatic implicit attitudes towards endangered vernaculars in relation to implicit attitudes towards other standardised contact varieties with which they might be in language conflict. In section 3.4. we saw that attitudes towards endangered vernaculars in general are found to be more negative than attitudes towards other standardised contact varieties, namely majority languages. However, social psychological attitude research implies that in speech communities with a close, endogenous standard, implicit attitudes towards endangered vernaculars will be less negative in relation to prestigious standardised contact varieties. In light of the resemblance of the linguistically close, endogenous standard variety to its vernaculars, their implicit evaluation is shared. Consequently, the prestige of the endogenous standard complements the endangered vernaculars, decreasing their potentially unfavourable automatic implicit evaluation in relation to the standardised contact varieties.

On the contrary, a linguistically distant, exogenous standard variety does not resemble its endangered vernaculars and consequently, the varieties are not implicitly evaluated in a similar manner. More specifically, the prestige of an exogenous standard variety does not complement the endangered vernaculars and thus does not decrease their attitudinal difference to other standardised prestigious contact varieties. Overall, the difference between automatic implicit attitudes towards endangered vernaculars and other standardised contact varieties will be smaller in a speech community with a close, endogenous standard compared to a speech community with an exogenous, distant standard variety (prediction II).

In the following, the research questions and hypothesises are summarised and for the sake of brevity, the short label *implicit attitudes* denotes now *automatic implicit attitudes*:

RQ 1a) Does the nature of standardisation processes – resulting in varying linguistic distance between the standard and its endangered vernaculars – play a role in speakers' implicit attitudes towards these vernaculars?

H 1a) The nature of the standardisation processes, resulting in varying linguistic distance, will influence implicit attitudes towards endangered vernaculars.

RQ 1b) How does a linguistically close, endogenous standard differently impact on implicit attitudes towards endangered vernaculars, compared to a linguistically distant, exogenous standard variety?

H 1b) A close, endogenous standard variety will impact more positively on implicit attitudes towards its endangered vernaculars, compared to a distant, exogenous standard variety.

Prediction I: Implicit attitudes towards endangered vernaculars will be more positive in a speech community with a linguistically close, endogenous standard variety, compared to a speech community with a linguistically distant, exogenous standard variety.

Prediction II:

The difference between implicit attitudes towards endangered vernaculars and other standardised contact varieties will be smaller in a speech community with a close, endogenous standard, compared to a speech community with a distant, exogenous standard variety.

The next section presents two speech communities, one of which introduced an exogenous, distant standard and the other an endogenous, close standard variety for their endangered vernaculars. Thus, they provide an ideal testing ground for the above hypotheses.

Chapter 4. The speech communities: Belgium and Luxembourg

The following section presents a brief overview of the socio-political and historical context of the two speech communities within which this thesis tests its hypotheses (see section 3.6.). Firstly, the German speaking areas of Belgium are described, with a focus on the *Belgische Eifel* region. This is followed by a presentation of Luxembourg and specifically the Canton Clervaux.

4.1. The German speaking community of Belgium: *Belgische Eifel*

Figure 4 Location of the Belgian state in modern-day Europe, based on (OCHA, 2013)

The next section uses "German" as an umbrella term for Standard German as well as for the Germanic varieties of Low and Moselle Franconian, Limburgian and Ripuarian, spoken in Belgium. I am fully aware that labelling these varieties as "German" is linguistically imprecise and

could already imply the subordination of the varieties as dialects of the standard language German. However, this section aims mainly to give a brief historical and socio-political overview of the speech community investigated in this thesis. Since past socio-political and historical changes did not exclusively involve only the speakers of one variety, but all speakers of the Low and Moselle Franconian, Limburgian and Ripuarian varieties in Belgium, the next sections group them together for the sake of brevity. Furthermore, this group of varieties is then called "German", including Standard German, based on the self-identification and self-denomination of the speakers as "German speakers". Only the last section then adopts a linguistic perspective and describes the Low and Moselle Franconian, Limburgian and Ripuarian varieties spoken in Belgium separately from Standard German.

The current convoluted political and administrative structure of Belgium and its turbulent history make it impossible to describe its German-speaking areas as a single unit. The following section gives an overview of the socio-political and historical development of *New Belgium* vs. *Old Belgium*, then focuses on a specific part of *New Belgium*, namely the *Deutschsprachige Gemeinschaft*, that is the "German speaking community of Belgium". It concludes with a description of the *Belgische Eifel*, which is the southern part of the *Deutschsprachige Gemeinschaft* and the focus of this thesis.

Firstly, the German-speaking areas of Belgium can be divided into *Altbelgien*/ *Old Belgium* and *Neubelgien*/ *New Belgium* (see figure 5 below). This historical distinction is based on the duration of the specific geographical German-speaking territories belonging to the Belgian state.

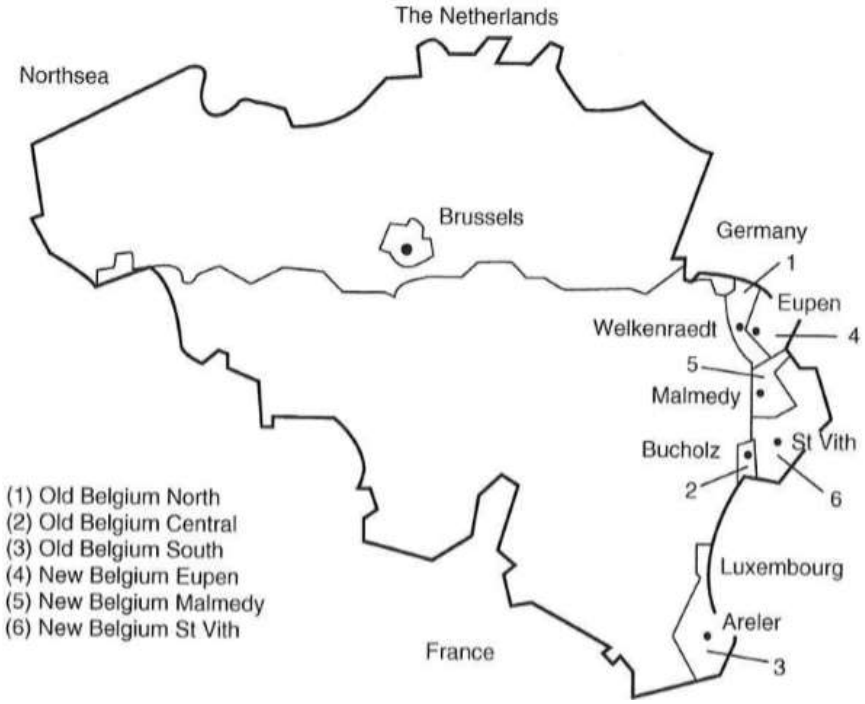

Figure 5 The geographical regions New Belgium and Old Belgium (van Mensel & Darquennes, 2012, p. 166)

The geographical region of *Old Belgium*

Old Belgium has been a part of the Belgian state since its foundation in 1830 when the southern provinces of the Netherlands revolted against the Dutch King and declared their independence as the new state of Belgium. This new state was officially French speaking, encompassing mainly Flemish and French/Walloon speakers. However, it also comprised all the German speaking areas that had formerly belonged to the Netherlands. This also included the German speaking territories of the Grand Duchy of Luxembourg, which had joined the Belgian fight against the Netherlands in 1830 (see section below). Only 9 years later, under the treaty of London in 1839, Belgium was forced to give up 4/5 of its German speaking territories in exchange for recognition as a sovereign state by the European powers (Gramß, 2008). The northern parts of these German speaking territories were returned to the Netherlands. Similarly, the southern parts were ceded by the new Belgian state as well and once again became part of the Grand Duchy of Luxemburg, which was also detached from the Belgian state (see section below). The remaining 1/5 of the German speaking regions of Belgium is called Old Belgium in historical and linguistic literature. However,

the representation of this geographical region in current speakers' minds is questioned (Nelde, 1979).

After 1839, a shift towards the French language started in those remaining German speaking areas of Belgium called Old Belgium. Despite efforts like introducing a bilingual primary school education (French and German) and private language maintenance efforts[2], French gradually replaced German in all H(igh) domains but the church. The two invasions by German forces in the upcoming World Wars of the 20th century did not halt this language shift, but overall reinforced it.

Old Belgium was occupied from 1914 until 1918 by the German Empire, which implemented revival measures of German, such as its usage in H(igh) domains. These measures were met with some resistance by the population (Darquennes, 2005, 2007). Typically, German speakers of Old Belgium oriented themselves towards French as a symbol of Belgian national and cultural identity, partially already during the occupation, but more significantly after World War I (Darquennes, 2007; Gramß, 2008). Consequently, the German speakers of Old Belgium did not integrate into the new German speaking territories (New Belgium) that became part of the Belgian state after World War I with the Treaty of Versailles in 1919 (Nelde, 1979).

In addition, during World War II, parts of Old Belgium were occupied again, this time by Nazi Germany. Consequently, German became once again the only official language in all H(igh) domains. Typically, local newspapers were published in German, and "private" language revival initiatives, funded by the German military, offered language courses and social activities, such as the *Deutscher Sprachverein* [German language association]. These revival efforts attracted in parts of Old Belgium, namely Areler Land, around 1,000 people (Darquennes, 2007). However, after World War II, the backlash against the usage of German was even stronger than that following World War I. Overall, the usage of German became highly stigmatised in the whole state of Belgium, including Old Belgium (Darquennes, 2007; Gramß, 2008).

During the 1960s, relations between Belgium and Germany normalised to some degree, with non-aggression pacts and reparations and thus the prestige of German improved overall. However, the

[2] The most prominent example was the „Deutscher Verein zur Hebung und Pflegung der deutschen Muttersprache im deutschredenden Belgien" founded by Gottfried Kuhn in 1892

decline of German in Old Belgium continued, lacking any institutional support. Only private associations aimed to bolster the position of German in Old Belgium with folkloristic activities (Darquennes, 2007).

Finally, the reforms of the Belgian state from the 1960s up to the 1980s led to four new administrative units based on "language boarders" (Blommaert, 2011; Darquennes, 2019). These were the *Flemish speaking community* in the North, the *French speaking community* in the South, the bilingual area around Brussels and the *German speaking community* in the East (see Figure 6). These denominations are translations of the official names in German, French and Dutch, in which the German speaking community is called *Deutschsprachige Gemeinschaft*, *Communauté Germanophone* and *Duitstalige Gemeenschap*. However, Old Belgium did not join the German speaking community but became part of the French speaking community, with some "language facilitations" for the Germanic speaking minority, such as the right to communication in German in official domains.

Now, German in Old Belgium is highly endangered and only spoken by a very small minority of speakers in the home domain (van Mensel & Darquennes, 2012). At least to my knowledge, there are no current studies establishing speaker numbers. A cause of hope for the Moselle Franconian varieties in Old Belgium might be the positive influence of Standard Luxembourgish, which is linguistically and geographically closely related, but carries significantly more prestige as a standard variety (see section 3.1.). However, Standard Luxembourgish is currently not implemented in the H(igh) domains in the French speaking community/ Old Belgium, limiting its impact on the Moselle Franconian varieties there, which are still rather associated with Standard German (Darquennes, 2005).

The geographical region of *New Belgium*

New Belgium is the name of the territory that only became part of Belgium in 1919, after World War I. Before this annexation, the territories of New Belgium had belonged to the German empire/Prussian state since the Congress of Vienna 1815. Consequently, German had been the only language in H(igh) domains for over 100 years in this region when it became part of the Belgian state in 1919. More specifically, German was used in the administrative and political sphere, but

also in the highly organised state education system of Prussia. An exception to the rule were the municipalities around Malmedy and Waimes, which had maintained their French from the pre-1815 Napoleonic period, during which this area belonged to France.

After New Belgium became part of Belgium, German was theoretically recognised as an official language next to French, but its implementation in the H(igh) domains, especially education, varied over time. The education decree of 1922 bolstered the position of German as the language of instruction and as a school subject for primary schools (Gramß, 2008). Concurrently, French was taught only as a school subject in primary education. However, French was the main language of instruction in secondary education (Möller, 2017).

During the occupation of Belgium by Nazi Germany from 1940 to 1944, New Belgium was annexed by the Third Reich, and all Belgian citizens of New Belgium automatically gained German citizenship. Some German speakers of New Belgium viewed these events as rectification of the political and administrative consequences of the World War I (Gramß, 2008). Particularly important for this investigation is this orientation of the German speakers of New Belgium towards Germany, unlike their counterparts in Old Belgium, whose identification with the Belgian state is reported to have been strong during and after World War II (Darquennes, 2007).

After World War II, New Belgium was again annexed by Belgium and the Belgian state aimed to re-assimilate the German speakers of New Belgium (Möller, 2017). Part of this re-assimilation strategy were changes in the education system, which was by then dominated by French (Gramß, 2008). These efforts to linguistically assimilate the German speakers in New Belgium came to a halt when the Belgian state reformed its administrative and political system substantially from 1963/1966 onwards. Most of New Belgium became a part of the newly established *Deutschsprachige Gemeinschaft*/ The German speaking community of Belgium, which is now the principal area in which German is spoken in Belgium.

The *Deutschsprachige Gemeinschaft* and the *Belgische Eifel*

The reforms between the 1960s-80s lead to the current complex organisation of the Belgian state. Overall, Belgium comprises three regions and four communities and each has its own representation in the political system alongside its own administration (see Figure 6.). Overall, they

all constitute separate autonomous political units with specific legislative and executive powers and their own jurisdictions.

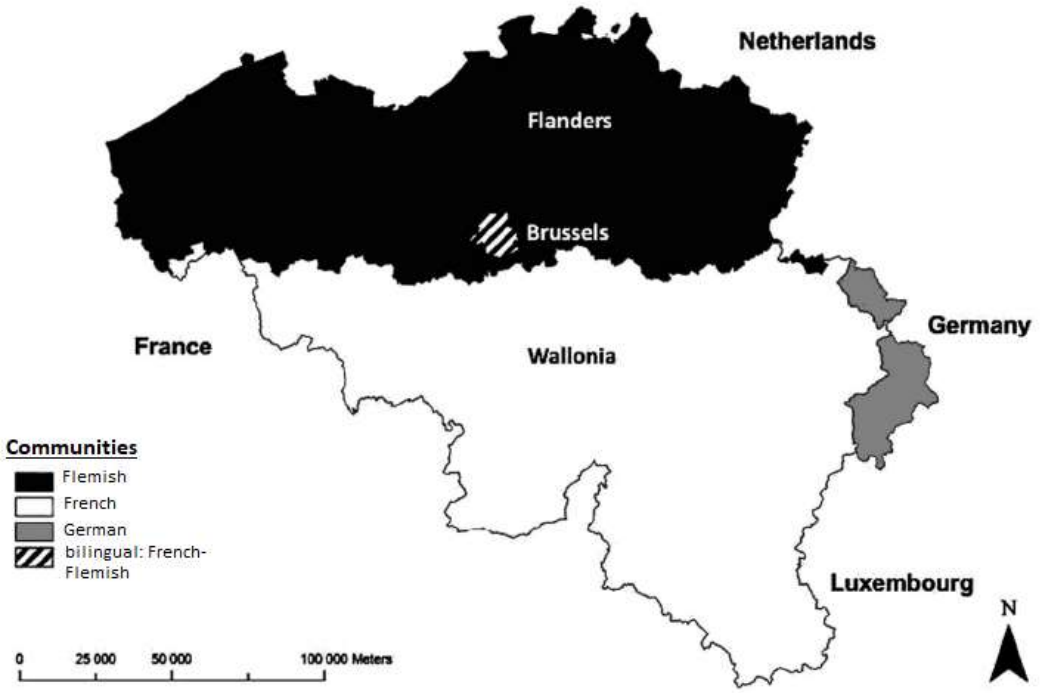

Figure 6 Map of regions in Belgium with communities, based on Verhiest, 2015, p. 55

Specifically, the three regions of Belgium are Flanders, Wallonia and the Brussels-Capital region. In addition, the Belgian state has four communities that are more or less based on linguistic borders, for criticism of a disregard of multilingualism in these communities see Blommaert (2011). Overall, Belgium has three official languages: German, French and Dutch/Flemish, the majority of whose speakers live in the Flemish/ Dutch speaking community, the French speaking community, and finally the German speaking community. Only the fourth community is assumed to be bilingual, i.e. the community of Brussels-Capital. Each community has the same legislative and executive powers as the others, the same being true for regions.

The German speaking community, which is called in German the *Deutschsprachige Gemeinschaft*[3], comprises now most parts of New Belgium. Only two municipalities of New

[3] the abbreviation DG for *Deutschsprachige Gemeinschaft* or „Ostbelgien" (East Belgium) are also commonly used to refer to the German speaking community of Belgium

Belgium, that is Malmedy and Waimes, became part of the French speaking community, since they were mainly French speaking. The around 70,000 German speakers in the *Deutschsprachige Gemeinschaft* are the smallest speech community in Belgium, totalling only 0.6% of the Belgian population (Möller, 2017). In the *Deutschsprachige Gemeinschaft*, German is the official language of the judiciary, government and education and thus occupies all H(igh) domains, in addition to the home domain (Darquennes, 2019). German is very present in the local media, for example, with the newspaper *Grenz-Echo* and the radio station *Belgischer Rundfunk* and also their websites. Since the 1970s, an autochthonous literary tradition developed among authors from this community, with its own publishing house and literary magazines (Beck, 2010; Combuchen, 2009).

Of particular importance for this investigation is the inclusion of the German speaking community into the Walloon region, which is mainly French-speaking. Thus, it is the only community that has no corresponding administrative region. While communities have mainly legislative powers in education, cultural and social affairs, the regions' competencies on the other hand extend to economic and environmental affairs (Combuchen, 2009; Möller, 2017). Consequently, the *Deutschsprachige Gemeinschaft* and French-speaking Walloon region are economically interdependent. Although German is the only official language of the *Deutschsprachige Gemeinschaft*, French is still present in H(igh) domains. Some knowledge of French is essential in most white-collar jobs, especially in government and administration (Darquennes, 2019). German is the official language of instruction in primary and secondary education, but separate tracks for French or Flemish/Dutch speakers are provided in schools and French is taught as a second language to German speakers. Consequently, German is in constant contact with French, which is a majority language compared to German on the regional level.

Until now, the linguistically imprecise and contested umbrella term "German" was used for the standard variety and the vernaculars spoken in Old and New Belgium and in the *Deutschsprachige Gemeinschaft.* Now, the final section elaborates on the linguistic variations of what has been called, until now, "German" and discusses the vernacular and standard variety in the *Deutschsprachige Gemeinschaft.*

The *Deutschsprachige Gemeinschaft* is linguistically a very diverse area, with Low Franconian, Limburgian, Ripuarian and Moselle Franconian varieties, all being Germanic varieties (Mattheier

& Wiesinger, 1994; Wiesinger, 1982b). The major linguistic and geographic distinction is made between the North, *Eupener Land*, and the South, *Belgische Eifel*, which are separated by a plateau region called High Fens (see Figure 7 below) and several isoglosses (Mattheier & Wiesinger, 1994; Wiesinger, 1982b). The *Eupener Land* is a more urban region, in which Low Franconian, East Limburgish and Riparian are spoken. In contrast, the *Belgische Eifel* is more rural and Moselle Franconian is predominantly spoken here, as well as a small minority of Ripuarian speakers. Moselle Franconian in the *Belgische Eifel* is closely related to the Moselle Franconian in the neighbouring state of Luxembourg, which is the second speech community investigated in this thesis (see section 4.2.). Research identifies the *Belgische Eifel* as having the most wide-spread usage of vernaculars and the most competent speakers in the *Deutschsprachige Gemeinschaft* (Darquennes, 2019; Weber, 2009). The same high levels of vernacular proficiency can be found in the second speech community discussed in this thesis in Luxembourg. Therefore, the present work chose the *Belgische Eifel* region with all its districts, Amel, Büllingen, Burg-Reuland, Bütgenbach and St. Vith, to investigate its hypotheses. The *Belgische Eifel* is a predominantly rural area covering 631 km^2 and has a population of 30 219. Unfortunately, there are no numbers available regarding vernacular speakers.

Furthermore, standardisation processes in the German speaking areas of Belgium, especially New Belgium, involved the introduction of an exogenous standard variety (see section 3.3.). Research shows that the Low Franconian, Limburgian, Ripuarian and Moselle Franconian vernaculars spoken in the *Deutschsprachige Gemeinschaft* lack an "own", endogenous standard (Möller, 2017). Instead, their standard variety is based on the codifications of another speech community, that being Germany (Combuchen, 2009), which constitutes an exogenous standard variety. Overall, the historical and socio-political context of this speech community, which was described above, was marked by an orientation towards Germany. This orientation resulted in the introduction of Standard German, i.e. *Hochdeutsch*, which is a highly standardised variety (Nelde & Darquennes, 2002). Importantly for this thesis, traditional dialectological studies established that Standard German is significantly linguistically distant from the vernaculars spoken in the *Deutschsprachige Gemeinschaft* (Barbour, 1990; Wiesinger, 1982b).

In section 3.2., a standard variety in this thesis was defined as following a perceptual dialectological approach. A standard variety, and in contrast a vernacular, are defined based on speakers' perception. Unfortunately, there are only few empirical studies of speakers' perception in the

Deutschsprachige Gemeinschaft (Gramß, 2008; Riehl, 2007; Weber, 2009). However, Weber (2009) found that a significant linguistic distance also emerges in speakers' perception of their vernacular as a language separate from Standard German. Additionally, research showed the clearest distinction between standard and vernaculars at the contextual level. Speakers report the usage of vernaculars as being mainly limited to the home domain. In contrast, the usage of the standard variety is reported in H(igh) domains, as well as in L(ow) domains (Weber, 2009). Particularly important for this investigation is that speakers clearly identify a spoken standard variety with model speakers, such as teachers and politicians (Ammon, 1995, 2015; Nelde, 1979; Nelde & Darquennes, 2002; Weber, 2009).

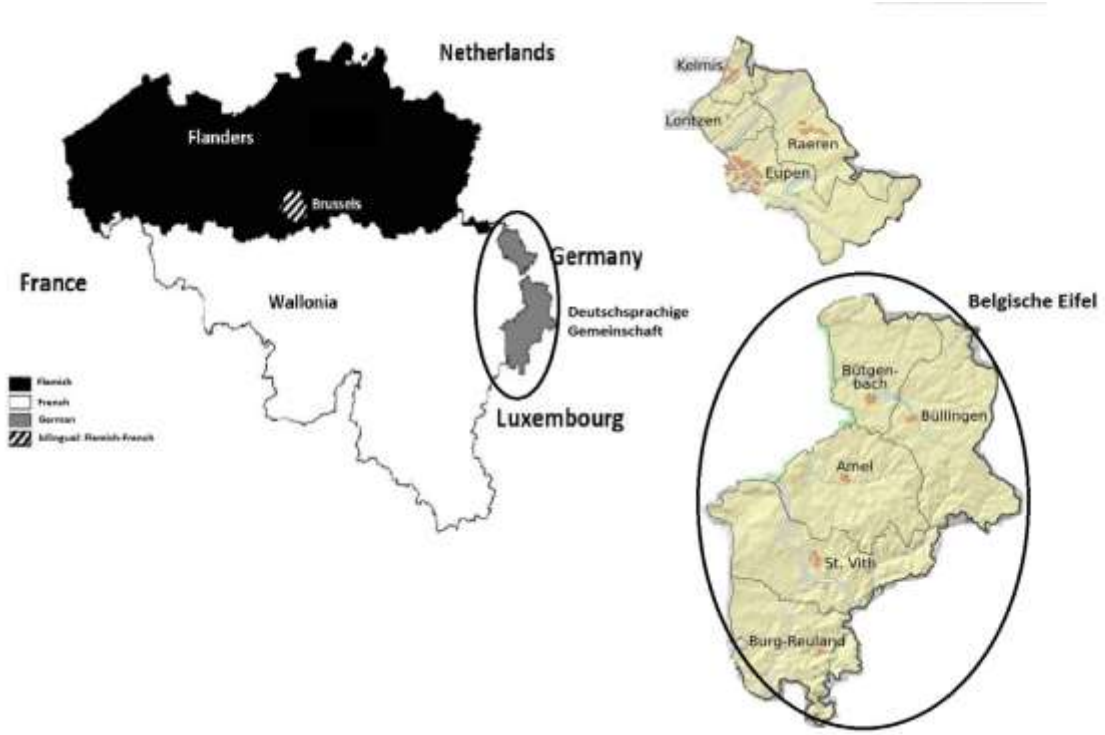

Figure 7 The location of the Belgische Eifel, based on Verhiest, 2015, p. 55

To summarise, this thesis investigates its hypotheses in the *Belgische Eifel*, the southern region of the *Deutschsprachige Gemeinschaft*, the German speaking community of Belgium. In the *Belgische Eifel*, mostly Moselle Franconian varieties are spoken, besides an exogenous standard variety, Standard German, which is relatively linguistically distant to its vernaculars. In addition,

French is present as a contact variety in mainly H(igh) domains. The following section introduces the second speech community on which this thesis focuses.

4.2. Luxembourg: Canton Clervaux and the Éislek region

This section gives an overview of the historical and socio-political context of Luxembourg and its Moselle Franconian variety called Luxembourgish/*Lëtzebuergesch*[4]. For the sake of brevity, linguistically contested and imprecise denominations are used, i.e. "German", "French" and "Luxembourgish". More specifically, "German" and "French" mainly refer to Standard German and Standard French and "Luxembourgish" assumes a homogeneous Moselle Franconian variety in Luxembourg. However, the last part of this section discusses the differences between Moselle Franconian vernaculars and standardised Moselle Franconian, i.e. Standard Luxembourgish.

The history and current socio-political situation of Luxembourg is marked by its position between powerful neighbours, such as France, Germany and Belgium and their power struggles. Since the 14th century, Luxembourg was comprised of a German-speaking region—*quartier allemand*—and a French-speaking region—*quartier wallon*—as separate administrative units. In 1815, Luxembourg became a Grand Duchy and was annexed by the Netherlands. 15 years later, Luxembourg joined the Belgian fight for independence against the Netherlands. Finally, the Treaty of London in 1839 recognised the new state of Belgium, but it had to cede the *quartier allemand* to the Netherlands and re-establish the Grand Duchy of Luxembourg. Only the French speaking part of Luxembourg, the *quartier wallon*, became part of the new Belgian state. Overall, the Treaty of London in 1839 established the borders of modern-day Luxembourg and is regarded to be the foundation of the nation state. Most importantly for this investigation, modern-day Luxembourg

4 The name Luxembourgish is first documented in 963 A.D. but was established in the speech community mainly in the 19th century.

encompasses the *quartier allemand*, in which the majority of people have been predominantly speaking Moselle Franconian since at least the 14th century (Fehlen, 2009).

In the subsequent years, the Luxembourgish nation state established its sovereignty with its own constitution and amendments (1842/1848 and 1868), in which German and French were both made the official languages. Overall, during the 19th century, social differences were principal motivators for the differences in language usage. The common people mainly spoke their Moselle Franconian vernacular, which they regarded to be a dialect of German (Gilles, 2019). French was the language of the nobility and bourgeoisie and finally, the clergy used German (Fehlen, 2009; Gilles & Moulin, 2003). Language usage was also motivated to some degree by context: French occupied H(igh) domains such as administration and culture, but German gradually also took hold in the administrative sphere and in publications (Ziegler, 2012). Overall, French and German were both used in writing and speaking, while Moselle Franconian/Luxembourgish was predominantly spoken (Gilles, 2015).

The development of a state education system and the egalitarian movements of the 19th century gradually led to language usage less driven by social distinctions between speakers but more by context, e.g. written or spoken, H(igh) and L(ow) domains.

More specifically, the Education Act of 1843 implemented state-wide bilingualism of the standardised varieties, Standard French and Standard German, into the education system (Horner & Weber, 2015), disregarding Moselle Franconian. By the 1870s, a sequential approach to teaching French and German had developed (Horner & Weber, 2015). Typically, basic literacy in primary school was taught in German. In addition, French was taught from the third year onwards and it became the major language of secondary education (Gilles & Moulin, 2003). In contrast, Moselle Franconian was disregarded in education, even if a Moselle Franconian literary tradition developed the latest during 19th century. However, the poems, plays, novels and literary magazines were thought to be examples of light "folk literature" by the audience, as well as by the authors (Fehlen, 2009; Gilles, 2019).

From the middle of the 19th century onwards, tentative attempts were made to use Moselle Franconian/Luxembourgish in H(igh) domains such as education and politics. Firstly, in 1848, the revolutionary movement in Luxembourg demanded a language in administration and politics that would be understood by the common people (Fehlen, 2009). Consequently, the public

parliamentary debates were held in Luxembourgish for some months. In 1896, another attempt was made to introduce Luxembourgish into the parliament (Stell, 2006).

In addition, in 1912, a reform of the education system introduced Luxembourgish as a school subject as part of regional studies (Horner & Weber, 2015). This very limited teaching of Luxembourgish required the first ever standardised reading materials (Gilles, 2019), which gave rise to the first standardised spelling systems (Gilles, 2015; Stell, 2006).

In 1890, the Dutch King William III died without a male heir. Since the monarch of the Grand Duchy of Luxembourg had to be male, the personal union between Luxembourg and the Netherlands was dissolved. Consequently, from 1890 onwards, the House of Nassau-Weilburger became the ruling dynasty of the Grand Duchy of Luxembourg. This marked the absolute independence of Luxembourg, which gradually developed into a constitutional monarchy by the beginning of the 20th century.

This independence of the Grand Duchy was violated twice in the 20th century by Germany invading the country in World Wars I and II. Some researchers see the development of the Luxembourgish language as a counteraction to German imperialism (Fehlen, 2009; Gilles, 2019), others assert that the emancipation of Luxembourgish as an own language gathered momentum rather after World War II (Bellamy & Horner, 2018; Horner & Weber, 2008).

While the German occupation in World War I left Luxembourg some degree of autonomy, the events during World War II contributed significantly to a national identity of Luxembourg and potentially the emergence of Luxembourgish as a national language. More specifically, Nazi Germany aimed to integrate Luxembourg into the Third Reich by emphasising the linguistic closeness of the Luxembourgish and German language (Fehlen, 2008, 2009). Consequently, in 1940/41, the German occupying power introduced various language policies: French was banned from all H(igh) domains and German became the only official language. In addition, French first names of Luxembourgish people had to be Germanised. Overall, Luxembourgish words of French origin became stigmatised, even the very common "*äddi*" [goodbye].

Particularly important for this investigation and in contrast to the *Deutschsprachige Gemeinschaft* in Belgium, is the profound resistance of the people of Luxembourg to these language policies. Researchers find this resistance to demonstrate Luxembourgish becoming continuously disassociated from German (Gilles, 2019). Further examples of linguistic resistance are the radio

speeches of the Grand Duchess Charlotte, who addressed her people the first time in Luxembourgish from her exile. In addition, when the Nazi occupying forces asked the Luxembourgish people in a pseudo-census to indicate their nationality, ethnicity and mother tongue, an overwhelming majority answered that they are "*dräimol Lëtzebuergesch*" [three times Luxembourgish]" (Fehlen, 2008; Gilles & Moulin, 2003)[5].

After World War II, German was highly stigmatised in Luxembourg and it lost domains of language usage to Luxembourgish in the main, but also to French. In 1948, after 100 years of official bilingualism, the right to use German and French equally in official domains was revoked by changes to the constitution (Fehlen, 2009). However, this constitutional change did not include Luxembourgish as a new official language. Despite this lack of legal status, its emancipation continued. Typically, parliamentary debates were now held in Luxembourgish instead of German (Fehlen, 2009; Gilles, 2019). More model texts of Luxembourgish were published and private initiatives aimed to bolster the language variety; for example, *Actioun Lëtzebuergesch*, with language services for native and non-native speakers (Gilles & Moulin, 2003). The drivers of this language emancipation were the educated middle classes (Fehlen, 2009) as contributors to new spelling systems (1946) and various different codices, such as the *Luxembourger Wörterbuch* (1950-1977) (Gilles, 2015; Stell, 2006).

A milestone was the language law of 1984, which declared Luxembourgish to be the national language, and thus completed its emancipation from Standard German. The law established the usage of Luxembourgish in administration and the political sphere, besides French and German. French remains the language of the judiciary even today. Since the law did not entail any specific language planning measures, it carried only symbolic value. Typically, researchers regard this language law as the fundament of a trilingual language ideology in modern day Luxembourg (Fehlen, 2009, 2016; Gilles, 2019; Gilles & Moulin, 2003; Gilles & Trouvain, 2013; Stell, 2006).

Now, Luxembourgish is considered to be a language in its own right, with around 266,000 native speakers and a significant number of L2 learners (Fehlen, 2016). Even if it is still predominantly used in the spoken medium, its usage in the written medium was bolstered by further

[5] Examples were listed on the questionnaires of the referendum in order to highlight what constitutes a language and a dialect. Luxembourgish was listed among other "dialects" to provide a negative example.

standardisation processes of the 21st century (Gilles, 2015). More specifically, more codices established a standardised norm, such as the *Lëtzebuerger Online Dictionnaire* (since 2007). A wide range of materials have been developed to teach Luxembourgish as a foreign language (Weber-Messerich, 2011). The written usage of Luxembourgish became especially popular in digital (social) media, and Luxembourgish is also increasingly present in the traditional media, including Luxembourgish radio and TV stations (e.g. RTL).

Even though Luxembourgish is still predominantly used in the spoken medium, it now occupies numerous H(igh) domains, besides its originally exclusive use in the home domain. Luxembourgish plays an important role in the political and administrative sphere, and high competency in the variety is essential when working as a civil servant for example (Fehlen, 2016). The University of Luxembourg established its own faculty for research and teaching of Luxembourgish (*Institut fir lëtzebuergesch Sprooch- a Literaturwëssenschaft*). A body of literature ranging from comics to children's books can be found, as well as successful movies, which reach way beyond the folkloristic culture of the 19th century.

However, two aspects are thought to cause concerns for the maintenance of Luxembourgish. Firstly, research suggests that standardisation processes have not been completed, since Standard Luxembourgish has not been fully implemented in the speech community (Gilles, 2015). Typically, this shows in its minor role in education. Despite the frequent unofficial use of Luxembourgish in the classroom (Redinger, 2010), it is not the official medium of instruction (Horner & Weber, 2015). As a school subject, its teaching is very limited: one hour each week over six years of primary school and one year of secondary school (Bellamy & Horner, 2018). On the contrary, German remains the language of basic literacy education, despite its potential role as foreign language (Wagner, 2015). Similarly, French is still the major language of secondary education.

In addition, the ongoing language contact with French causes particular concerns in the population and among researchers for the maintenance of Luxembourgish (Fehlen, 2016; Horner & Weber, 2010). More specifically, 47.7% of Luxembourgish residents are of foreign nationality, and the majority of these foreign nationals are native speakers of a Romance language (STATEC, 2019a). Since they are predominantly employed in retail, hospitality and the food industry, French is now the dominant language in these work sectors, functioning as the lingua franca (Fehlen, 2016). In addition, around 183,000 *frontaliers*, border-crossing commuters who are predominantly French speaking, come to Luxembourg from Belgium and France to work (STATEC, 2019a).

These developments led to debates about the endangerment of Luxembourgish as a minority language (Fehlen, 2016). Some researchers question the minority language status of Luxembourgish based on its speakers' privileges and power positions (Horner, 2009; Horner & Weber, 2010). In addition, these studies identify an ideological shift away from the trilingual—French, German, Luxembourgish—ideology towards a more monolingual ideology of Luxembourgish as the only national language and the language of integration for foreign residents (Horner, 2009; Horner & Weber, 2015).

Until now, and for ease of exposition, this section has referred to Luxembourgish/ Moselle Franconian as a homogeneous variety. Now, it concludes with a discussion of the variation of Moselle Franconian in Luxembourg, based on traditional and perceptual dialectological studies. In addition, *Canton Clervaux* is presented as the speech community of interest in this thesis.

Overall, traditional dialectological studies identify four major dialect areas: the northern parts, the eastern parts, the southern parts and a large central area, with the capital Luxembourg-City (Bruch, 1953; Gilles, 1999). Research shows ongoing convergence processes between these dialectal areas, with features spreading from the central area (Gilles, 1998, 1999). Despite studies asserting the polycentric standardisation processes of Luxembourgish (see section 2.4.3.), studies on teaching practices and speakers' perception in particular suggest the central area to be the basis of Standard Luxembourgish (Neises, 2013; Stell, 2006).

Most important for this investigation is the fact that Standard Luxembourgish is an endogenous standard variety of its Moselle Franconian vernaculars, since it is based on codices from within the speech community (see section 2.4.3.). It is linguistically close since it is based directly on its Moselle Franconian vernaculars. This is in contrast with the *Deutschsprachige Gemeinschaft* in Belgium (see previous section). In addition, the ongoing convergence processes led to considerable structural linguistic closeness between the Standard Luxembourgish and its Moselle Franconian vernaculars (Gilles, 1998).

Studies show that the northern dialectal region deviates most considerably from the other dialectal areas of Luxembourg (Bruch, 1953; Entringer, Gilles, Martin, & Purschke, 2018; Gilles, 1999; Gilles & Trouvain, 2013). Simultaneously, the Moselle Franconian varieties of the northern dialectal area called the Éislek region are closely related to Moselle Franconian in the *Belgische*

Eifel in Belgium. This is especially true for the vernaculars of Canton Clervaux (Bruch, 1953; Mattheier & Wiesinger, 1994; Wiesinger, 1982b).

Éislek: Canton Clervaux

Canton Clervaux with a size of 342 km^2 and a population of 18,436 (STATEC, 2019a, 2019b) is situated at the most northern part of the Éislek region of Luxembourg (map below in Figure 7). It has five districts, Parc Hosingen, Wincrange, Troisvierges, Weiswampach and the city of Clervaux itself. However, dialectological studies exclude Parc Hosingen from a more or less homogeneous northern dialectal area (Bruch, 1953; Gilles, 1999). There is little information about the competence of vernacular Moselle Franconian speakers and their numbers in Canton Clervaux. Studies mostly disregard the difference between vernacular and standardised Moselle Franconian/Standard Luxembourgish speakers when they establish speaker numbers (Fehlen, 2016). However, a large-scale study (Fehlen, 2009) reported that 50% of the participants from this Canton considered themselves to be vernacular Moselle Franconian speakers.

The present work chose Canton Clervaux to be the second speech community to test the hypotheses of section 3.6. The reasons for this selection are twofold. Firstly, Moselle Franconian of Canton Clervaux is linguistically the closest to the vernacular of the *Belgische Eifel*, the first speech community of interest in this thesis (see section 4.1.). Secondly, the Moselle Franconian of this dialect area was found to retain most of its unique vernacular features and differs the most from Standard Luxembourgish.

Most importantly, the definition of what constitutes a standard variety in this thesis follows a perceptual dialectological approach (see section 3.2.). Unfortunately, perceptual dialectological studies of Luxembourgish are scant. Overall, they show that Luxembourgish speakers perceive differences between spoken Luxembourgish varieties on a geographical and contextual level (Entringer et al., 2018; Fehlen, 2009; Neises, 2013). Two studies show differences between speakers' perceptions of Standard Luxembourgish vs. Moselle Franconian varieties of the Éislek region, especially in Canton Clervaux (Entringer et al., 2018; Neises, 2013). Varieties of the Alzette Valley and Luxembourg City are perceived to be the closest to a standard variety, in contrast to the varieties from the northern Éislek region, which are perceived to show the highest levels of

vernacularity (Entringer et al., 2018; Neises, 2013). On a contextual level, speakers recognise model speakers of a spoken standard variety, e.g. news presenters (Entringer et al., 2018).

To summarise, this thesis investigates its hypotheses in the Canton Clervaux, the northern part of the *Éislek* region in Luxembourg. The Moselle Franconian of Canton Clervaux is linguistically closely related to Moselle Franconian in the *Belgische Eifel* (see section 4.1.). Unlike the *Belgische Eifel*, the speech community introduced Standard Luxembourgish as an endogenous standard variety, which is linguistically close to its Moselle Franconian vernaculars in Luxembourg. In addition, French and German are present as contact varieties in mainly H(igh) domains. For the sake of brevity, the two speech communities are denominated as Belgium and Luxembourg in the following sections.

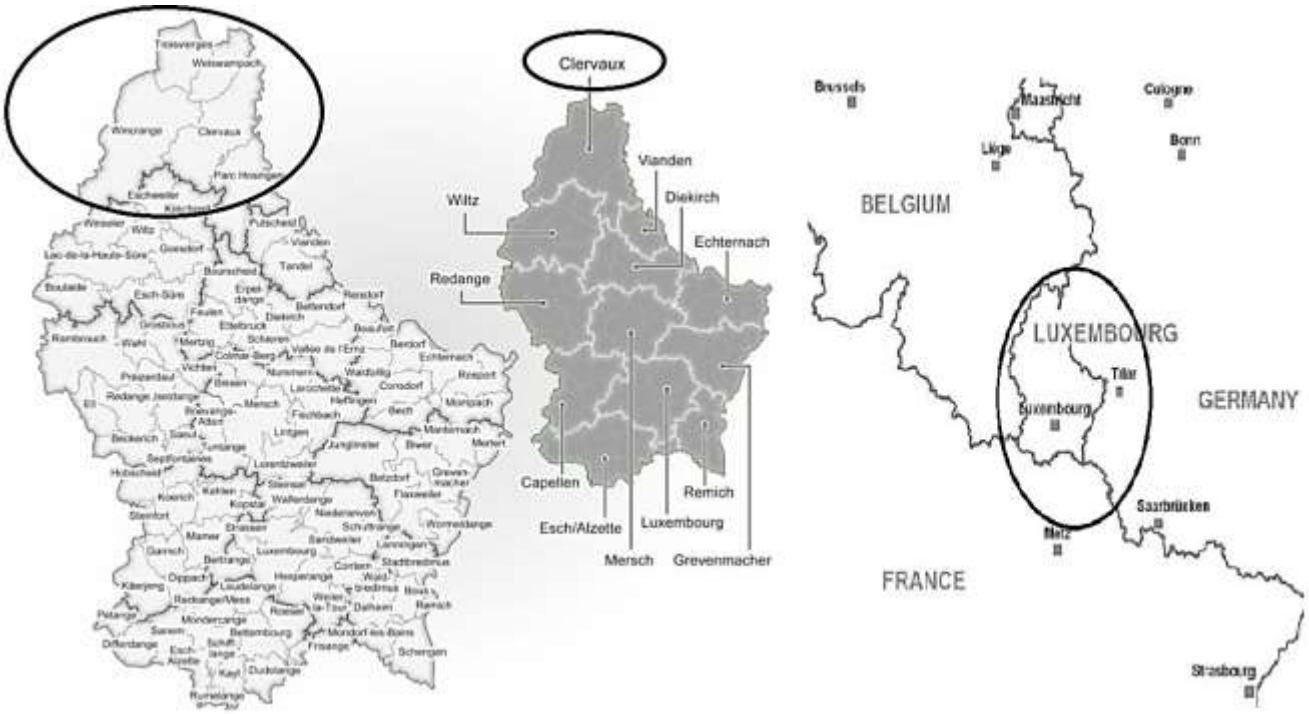

Figure 8 Canton Clervaux in Luxembourg (Neises, 2013, STATEC 2019)

4.3. Conclusions: research questions and hypotheses regarding speech communities

Sections 4.1. and 4.2. presented the two speech communities, in which the present work will test its hypotheses outlined in section 3.6.

Overall, the reasons for choosing these two speech communities are three-fold. Firstly, in both speech communities, Moselle Franconian is in contact with standardised varieties besides its standard variety, leading to potential language conflict and endangerment of the vernacular. Moselle Franconian in these speech communities is identified to be vulnerable in language vitality research (UNESCO, 2017). In addition, the Moselle Franconian vernaculars spoken in Belgium and Luxembourg are related. Third, different socio-political and historical context led to two different ways of introducing a standard variety in the two speech communities: Speakers associate their vernaculars with Standard German as an exogenous standard in Belgium. On the contrary, Standard Luxembourgish is an endogenous standard variety for its Moselle Franconian vernaculars in Luxembourg. Accordingly, Standard German is linguistically more distant from its Moselle Franconian vernaculars in Belgium, compared to the linguistically close Standard Luxembourgish and its Moselle Franconian vernaculars in Luxembourg.

Recall section 2.1.1, which described process-focused social psychological research on attitudes. Social psychological studies found that the resemblance of attitude objects matters to whether they are evaluated in the same manner. In section 3.6., the present work suggested that the linguistic distance between a standard variety and its vernacular governs their resemblance and thus consequently their evaluation. I concluded that a linguistically close, endogenous standard would share its evaluation with its vernaculars, unlike a linguistically distant, exogenous standard variety. Based on an abundance of sociolinguistic research, the present work argued that the shared evaluation of a linguistically close standard variety and its vernacular would be of positive nature (see section 3.1 and 3.2.). Typically, a close, endogenous standard variety would share its prestige and thus impact positively on implicit attitudes towards its endangered vernacular. This positive impact will show when implicit attitudes towards endangered vernaculars in a speech community with a distant, exogenous standard are compared to a those in a speech community with a close, endogenous standard variety (prediction I). In addition, the prestige of a close, endogenous standard

variety will also bolster attitudes towards its vernaculars in comparison to additional standardised varieties, which are also prestigious. However, a distant, exogenous standard will lack such a positive effect on its vernaculars when it is compared with implicit attitudes towards additional standardised contact varieties (prediction II).

Consequently, social psychological research on shared evaluation implies the following for implicit automatic attitudes in the speech communities of Belgium and Luxembourg:

H 1a) The differences in linguistic distance between the standard and its endangered vernacular – due to the different nature of standardisation processes in the speech communities of Belgium and Luxembourg – will influence implicit attitudes towards Moselle Franconian.

H 1b) Standard Luxembourgish, being a linguistically close, endogenous standard variety, will impact more positively on implicit attitudes towards its Moselle Franconian vernaculars, compared to Standard German, as a linguistically distant, exogenous standard variety for its Moselle Franconian vernaculars.

This will show in:

Prediction I: Implicit attitudes towards the Moselle Franconian vernacular in Luxembourg will be more positive, compared to implicit attitudes towards the Moselle Franconian vernacular in Belgium.

Prediction II:

The difference between implicit attitudes towards Moselle Franconian vs. French and German will be smaller in Luxembourg, compared to the difference between implicit attitudes towards Moselle Franconian vs. French in Belgium.

The following chapter 5 reports two studies, testing these hypotheses and their predictions in Luxembourg and Belgium.

Chapter 5. Standardisation and implicit attitudes in Belgium and Luxembourg

5.1. Chapter introduction

This chapter includes two quantitative, experimental studies on implicit attitudes in Luxembourg and Belgium. These two studies use measures of automatic implicit attitudes, the Implicit Association Test and Affective Priming, to investigate the research questions and hypotheses of section 3.6. and 4.3.

Recall that these research questions and hypotheses draw on process-focused defining features of implicit attitudes, including the notion of automaticity (see section 2.1.1.). Social psychological research shows that the resemblance of attitude objects influences their shared implicit evaluation. In section 3.6. I suggested that the nature of different standardisation processes, resulting in varying linguistic distance between a standard variety and its vernacular, governs their resemblance. Thus, linguistic distance is expected to influence the degree to which a standard positively impacts on implicit attitudes towards its endangered vernaculars.

In this chapter, both studies aim to explore whether the different nature of standardisation processes in Belgium and Luxembourg plays a role in speakers' implicit attitudes towards endangered Moselle Franconian vernaculars. (Research Question 1a).
In section 4.3., I hypothesised that the different nature of standardisation processes in Belgium and Luxembourg –resulting in varying linguistic distance between the respective standard varieties (Standard German and Luxembourgish) and their Moselle Franconian vernaculars– will impact on implicit attitudes towards Moselle Franconian (Hypothesis 1a).

In a more refined approach, both studies in this chapter investigate how Standard Luxembourgish, a linguistically close, endogenous standard differently impacts on implicit attitudes towards its Moselle Franconian vernaculars compared to Standard German, a distant, exogenous standard for

its Moselle Franconian vernaculars in Belgium (Research Question 1b). It is expected that Standard Luxembourgish will impact more positively on implicit attitudes towards Moselle Franconian, compared to Standard German in the Moselle Franconian speech community in Belgium (hypothesis 1b and see section 3.3.)

The first study of this chapter aims to test hypothesis 1a and hypothesis 1b, but it can only test the first prediction of hypothesis 1b due to its binary experimental paradigm, i.e. the Implicit Association Test (IAT) (see section 2.2.2.). This first prediction stated that implicit attitudes towards Moselle Franconian in Luxembourg will be more positive compared to implicit attitudes towards Moselle Franconian in Belgium (prediction I). The first study is presented as a stand-alone paper and thus also includes some repetitions. More specifically, the introduction of the paper (section 5.2.1) gives a theoretical background of the research questions that chapter 2 of this thesis already elaborated on. It also introduces the speech communities of Belgium and Luxembourg as chapter 4 of this thesis has done. However, the description of the speech communities in the paper and the thesis' chapter have a different focus: while chapter 4 mainly gave a historical and socio-political overview, the paper (section 5.2.) summarises previous research findings on speakers' perception of the respective standard varieties and their vernaculars in Belgium and Luxembourg.

The second study of this chapter aims to investigate the same hypotheses as study 1 (H 1a and H 1b with prediction I). However, it also intends to explore the second prediction of hypothesis 1b. This prediction stated that the difference between implicit attitudes towards Moselle Franconian vs. French and German will be smaller in Luxembourg, compared to the difference between implicit attitudes towards Moselle Franconian vs. French in Belgium. The second study uses an Affective Priming experiment (see section 2.2.2), to explore implicit attitudes towards not only Moselle Franconian vernaculars and their respective standard varieties as in study 1, but also towards additional standardised contact varieties such as French and German. Even if this second study uses another experimental paradigm, i.e. Affective Priming, its materials are based on the results of the same norming study, which also informed stimuli creation of study l (presented in detail in section 5.2.5.). The second study is not presented as a stand-alone paper, since its results made a publication difficult.

5.2. Study 1: Standardisation: Bolstering Positive Attitudes towards Endangered Language Varieties? Evidence from Implicit Attitudes[6]

5.2.1. Introduction

5.2.1.1. Standardisation and attitudes in language maintenance

Language maintenance studies have identified numerous factors that may contribute to the maintenance of endangered varieties in multilingual speech communities, such as the improvement of speakers' attitudes via, among other things, the introduction of a standard variety. (Brenzinger et al., 2003; Fishman, 1991, 2001; Lewis & Simons, 2010).

Standardisation is often suggested as an important step in protecting endangered varieties, especially when these endangered varieties are in contact with a standardised majority language (Brenzinger et al., 2003; Fishman, 1991, 2001; Lewis & Simons, 2010)[7]. The aim of standardisation is to increase a variety's functions, e.g. via literacy, which has been argued to correlate with more positive attitudes (Grenoble & Whaley, 2005; Obiero, 2010). More specifically, standardisation broadens the usage of an endangered language to include prestigious communicative domains, e.g. governmental and educational domains, thereby fostering the perception that a variety is a fully-fledged language. (Fishman, 1991; Kloss, 1978).

However, standardisation processes can take several routes: on the one hand, they can entail the development of a "new" standard variety. Alternatively, standardisation can involve associating the vernaculars with an exogenous standard variety. In both cases, the standard will differ to various degrees from the endangered varieties it is supposed to be the standard of. Sociolinguistic models of standardisation encompass these two distinct routes with notions such as for example the "selection stage", (Haugen, 1966) "endoglossic vs. exoglossic standard" (Auer, 2005), "endonormativity vs. exonormativity" (Ammon, 1989; Stewart, 1968), and "roofless dialects vs.

[6] Section 5.2. was published as: Vari and Tamburelli (2020)

[7] But see for example (Haugen, 1972; Mühlhäusler, 1992) on potential issues arising from standardisation, particularly in the spoken domain.

Ausbau-languages" (Kloss, 1978, 1993; Muljacic, 1989). Regardless of the selected route, a standard is meant to act in a potentially protective manner towards the endangered vernaculars[8] with which it is associated. However, the functions and evaluations of the standard and its varieties are not identical, raising questions about the dynamics and outcomes of the presumed protective relation. We therefore need a clearer understanding of the interplay between attitudes towards a standard "protector" variety and the effects on the attitudes towards its vernaculars. Does the presence of a standard always impact positively on the attitudes towards the endangered vernaculars? If it turns out that it does not always do so, the question also arises as to whether the two standardisation strategies – i.e. creation of a new standard or association with an exogenous standard – are equally efficient in improving attitudes towards the endangered varieties. Specifically, we need to encompass a model to explain and ideally predict how the objects towards which attitudes are held (i.e. the endangered vernaculars and their standard) are evaluated in general. Additionally, we need models to explain and predict when these objects are evaluated in a similarly positive manner. Such models can be found in the field of sociopsychology and sociolinguistics.

5.2.1.2. Social psychological and sociolinguistic attitude models

Historically, sociolinguistic research distinguishes between indirect/covert/implicit/private attitudes vs. direct/overt/explicit attitudes based on attitude elicitation methods and speakers' attitude awareness. (Baker, 1992; Garrett, 2010; Labov, 2001; Lambert, Frankel, & Tucker, 1966; Trudgill, 1972). Attitude dimensions of solidarity/ integrative vs. status/instrumental (Gardner, 1988; Lambert et al., 1968) are intertwined with these distinctions. Additionally, sociolinguistic research defines language attitudes as part of "language regard" (Preston, 2018) or as language ideologies (Gal & Irvine, 1995; Woolard & Schieffelin, 1994).

Only recently have language attitudinal studies started to re-conceptualized the predominant distinction between covert/indirect/implicit vs. overt/direct/explicit language attitudes (Campbell-

[8] The definitions used here draw from perceptional dialectological approaches (Preston, 1999a, 2018; Preston & Niedzielski, 2013) and are therefore speaker-centered, with the "standardness" and "non-standardness" of a variety being based on speakers' perceptions. The labels "standard" and "vernacular" as used in this paper might therefore correspond to other units of analysis at the production level, depending on the model applied, e.g. base dialect, regiolects, regional standards, standard variety.

Kibler, 2012; Preston, 2018) by including the criterion of automaticity (Pantos & Perkins, 2012; Rosseel, 2017; Rosseel et al., 2018; Speelman et al., 2013), which has become crucial when distinguishing between explicit and implicit attitudes in social psychology (De Houwer & Moors, 2007; Fazio & Olson, 2003). Overall, sociopsychological definitions of implicit attitudes tend to outline the criterion of attitude awareness more precisely than sociolinguistic studies (Kristiansen, 2011; Labov, 2001; Trudgill, 1972). Participants can be unaware of the stimuli that elicit automatic attitudes, of the automatic attitude itself, of its origins and its influence on the measurement process. Most importantly, sociopsychological definitions reach beyond attitude awareness providing further defining features of automatic implicit attitudes: the processes of attitude measurement should be unintentional, uncontrolled and autonomous. Additionally, these definitions outline that implicit attitudes are based on automatic operations, which require only scarce cognitive resources and limited time to process the attitude stimuli (De Houwer & Moors, 2007; Fazio & Towles-Schwen, 1999; Wilson et al., 2000).

With these advances in mind, we would like to suggest that attitude models in language maintenance research would profit from incorporating the notion of automaticity when distinguishing between covert and overt attitudes. Importantly, social psychological research shows that automatic implicit attitudes are generally stronger predictors of habitual and spontaneous behaviour (Chen et al., 1999; Perugini, 2005) as opposed to deliberate, well-considered behaviour. This is especially the case in socially sensitive contexts, e.g. towards ethnic minorities (Dovidio et al., 2001; Dovidio et al., 2009). In accordance with these findings, we suggest adopting the notion of implicit automatic language attitudes as these are likely to be stronger predictors of habitual and spontaneous language usage, and thus more reliable indicators of language vitality in general, especially compared to the concepts and measures of language attitudes currently used in language maintenance research. We therefore propose to apply automatic implicit attitude models in language maintenance frameworks in order to investigate the conditions under which endangered varieties benefit from the positive attitudes associated with their standard in cases of language contact.

The conditions under which objects are evaluated, and consequently the conditions under which attitudes towards these objects are formed, have been the subject of extensive social psychological research (Bargh et al., 1992; Fazio, 1995; Wilson et al., 2000). Of specific interest in many social

psychological studies are the conditions under which different objects are automatically evaluated in a similar manner. The representativeness heuristics (Tversky & Kahneman, 2004) and the applicability principle of heuristic processing (Chaiken, 1980) are prominent concepts in these studies, which show that the perceived resemblance between different objects towards which attitudes are held (i.e. the "attitude objects") impacts their shared evaluation. More specifically, sociopsychological research on stereotyping and prejudice demonstrates that attitude objects which are perceived to share numerous characteristics tend to be evaluated with the same valence (Dovidio et al., 2001; Dovidio et al., 2009; Nelson, 2009).

In the context of language maintenance, we suggest that this perceived resemblance is largely equivalent to the linguistic distance between a standard and its vernaculars, which will in turn be responsible for governing their shared automatic evaluation. Further, based on the fact that the evaluation of a standard has been argued to be positive by a host of previous studies (Giles & Marlow, 2011; Lasagabaster, 2004; Milroy & Milroy, 1999; Preston, 1989), we propose that any automatic evaluation which the standard and its vernacular might share, would encompass positive evaluative features rather than negative ones. Consequently, we suggest that the linguistic distance between the standard and its vernaculars governs their shared positive evaluation. Additionally, we suggest that this linguistic distance is best conceptualized and measured in a unimodal approach focusing on the spoken standard to ensure the comparability of the standard and its vernaculars.

As discussed above, linguistic distance between a standard and its vernaculars varies depending on the standardisation strategy (i.e. development of a "new" standard or association with an existing, exogenous standard). Therefore, if our suggestion that linguistic distance is central to the perceived resemblance that ultimately impacts attitude evaluation, then we expect that the extent to which a standard is beneficial to its vernaculars depends on their linguistic distance, and that only a close standard will positively influence attitudes towards its vernaculars.

Research Hypotheses:

1) the nature of the standardisation processes is a strong predictor of speakers' attitudes towards their vernaculars[9].

[9] In addition to other well-known factors such as age, gender, socio-economic status and proficiency. See for an overview (Garrett, 2010).

2) speakers have more positive attitudes towards their vernacular in speech communities with a linguistically closer standard variety.

5.2.1.3. Standardisation and attitudes in Belgium and Luxembourg

We tested our hypotheses in two speech communities, namely in the southern part of the German speaking community of Belgium, i.e. *Belgische Eifel,* and in the northern part of Luxembourg, i.e. Canton *Clervaux*, in the region *Éislek*. These speech communities were selected for two reasons. Firstly, they speak linguistically closely related vernaculars, i.e. Moselle Franconian varieties. (Bruch, 1953; Möller, Weber, Lander, & Wirtz, 2013; Wiesinger, 1982b). Secondly, Moselle Franconian has been reported to be vulnerable due to language contact with French and Standard German (UNESCO, 2017). Importantly, however, the two speech communities have opted for different standardisation processes, making them an ideal testing ground for our hypothesis that the nature of the standardisation process is a strong predictor of speakers' attitudes towards vernacular varieties, and for the subsequent prediction that speakers hold more positive attitudes towards their vernacular in speech communities with a linguistically closer standard. More details on the two communities follow below.

Clervaux/ Éislek/ Luxembourg

Since the independence of the Grand Duchy of Luxembourg in 1839, Moselle Franconian varieties have undergone some standardisation (Gilles, 2015; Newton, 2000; Stell, 2006), bolstering their position in ongoing language contact with Standard French and Standard German (Fehlen, 2016; Gilles, 2019). Historically considered a German "dialect" (Gilles, 2019; Newton, 1996; Stell, 2006), the Moselle Franconian variety now called *Lëtzebuergesch*/ Luxembourgish has been recognized since 1984 as Luxembourg's national language (alongside French and German) currently counting around 266 000 native speakers (Fehlen, 2016). An endogenous standardisation processes (Stell, 2006) together with ongoing convergence (Gilles, 1998) has resulted in considerable structural linguistic closeness between the standard and its vernaculars. Despite this closeness, however, Luxembourgish speakers perceive differences between spoken Luxembourgish varieties on a geographical and contextual level (Entringer et al., 2018; Fehlen, 2009; Neises, 2013), indicating that a distinction between a spoken standard variety and its

vernaculars exist. Speakers identify varieties of the Alzette Valley and Luxembourg City as the most "standard-like" in contrast to varieties from the northern Éislek region, especially Canton Clervaux, which are perceived as the most "non-standard-like". On a contextual level, speakers recognise model speakers of a spoken standard variety, e.g. news presenters, and report contexts in which they aim to speak more "standard-like". Regarding attitudinal differences, studies are limited and mainly investigate attitudes towards Luxembourgish as a homogenous variety with direct methods. Although some studies (Fehlen, 2009; Gilles et al., 2010) show positive explicit attitudes towards Luxembourgish compared to the other languages present in the community (German, French, English), only two studies examined explicit attitudes towards different Luxembourgish varieties (Entringer et al., 2018; Neises, 2013), with attitudes towards varieties of the centre region, i.e. Alzette Valley/Luxembourg city being more positive than those of Éislek/Clervaux. Only two studies investigated automatic implicit attitudes towards Luxembourgish (Lehnert et al., 2018a, 2018b), again excluding the varieties' regional variation.

Above findings from perceptual studies tally with dialectological studies (Bruch, 1953), which reported the varieties of the Éislek region to belong to a separate dialectal area that differs most from the varieties of the Alzette valley and which retains the regional features of their variety the most (Entringer et al., 2018; Gilles, 1998; Gilles & Trouvain, 2013). We therefore chose the Éislek, specifically Canton Clervaux, as representative of the vernacular speech community. Canton Clervaux is situated at the northern border with Belgium and Germany and encompasses five districts, Parc Hosingen, Wincrange, Troisvierges, Weiswampach and Clervaux itself. Following the isoglosses established by dialectological studies (Bruch, 1953), we excluded Parc Hosingen from our analysis. Overall, Canton Clervaux is a mainly rural area with a size of 342 km^2 and a population of 18, 436 (STATEC, 2019a, 2019b), see Figure 9.

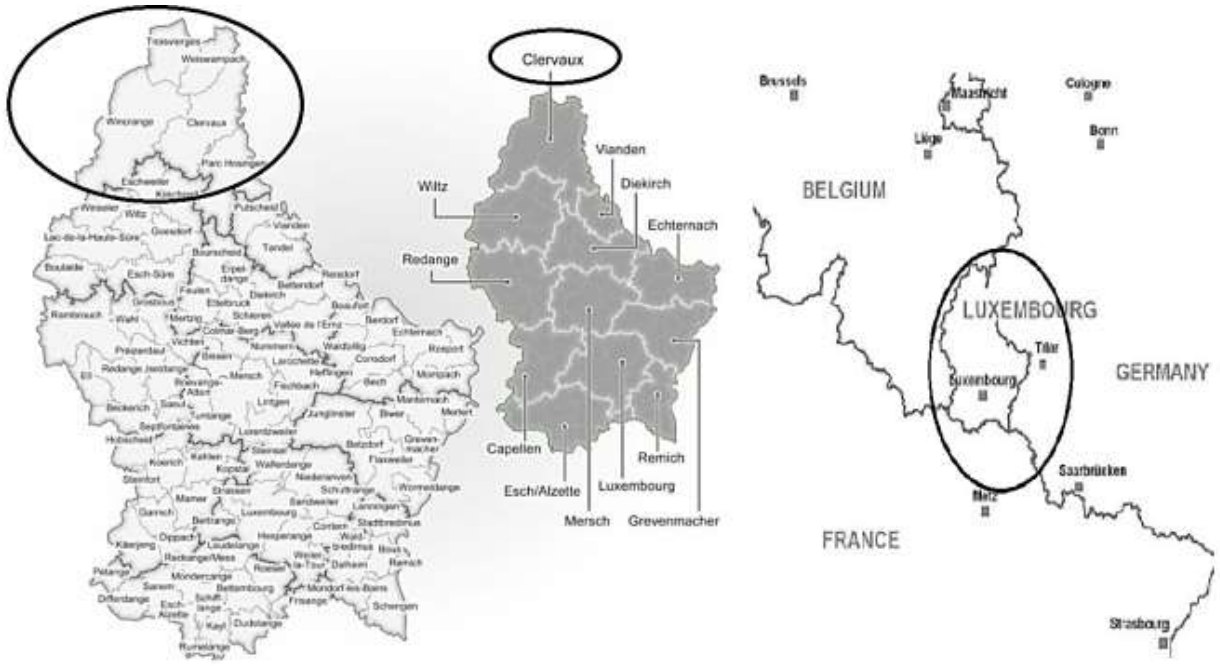

Figure 9 Canton Clervaux in Luxembourg (Neises, 2013, STATEC 2019)

Belgische Eifel/ *Deutschsprachige Gemeinschaft*/ Belgium

The geographical region of *Neubelgien*, "New Belgium" became part of Belgium in 1919, having previously been part of the German Empire. It encompasses the *Deutschsprachige Gemeinschaft* (German speaking community), a political unit with legislative and executive powers similar to the French and Dutch speaking communities and to the bilingual area around Brussels-Capital. While being an autonomous political entity with German as its official language, the *Deutschsprachige Gemeinschaft* is also part of the French speaking Walloon region of Belgium, on which it depends economically and politically (Möller, 2017). Overall, German is an official language of Belgium (alongside French and Dutch), but the around 70,000 German speakers constitute the smallest speech community in Belgium, totalling only 0.6% of the Belgian population (Möller, 2017).

The *Deutschsprachige Gemeinschaft* lacks an "own" standard (Möller, 2017) having adopted a linguistically distant standard, namely Standard German (Nelde & Darquennes, 2002). Importantly for our study, traditional dialectological studies (Barbour, 1990; Wiesinger, 1982b) established that Standard German is significantly linguistically distant from the Low Franconian, Ripuarian and Moselle Franconian vernaculars spoken in the *Deutschsprachige Gemeinschaft*. Empirical studies on speakers' perception in this community are extremely scant (Gramß, 2008; Riehl, 2007; Weber,

2009), but there is some evidence that a significant linguistic distance also emerges in speakers' perception of their vernacular as a language separate from Standard German (Weber, 2009). Additionally, research showed the clearest distinction between standard and vernaculars at the contextual level. Standard German occupies domains like work, government and education including the spoken medium in these domains. (Ammon, 1995, 2015; Nelde, 1979; Nelde & Darquennes, 2002; Weber, 2009). The only quantitative study on explicit attitudes (Weber, 2009) shows a somewhat higher rating of Standard German on the status/instrumental attitude dimension, which is indicative of a standard variety (Milroy, 1991). Additionally, differences appear on a geographical level, with the most competent vernacular speakers and the most widespread usage of the vernacular located in the south of the *Deutschsprachige Gemeinschaft,* i.e. *Belgische Eifel.*

Based on above findings, we therefore chose the *Belgische Eifel* region with all its districts, Amel, Büllingen, Burg-Reuland, Bütgenbach and St. Vith, as a second case that is representative of a vernacular speech community. The predominantly rural area with its 631 km^2 has a population of 30,219 (see Figure 10).

For brevity, the speech communities, i.e. Canton Clervaux in the *Éislek* region and the Belgische Eifel in the *Deutschsprachige Gemeinschaft*, will henceforth be referred to as 'Luxembourg' and 'Belgium' respectively.

Figure 10 The location of the Belgische Eifel, based on Verhiest, 2015, p. 55

5.2.1.4. Summary

As far as we are aware, no research has been carried out on speakers' automatic implicit attitudes in the above speech communities. Based on previous research discussed in section 1.3 and on accepted dynamics in language ideology (Gal & Irvine, 1995; Milroy, 1991; Woolard, 1992), we expected to find more positive attitudes towards the respective standard variety than towards the vernaculars in both speech communities. More specifically, we expected Standard German to be evaluated more positively than Moselle Franconian varieties in Belgium, and Standard Luxembourgish to be evaluated more positively than the vernacular Moselle Franconian varieties in Luxembourg.

Our research question concerned the conditions under which vernaculars profit from the positive attitudes associated with their standard in language endangerment situations. As discussed under 1.2, we suggest that this positive influence depends on the linguistic distance between the standard

and its vernaculars. Consequently, we hypothesised that the speech community (Luxembourg or Belgium) and the different degrees of linguistic distance resulting from different standardisation processes (endogenous vs. exogenous) would be a strong predictor of vernacular speakers' implicit automatic attitudes. Specifically, positive evaluation of the prestigious standard varieties (i.e. Standard Luxembourgish and Standard German) would be shared more extensively with the vernaculars in the speech community that has a linguistically closer standard, namely Luxembourg. We therefore hypothesised that vernacular speakers are likely to present more positive evaluations of their Moselle Franconian varieties in Luxembourg than in Belgium.

5.2.2. Materials and methods

5.2.2.1. Implicit Association Test

To investigate our hypotheses and measure implicit automatic attitudes towards the different standards and their vernaculars, we conducted an Implicit Association Test (IAT) (Greenwald et al., 1998) in each speech community. The IAT measures automatic implicit attitudes by measuring the strength of the link between a target category (attitude object) and an attribute category (emotional valence: positive or negative). More specifically, participants perform two categorisation tasks alternately in combined blocks: They categorise target stimuli (attitude object A and B) and attribute stimuli (positive and negative stimuli) into their respective categories. The fulcrum of this paradigm is the repetition of these blocks of combined categorization with different key mappings. Each attribute category is combined with each target category in different blocks, i.e. attitude object A is combined once with the positive and once with the negative attribute category. The mapping that results in participants' evaluations being faster and more accurate is taken to be the mapping which corresponds best to their association of the attribute and target categories.

IATs have found numerous applications outside of social psychology, notably in (socio-) linguistics (Campbell-Kibler, 2012; Pantos & Perkins, 2012; Redinger, 2010; Roessel et al., 2018; Rosseel et al., 2018) frequently using visual stimuli (Glock & Karbach, 2015). Overall, studies used stimuli of various modalities, occasionally in a cross-modal design. Besides the exceptional

application of gustatory stimuli (Crisinel & Spence, 2010), some IAT studies used verbal and non-verbal auditory stimuli (Anikin & Johansson, 2019; Lehnert et al., 2018b; Pantos & Perkins, 2012; Vande Kamp, 2002). Additionally, online versions have been successfully applied in social sciences and sociolinguistics (Friese et al., 2007; Roessel et al., 2018; Xu, Nosek, & Greenwald, 2014)

5.2.2.2. Participants

Participants were recruited through the local media, and a certain degree of disclosure was necessary to attract interest. However, we wanted to ensure that the measured implicit attitudes still fulfilled the defining criteria of automaticity (see section 4.2.1.2.). Therefore, a short questionnaire after the IAT was used to check participants' awareness of the study's aim and experimental paradigm to avoid the malleability of attitudes (Blair, 2002).

A total of 127 participants were included in the analysis. A further 36 participants took part in the online study but were excluded as they were above 60 years old, and research has shown considerable limitations of reaction time experiments with older participants (Hultsch, MacDonald, & Dixon, 2002; Porciatti, Fiorentini, Morrone, & Burr, 1999).

The Belgium sample included 64 participants (23 males, 41 females, mean age = 39.7 years, s.d. = 10.02). Participants' self-assessed competence in the standard and vernacular varieties was rated as high on a 5-point scale (from 0/not at all, to 4/perfect, vernacular: mean = 3.27, s.d. = 0.70; standard: mean = 3.43, s.d. = 0.51).

The Luxembourg sample included 63 participants (24 male, 39 female, mean age= 35.5 years, s.d. = 12.2). Participants rated themselves as highly competent in the standard and vernacular varieties on the same 5-point scale (from 0/not at all, to 4/perfect: vernacular: mean = 3.71, s.d. = 0.57; standard mean = 3.30, s.d. = 0.71)

In both groups, participants reported having spent the majority of their childhood in the respective vernacular speech communities (see section 4.2.1.3.).

5.2.2.3. Materials

Target stimuli

In an IAT, the target stimuli represent the attitude objects, which in our case correspond to the standard and the vernacular variety for each speech community. To circumvent issues with the medium of writing, e.g. the fact that vernaculars are not habitually seen in the written domain, target stimuli were in audio format. The speakers and recording process are described in "Recording stimuli: speaker selection". The auditory stimuli consisted of six words (one or two syllables) for each speech community. The words were selected from a list of 60 potential stimulus words reported to tease out lexical and phonetic differences between the different attitude objects, namely the standard and its vernaculars (Bruch, 1953; Entringer et al., 2018; Heinen & Kremer, 2016; Möller et al.; Neises, 2013). Final stimuli selection (N= 12, 2 language varieties x 6 words) involved corpus analyses of the target words in the standard variety in order to control for potential confounds of frequency and valence. For the vernacular words, stimuli selection was informed by a small-scale perceptual norming study with local informants (N= 19-23) [10] in the relevant speech communities since, unlike the standard varieties, there are no corpora available on which to base stimulus selection. Besides providing information on frequency and valence that was otherwise unavailable, the norming study also informed selection of the vernacular speakers needed to record the auditory stimuli, ensuring the speakers' representativeness throughout the entire speech community. Finally, the study provided labels for target categories, i.e. the standard and vernacular varieties, to ensure their validity in the respective speech community. Further information about our norming study can be found in the appendix.

Frequency and valence

We controlled for frequency and neutral valence of all six target stimuli in all language varieties. For the vernaculars, target word selection was informed by the results of our norming study, as follows. First, informants from different parts of the speech communities assessed the vernacular stimuli to be frequent (from 0/not at all, to 4/highly frequent: mean = 3.20; s.d. = 0.28). This allowed us to minimise potential variations in frequency of vernacular target words throughout the

[10] Variation is due to four participants not completing the norming study and providing data only for the initial parts.

speech community. Secondly, informants assessed the target stimuli to be of neutral valence (from 0/extremely negative, to 4/extremely positive: mean = 2.50; s.d. = 0.27).

Additionally, we established that the words in the standard varieties were also highly frequent (Zipf frequency: 3.20; s.d. = 0.28) based on ratings from four different corpora (between 52 million and 201,3 million words) consisting of film subtitles in English, German, French and Dutch (Brysbaert et al., 2011; Keuleers, Brysbaert, & New, 2010; New, Pallier, & Brysbaert, 2001; van Heuven, Mandera, & Keuleers, 2014).[11] Numerous research studies show the advantages of corpora based on film subtitles when investigating spoken words (Brysbaert et al., 2011). Furthermore, all target stimuli were of neutral valence, mean = 58.24%, s.d. = 6%, as measured on a scale ranging from 100% (extremely positive) to 0% (extremely negative). This scale was the result of standardising[12] ten rating scales of emotional valence (Bertels, Kolonsky, & Morais, 2009; Bonin et al., 2003; Bradley & Lang, 1999; Corson & Quistrebert, 2000; Lahl, Göritz, Pietrowsky, & Rosenberg, 2009; Messina, Morais, & Cantraine, 1989; Monnier & Syssau, 2014; Moors et al., 2013; Võ et al., 2009; Warriner, Kuperman, & Brysbaert, 2013).

Recording stimuli: speaker selection

All stimuli were recorded with a picture naming task in order to circumvent potential issues with the medium of writing, e.g. participants' unfamiliarity with the written vernacular. Before the recording procedure, speakers reported general biographical information, including their own childhood residence and language competence, and their parents'. All recordings were subsequently equalised and noise cancellation was applied using audio editing software.

To ensure our vernacular speakers' representativeness of their respective speech community, their speech had to lack restricted areal features, i.e. typical of only a small area. Therefore, we selected vernacular speakers whose varieties were potentially influenced by different vernacular varieties within the speech community. Specifically, we established that —for each of our selected

[11] We are grateful to Nathalie Entringer and Peter Gilles from the University of Luxembourg for giving us access to the only corpus for Luxembourgish, described in (Gilles, 2015). Unfortunately, it could not provide us frequency information due to register and size issues.

[12] We re-scaled the different rating scales without affecting data characteristics (Dawkes, 2008) to ensure cross-corpus and language comparability

vernacular speakers— at least one of their parents had moved to the speaker's childhood place of residence from another region within the speech community while maintaining his or her (i.e. the parent's) regional variant of the vernacular variety. Alternatively, we selected speakers who had themselves spent a significant amount of time in different regions within the speech community.

Second, we needed proficient vernacular speakers who were also able to produce the standard variety in order to create representative target stimuli. In Belgium, most vernacular speakers are proficient in the standard variety, i.e. Standard German (Nelde, 1979; Weber, 2009). In Luxembourg, however, teaching of written Standard Luxembourgish is limited and a standard pronunciation is not taught at all (Gilles, 2015). Thus, we selected Luxembourgish vernacular speakers who underwent some professional training, such as actors and teachers. A total of six speakers were recorded, three in Belgium and three in Luxembourg. A single speaker was then selected from each speech community based on the results of our norming study. Both speakers were male, from the same socio-economic background and between 50 and 52 years old. They were both nationals of their respective countries and both had parents who were vernacular speakers from the same speech community. They reported to be highly proficient in the standard and its vernacular variety of their respective speech communities, based on their self-assessment on a 5-point scale (from 0/not at all, to 5/perfect: vernacular competence: mean = 5.0, standard competence: mean = 4.25). Moreover, our norming study showed that their varieties were perceived as strongly resembling the vernacular varieties of our informants throughout the speech community, as measured on a 5-point scale (from 0/not at all, to 4/completely: Belgium: mean = 3.2; Luxembourgish: mean = 3.00). Furthermore, informants only rarely agreed on the speakers' exact childhood place of residence, though they all correctly identified each speaker as belonging to the speech community under investigation. This is indicative of a lack of restricted areal features in each of the speakers' vernacular, suggesting that their vernacular variety is representative of the wider community. Finally, each speaker's varieties (both standard and vernacular) were clearly distinguished, identified and labelled as such by the informants in the norming study.

Attribute stimuli

IATs investigate the link between two categories, target (attitude objects, i.e. standard and vernacular) and attributes. The attribute category provides the attributes with which the target is

potentially linked, occasionally being specific attributes like "working class/ middle class" (Campbell-Kibler, 2012). In our investigation the attribute category represents general emotional valence, i.e. "positive/negative" which is more common (Pantos & Perkins, 2012).

To avoid language interferences, attribute stimuli needed to be non-verbal. We selected 16 emotionally valent pictures[13] from the International Affective Picture System (Lang, Bradley, & Cuthbert, 2008): 8 positive pictures (mean: = 7.94, s.d. = 1.38, from 1/negative to 9/positive) and 8 negative pictures (mean: = 2.61, s.d. = 1.60). To avoid confounds, none of the attribute pictures depicted any semantic associations with the target words, as demonstrated by association norms (Kiss, Armstrong, Milroy, & Piper, 1973; Melinger & Weber, 2006; Nelson, McEvoy, & Schreiber, 1998)

5.2.2.4. Procedure

The online study was programmed in JavaScript, including elements from jsPsych (Leeuw, 2015) and was run with JATOS (Lange, Kühn, & Filevich, 2015). Instructions were in Standard German for Belgian participants, and either in Standard German or Standard Luxembourgish (depending on participants' choice) in Luxembourg. After giving their informed consent, participants filled in a language background questionnaire. After the experimental phase, participants completed a questionnaire to indicate their explicit language attitudes (Schoel et al., 2012), and answered questions on their awareness of attitude measurement so that malleability of implicit attitudes could be excluded from analysis (Agosta et al., 2011; Blair, 2002; Fiedler & Bluemke, 2005). Finally, two open questions gave participants the opportunity to report any problems with the stimuli or the speaker's representativeness and familiarity. The complete IAT lasted approximately 12 minutes on average.

In the main experimental phase, participants were asked to sort visual attribute stimuli into the categories *positive* and *negative* and, similarly, to sort target auditory stimuli into the categories *standard* and *vernacular*, as quickly and accurately as possible by pressing designated keys on the

[13] IAPS no.: 1440; 2550; 1750, 5833, 2050; 5829; 7330; 2311; 2276; 6250; 9571; 6510; 9909; 7380; 9341; 9000

keyboard. The stimuli appeared in the middle of the screen as either a visual stimulus or, for auditory stimuli, a pictogram indicating sound (a loudspeaker)

The key mappings were indicated on top of the screen. Non-verbal labels, in the form of "thumbs up" and "thumbs down" pictograms, indicated the categories "positive" and "negative" (see Figure 3).

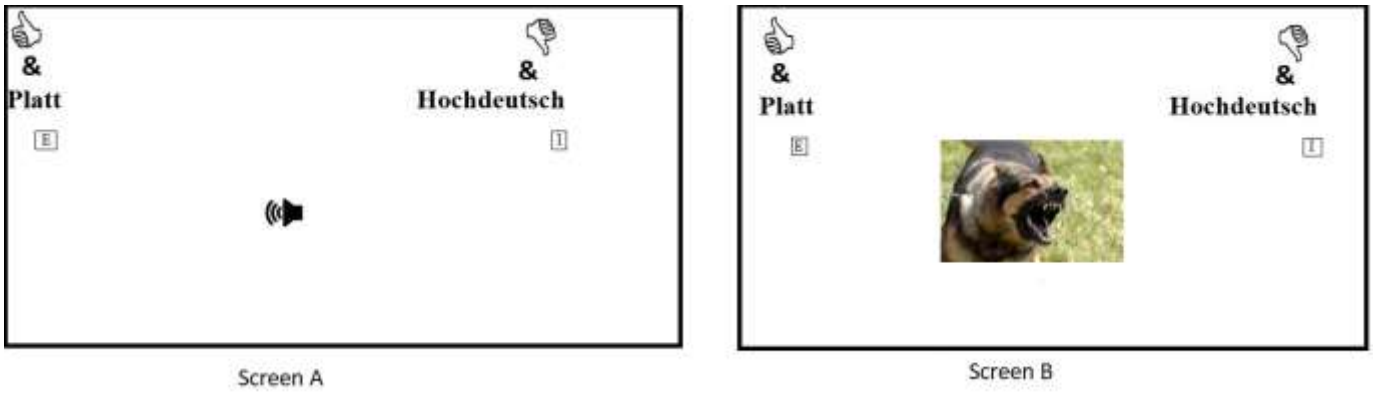

Figure 11 Screen A and B alternate in a combined IAT block in Belgium

For Belgium, the label *Hochdeutsch* indicated the standard variety and *Platt* the vernacular variety, as established through our norming study. For Luxembourg, there was some variation among informants on what the appropriate labels are for each variety. We decided to use an abbreviation to maximise personal associations and avoid variations in spelling: The label *Lëz-St* indicated the standard variety, leaving it to the participant to make the association with *Standard* or *Staater* (i.e. the variety associated with Luxembourg city), while the label *Éislek*, based on the geographical region, indicated the vernacular variety. These labels established by the norming study were in line with previous research (Entringer et al., 2018; Fehlen, 2009; Möller et al., 2013; Weber, 2009).

After an erroneous trial, i.e. a false categorisation, a red cross appeared as negative feedback. We opted for this continuous feedback throughout all blocks to increase the number of completed IATs. For each stimulus categorisation we measured accuracy (correct/incorrect) and reaction time (RT) in milliseconds. Overall, our online IAT had seven blocks with differences in amount of trials (20 trials or 40 trials), stimulus type (images only, audio only, both) and key mapping (categories mapped on left key and right key). The fulcrum of the experimental design is the switch of the key mapping after block 4 for the target stimulus categories, i.e. *standard* or *vernacular*, while the

positive/*negative* mapping remains constant. To counterbalance order effects, participants were randomly assigned to two different study types with different block orders. Table 1. summarises the experimental design:

study type 1						**study type 2**			
block	**amount of trials**	**stimulus type**	**Left key[14]**	**Right [15]key**		**amount of trials**	**stimulus type**	**Left key**	**Right key**
1	20	audio	vernac	st		20	audio	st	vernac
2	20	image	pos	neg		20	image	pos	neg
3	20	both	vernac & pos	st & neg		20	both	st & pos	vernac & neg
4	40	both	vernac & pos	st & neg		40	both	st & pos	vernac & neg
5	20	audio	st	vernac		20	audio	vernac	st
6	20	both	st & pos	vernac & neg		20	both	vernac & pos	st & neg
7	40	both	st & pos	vernac & neg		40	both	vernac & pos	st & neg

Table 1 Experimental design: vernacular (vernac), standard (st), pos (positive) and neg (negative) categories

5.2.3. Results

185 participants from both vernacular speech communities took part in the online study. Data were screened for duplicates to avoid multiple participation. In addition to discarding data from participants older than 60 years (n = 36, see section 4.2.2.2), we filtered for participants who claimed to have previously taken part in more than one IAT experiment (n = 14). This was done to avoid malleability of automatic attitudes, which has been reported to occur with participants' increasing experience of the IAT paradigm (Agosta et al., 2011; Fiedler & Bluemke, 2005).

[14] The "E" key on the keyboard constituted the Left key
[15] The "I" key on the keyboard constituted the Right key.

Furthermore, we discarded data from participants who indicated a high rate of unknown stimulus words (n = 3) as this suggested potentially low language competence. Data from participants for whom more than 10% of trials had latencies less than 300 ms were also excluded (n = 5), following the scoring algorithm (Greenwald et al., 2003). After matching the data of study type 1 and 2, we excluded erroneous trials, eliminated trials with latencies above 10,000 ms, and calculated the standard (difference) *D-score* (Greenwald et al., 2003), which in our case equals a preference score for the vernacular over its standard variety, i.e. the implicit automatic attitude towards the vernacular compared to the attitudes towards the standard. This preference score is an established effect size measure used in the IAT paradigm and in our case, it represents association strength of the vernacular variety with positive evaluations opposed to the standard variety. It is calculated by subtracting each participant's mean RTs for the blocks with the *vernacular* and *positive* mapping from the blocks with the inverted mapping, i.e. *standard* and *positive*. This difference in RTs is then divided by the pooled standard deviation. After removing of 5 outliers based on Cook's distance and studentized residuals, the 127 *D-scores* were normally distributed.

Two one sample t-tests confirmed that the experimental paradigm reliably caused participants to react significantly differently depending on key mapping. Specifically, participants' *D-scores* in each speech community were significantly different from 0 ($t(62) = 4.98$, $p < 0.001$, $d = 0.627$; $t(63) = -5.68$, $p < 0.01$, $d = -0.710$). Various tests with the *D-score* as dependent variable ruled out potential confounding variables. Specifically, there was no statistically significant difference between trial types 1 and 2 (independent sample t-test: $t(125) = 0.26$, $p = 0.793$, $d = 0.048$), level of previous IAT experience (no IAT vs. one IAT, independent sample t-test: $t(125) = -0.59$; $p = 0.554$, $d = -0.155$), language of instruction in Luxembourg (German vs. Standard Luxembourgish, independent sample t-test: $t(61) = 1.54$, $p = 0.128$, $d = 0.457$) and, most importantly for our purposes, between the individual districts within the respective speech communities – Luxembourg: one-way independent ANOVA: $F(3, 59) = 0.42$; $p = 0.739$, $\eta^2 = 0.021$; Belgium: Kruskal-Wallis test: $H(4) = 3.09$; $p = 0.542$, $\varepsilon^2 = 0.049$).

In section 4.2.1.2., we hypothesised that first, speech community would be a strong predictor of vernacular speakers' attitudes towards their varieties and second, Luxembourgish vernacular speakers will tend to have more positive attitudes towards their variety. Now, we tested our hypotheses with a multiple linear regression, predicting *D-scores* from factors such as Gender, Age, Standard, Vernacular and French competence (Baker, 1992), adding the variable under

investigation, namely Speech Community. We included French competence as a potential substitute indicator for participants' socio-economic status, for which we did not have direct measurements. Studies on Luxembourg found a correlation between self-assessed competence in French as a foreign language and level of education and – to some extent – socio-economic status (Fehlen, 2009, 2016), due to the role of French in education. However, competence in French cannot indicate the level of education in Belgium, due to a different educational and socio-political background. Thus, French competence can only be partially regarded as a potential indicator of participants' socio-economic status.

Importantly, a multiple regression analysis showed that Speech Community was the strongest predictor of *D-score*. Generally, the model statistically significantly predicted *D-scores*, $F(6, 120) = 11.10$, $p < 0.001$, $R^2 = 0.357$, adj. $R^2 = 0.32$. Table 2. lists regression coefficients and standard errors.

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	-0.13195	0.29502	-0.447	0.655	
French knowledge	-0.15472	0.06693	-2.312	0.023	-0.1984
Standard knowledge	0.09588	0.07755	1.236	0.219	0.1116
Vernacular knowledge	0.07956	0.06732	1.182	0.240	0.1009
speech community:					
BELG – LUX	-0.58009	0.08936	-6.491	< .001	-0.5479
age	-0.00246	0.00366	-0.672	0.503	-0.0529
gender:					
male – female	-0.06206	0.08286	-0.749	0.455	-0.0566

Table 2 Model Coefficients: D-score/vernacular preference score

Overall, participants in Luxembourg had higher *D-scores* (mean = 0.28; s.d. = 0.44), i.e. associating their vernacular more strongly with positive evaluations when compared to Belgian participants (mean = -0.31; s.d. = 0.44). The *D-scores* involved a change from a negative sign to a positive sign,

indicating a change in the direction of preference. Luxembourgish average *D-scores* were positive (mean = + 0.28), showing a preference for the vernacular over the standard, whereas Belgian participant *D-scores* were negative (mean = -0.31), indicating a preference for the standard over the vernacular, see Figure 12.

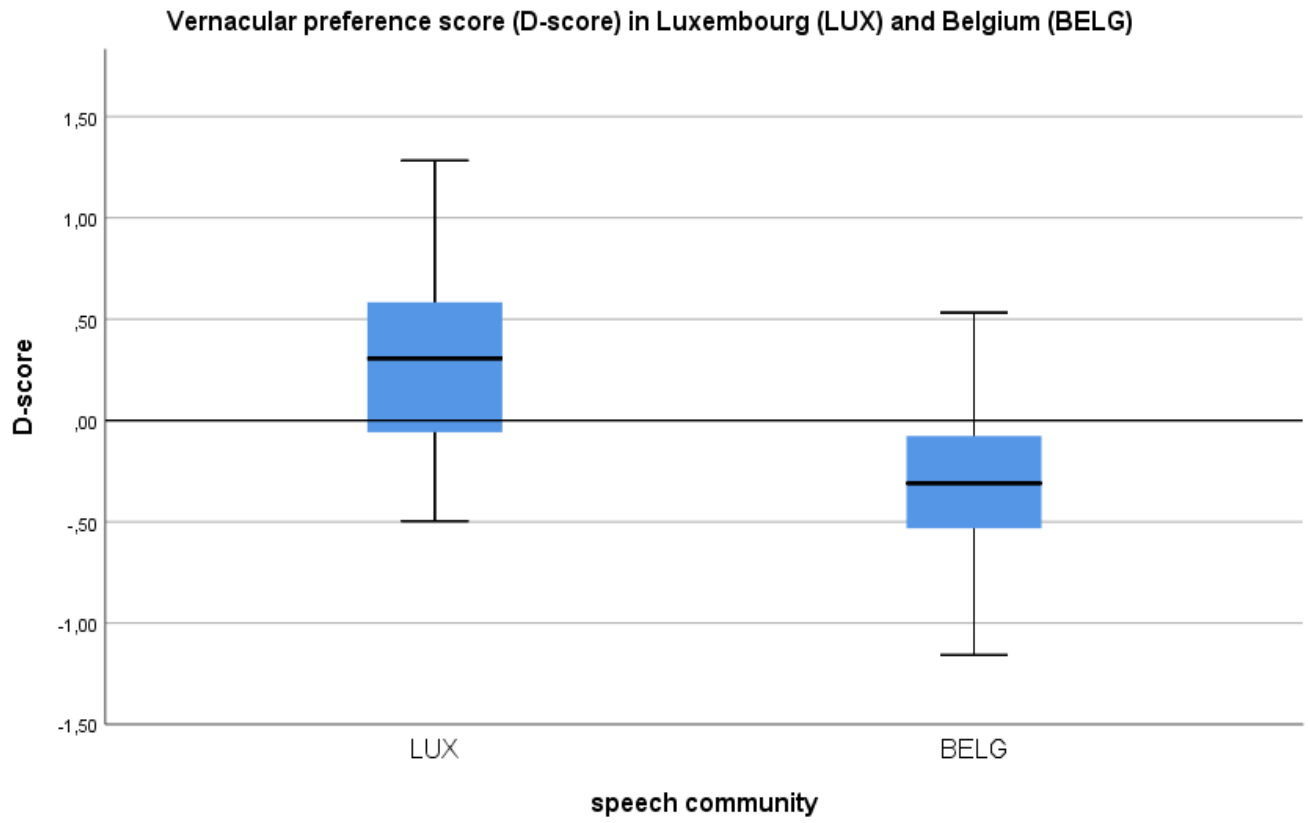

Figure 12 D-scores in Luxembourg (mean = 0.28; s.d. = 0.44, IQR= -0.0575, 0.306, 0.583) and in Belgium (mean = -0.31; s.d. = 0.44, IQR = -0.525, -0.319, -0.0792)

5.2.4. Discussion

Numerous studies in language maintenance either explicitly or implicitly argue that standardising an endangered variety contributes to raising its prestige and increases positive attitudes (Brenzinger et al., 2003; Fishman, 1991, 2001; Grenoble & Whaley, 2005; Laakso et al., 2016; Lewis & Simons, 2013). Our study aimed to investigate the conditions under which endangered varieties profit from positive attitudes towards the variety that is meant to act as their standard. We proposed to apply sociopsychological attitude models with the notion of automaticity, and from these we inferred two hypotheses:

1) the nature of the standardisation processes is a strong predictor of speakers' attitudes towards their vernaculars
2) speakers have more positive attitudes towards their vernacular in speech communities with a linguistically closer standard variety

Drawing on implicit automatic attitude models, we inferred that linguistic distance between standard and vernacular in a speech community would influence the amount of perceived resemblance and thus, similar evaluation. Since numerous sociolinguistic studies have shown the prestigious features of standard varieties on the explicit and implicit level (Giles & Marlow, 2011; Lippi-Green, 1994; Milroy, 1991; Rosseel et al., 2018), we concluded that linguistic distance may influence how much of the standard variety's positive evaluation is shared with its vernacular variety. A close standard would be perceived to resemble the vernacular variety and therefore share its positive evaluation. Conversely, a distant standard would be perceived to not resemble the vernacular, not sharing its positive attitudes.

We tested our hypotheses in the vernacular (Moselle Franconian) speech communities of Belgium and Luxembourg which have undergone different types of standardisation, i.e. associating the vernacular varieties with an exogenous standard (Belgium) and creating a "new" endogenous standard (Luxembourg). Following hypothesis 2 above, we predicted that speakers from the speech community with a closer standard (Luxembourg) would hold more positive attitudes towards their vernacular.

Our findings showed that both our hypotheses were borne out: First, speech community was the strongest of all predictor variables, suggesting that how endangered vernaculars are standardised influences attitudes towards them more than any other sociolinguistic factor such as age or gender.

Second, the *D-scores*, representing a preference for the vernacular over the standard, were significantly higher in Luxembourg (close standard) than in Belgium (distant standard). These finding have significant implications for language planners and policy makers in endangered language communities. In numerous language maintenance efforts, the first step is the standardisation of endangered vernaculars in order to improve attitudes and thus bolster their position in language contact situations (Grenoble & Whaley, 2005). Our findings suggest that only the introduction of a close standard can lead to the intended protective effect. When a distant standard is introduced, we face a situation where only the standard itself will potentially be maintained, to the detriment of the endangered vernaculars themselves despite the fact that these vernaculars were the object of language maintenance efforts in the first place.

However, there are some caveats: First, the overall fit of the model of our regression analysis was lower than we expected based on the number of predictors. However, the evaluation of the model's fit proves to be difficult to contextualise, since sociolinguistic studies applying IAT measures have rarely conducted a regression analysis at all (Campbell-Kibler, 2012) or did not include general sociolinguistic background variables like age and gender (Rosseel et al., 2018).
Moreover, the hypothesis that emerged when combining our two points of departure (i.e. the widely-held assumption that vernaculars profit from positive attitudes toward their standard and attitudinal models from the social psychological tradition) was based on the expectation that the standard would be generally evaluated more positively than the vernaculars themselves. Many sociolinguistic studies discuss standard language ideology (Lippi-Green, 2000; Milroy, 1991; Woolard & Gal, 2001) and IATs confirm more positive implicit attitudes towards the standard variety when compared to vernaculars in other speech communities (Rosseel et al., 2018). Luxembourgish participants preference for the vernacular over the standard was therefore surprising. Although we anticipated more positive attitudes towards the vernacular in Luxembourg than in Belgium based on sociopsychological models, we still expected to find more generally positive attitudes towards the standard in both speech communities. Specifically, we expected negative *D-scores* in both speech communities, indicating a general preference for the standard, while also expecting smaller values for Luxembourg, indicating more positive attitudes towards the vernacular due to its close proximity to the standard.

Researchers provide conflicting arguments as to why Standard Luxembourgish and Standard German are potentially not evaluated equally positively in their respective speech communities. On the one hand, some discuss lower degrees of standardisation of Luxembourgish (Gilles, 2015), which also shows in speakers' doubts on whether their standard can be considered a fully-fledged language (Bellamy & Horner, 2018). Accordingly, Standard Luxembourgish plays only a minor role in the education system, since this "new" standard variety still lacks its full implementation in the speech community. Despite its occasional, unofficial use in the classroom (Redinger, 2010), Standard Luxembourgish is not the official medium of instruction (Horner & Weber, 2015). Additionally, the teaching of Luxembourgish as a school subject to L1 speakers is limited and teachers are advised by the ministry of education to be wary to not discriminate Luxembourgish vernaculars (Horner & Weber, 2010). This lower level of prescriptivism potentially indicates how Standard Luxembourgish might not adhere to standard language ideology (Lippi-Green, 2000; Woolard & Gal, 2001). As a result, Standard Luxembourgish lacks prestige, which shows in comparison to its vernaculars.

This contrasts with Standard German, a language whose standardisation is very high (Mattheier, 2003) and whose status as a language is not contested. Consequently, attitudes towards native speakers of Standard German are shown to be overwhelmingly positive in contrast to its vernaculars and other standardised majority languages (Adler, 2019; Schoel et al., 2012). Accordingly, the standard language ideology of Standard German and its high levels of prescriptivism are well-evidenced in research (Adler, 2019; Maitz & Elspaß, 2011). Unlike Standard Luxembourgish, Standard German is the medium of instruction and also a subject in the schools of our Belgian speech community. To the best of our knowledge, no study has so far investigated the role of Standard German in education in Belgium. However, studies of other speech communities demonstrate how Standard German is intertwined with high levels of prescriptivism in various education systems (Davies, 2006; Schmidlin, 2017; Wagner, 2009; Weber, 2009). Overall, lower degrees of standardisation could be the reason as to why Standard Luxembourgish is not evaluated equally positively as Standard German in their respective speech communities.

On the other hand, studies also show how Standard Luxembourgish carries symbolic value for national identity (Bellamy & Horner, 2018; Horner & Weber, 2008), manifesting itself in very positive explicit and implicit attitudes (Fehlen, 2009; Lehnert et al., 2018b). Even if there are no comparable attitudinal studies in Belgium, the symbolic value of the exogenous Standard German

for the speech community's identity is questionable. Research emphasises that Standard German does not constitute an "own", endogenous standard for the community (Möller, 2017), but the standard of the neighbouring state of Germany. Studies also discuss the more symbolic value of the vernaculars compared to Standard German (Riehl, 2007).

Our selection of the standards, namely Standard German and Standard Luxembourgish respectively, could be another possible explanation for the different attitudes towards the standard varieties in the two speech communities. Generally, the *D-score* is a relative measure which needs to be interpreted in the context of specific target categories, i.e. attitude objects, which were contrasted in the IAT measure (Nosek et al., 2005). However, other highly standardised varieties are also present in both speech communities. Therefore, while our findings revealed a preference for the vernacular over the standard in Luxembourg, such preference might not exist between the vernaculars and other standardised varieties present in the community. More specifically, research also finds a trilingual language ideology in Luxembourg, i.e. Standard German, French and Luxembourgish, besides speakers' monolingual identification with Luxembourgish as a national language (Horner & Weber, 2010). French in particular features as a functional, genealogically unrelated standard in Luxembourg (Gilles, 2019). While it is also present in Belgium in H(igh) domains typical of a standard variety (Gramß, 2008; Möller, 2017), some studies question its role as a functional standard in this speech community (Darquennes, 2019). Additionally, Standard German has been reported to feature as a functional standard in Luxembourg (Gilles, 2019) with evidence that it is very prominent in the media (Fehlen, 2016) and that it elicits positive instrumental attitudes (Fehlen, 2009), both of which are properties indicative of a standard variety. Further research into implicit automatic attitudes in these speech communities is therefore needed, in order to investigate the impact of these other standards as well as of the potentially standards discussed here on the attitudes towards the endangered vernaculars.

5.2.5. Appendix of paper

Norming study

A small-scale (n = 19-23) online norming study was conducted using JATOS (Lange et al., 2015). Belgian informants (n = 9-10[16]; female: 5-6; male: 4; age: mean = 46.36; min. 22, max. 77 years) originated from various districts of the speech community. Based on their self-assessment on a 5-point Likert scale (from 0/not at all, to 4/perfect) they were proficient vernacular speakers (mean = 2.9, s.d. = 0.28). Similarly, their counterparts in Luxembourg (n = 10-13; female: 7-8; male: 3-5; age: mean = 44.84; min. = 27, max. 64 years) originated from all districts of the speech community and reported their vernacular proficiency as very high (mean = 3.86, s.d. = 0.45). In the first part of the study, informants were presented with speech samples in their respective varieties (standard and its vernacular) spoken by three different speakers from the same speech community (e.g. Belgium) plus two samples by speakers from the other speech community (e.g. Luxembourg) that acted as distractors. The speech samples involved a picture description (14-16 seconds) and a three-word sequence (3-5 seconds). Informants indicated, on a 5-point scale, how much they thought their own vernacular was similar to that of each recording. They were also asked to guess the origin of the speakers in an open question. Finally, they provided and chose labels through open and multiple-choice questions on the appropriate name for the standard and its vernacular.

In the second part, informants listened to 25 single vernacular words produced by all speakers and presented twice. After each presentation, informants had to indicate either the words' valence or its perceived frequency in their vernacular on a 5-point scale (from 0, not at all frequent/ extremely negative, to 4 highly frequent/ extremely positive).

[16] Variation is due to participants not completing all parts of the norming study

5.3. Conclusion study 1 and introduction study 2

Section 2.1.1. showed that all process-focused sociopsychological models (Chaiken, 1980; De Houwer et al., 2009; Fazio & Towles-Schwen, 1999; Wilson et al., 2000) base the distinction between explicit and implicit attitudes on the concept of automaticity. In section 2.3., I suggested that automatic implicit attitude definitions should be applied to language maintenance research.

Furthermore, section 3.4. outlined how numerous language maintenance studies (Brenzinger et al., 2003; Fishman, 1991, 2001) argue that endangered speech communities benefit from the introduction of a standard variety and the positive attitudes associated with it. However, section 3.3. showed that sociolinguistic research (Ammon, 1989; Auer, 2011; Haugen, 1997) identifies two different ways of introducing a standard variety: speech communities can either create a new, endogenous standard or associate their vernaculars with a given, exogenous standard. The linguistic distance between the standard and its vernacular can vary as a result of the nature of standardisation processes, whether introducing exogenous or endogenous standard varieties.

In section 3.6., I suggested applying definitions of automatic implicit attitudes in order to investigate whether a standard variety always positively impacts on attitudes towards its endangered vernaculars, or whether this impact depends on how the standard is introduced and on the resulting linguistic distance between the standard and its endangered vernaculars. More specifically, section 3.6., combined the claim of a positive impact of a standard variety in endangered speech communities with sociopsychological findings about shared automatic evaluation (see section 2.1.1.). These findings demonstrate that the resemblance of objects, events and people, impacts significantly on whether they are evaluated in a similar manner. Additionally, section 3.6. argued that the linguistic distance between the standard and its vernaculars governs their resemblance. Overall, drawing on social psychological attitude research, I hypothesised that the nature of standardisation processes, resulting in varying linguistic distance, influences implicit attitudes towards endangered vernaculars (H 1a). Consequently, social psychological attitude research also implied that a linguistically close, endogenous, standard variety would share its positive evaluation with its endangered vernaculars, since they were perceived to resemble each other. Thus, a close, endogenous standard variety would impact more positively on implicit attitudes towards its endangered vernaculars, compared to a distant, exogenous standard variety (H

1b). More specifically, the hypothesis predicted that the positive impact of a close standard would show in more positive implicit attitudes towards endangered vernaculars in a speech community with a close, endogenous standard, when compared to a speech community with a distant, exogenous standard (prediction I). Additionally, the positive impact of a close, endogenous standard would also be present when comparing implicit attitudes towards the endangered vernaculars in relation to other standardised contact language varieties in the speech community (prediction II). More specifically, the difference between how positively the endangered vernaculars are evaluated in relation to prestigious standardised contact varieties would be lower in a speech community with a close, endogenous standard, compared to a speech community with a more distant, exogenous standard.

In the first study in this chapter, an Implicit Association Test (IAT) was conducted in order to measure automatic implicit attitudes towards Moselle Franconian vernaculars in Belgium and Luxembourg and towards their respective standards (Standard German in Belgium and Standard Luxembourgish). Results demonstrate that the speech community with its unique nature of standardisation processes, influences implicit attitudes towards Moselle Franconian more than any other sociolinguistic factor, such as age or gender. Consequently, hypothesis 1a is supported. More specifically, results show that automatic implicit attitudes towards Moselle Franconian vernaculars are more positive in the speech community with a close standard (Standard Luxembourgish in Luxembourg) compared to the speech community with a distant standard (Standard German in Belgium). As a result, hypothesis 1b is supported as well.

However, this first study also yielded unexpected results, calling for a further comparison of automatic implicit attitudes towards additional language varieties in the two speech communities. Surprisingly, the first study found that Luxembourgish participants prefer their Moselle Franconian vernacular to Standard Luxembourgish. Even if participants were assumed to show more positive attitudes towards Moselle Franconian in Luxembourg compared to Belgium, the study still expected them to have generally more positive attitudes towards the standard varieties in both speech communities based on substantial research about the standard variety's prestige in general (see also sections 3.1. and 3.2. or Giles & Marlow, 2011; Lippi-Green, 2000; Milroy, 1991).

In section 5.2.4, I argued that a potential explanation for Luxembourgish participants' preference for their vernacular over the standard could be the decision to contrast Moselle Franconian with Standard Luxembourgish as attitude objects in the first study. In both speech communities, additional standardised varieties are present, as well as the first study's objects of investigation Standard German in Belgium and Standard Luxembourgish in Luxembourg. Further, French is another prestigious highly standardised variety in both speech communities. Researchers such as Gilles (2019) consider French to have functions of a standard variety for Moselle Franconian in Luxembourg (see also section 3.1. for functional vs. structural standard variety). In Belgium, French does to some degree occupy H(igh) domains indicative of a standard variety, but previous research questions its role as a functional standard variety to the degree to be found in Luxembourg (Darquennes, 2019). Additionally, German potentially could also present as a functional standard in Luxembourg (Gilles, 2019) since it is still being extensively used in standard functions such as the media (Fehlen, 2016). Overall, if Moselle Franconian vernaculars had been contrasted with one of these additional standardised contact varieties in Luxembourg in the first study, results might show a different evaluation of the vernacular, in contrast to its observed preference over Standard Luxembourgish. The results of the first study and their potential explanations call for further investigations into automatic implicit attitudes towards all potential standard varieties in the two speech communities.

This need for further investigation is in line with the testing of the second part of hypothesis 1b, which did not take place in the first study in this chapter. More specifically, this first study examined only prediction I of hypothesis 1b, stating that the positive impact of a close, endogenous standard (Luxembourg) shows in more positive implicit attitudes towards its endangered vernaculars, compared to implicit attitudes towards endangered vernaculars in a speech community with a distant, exogenous standard variety (Belgium). However, hypothesis 1b comprises also a second prediction: a positive effect of a close, endogenous standard variety will also show when comparing implicit attitudes towards endangered vernaculars to other standardised contact varieties.

This second prediction could not be investigated in the first study with its online IAT (section 5.2.) since the original experimental paradigm is binary, measuring only implicit attitudes towards two attitude objects in contrast, see section 2.2.2. Although researchers have adopted the IAT to

measure more than two implicit attitudes in contrast, no online versions of such adaptions can be found (Rosseel, 2017). The reason for this might be the potentially longer duration of these IAT adaptions, when contrasting several attitude objects sequentially in these experiments. However, as with any data collection via the internet, online IAT studies need to be short to ensure a high conversion rate of participants (Friese et al., 2007; Xu et al., 2014). Therefore, the second prediction of hypothesis 1b could not be tested in the first study of this chapter as it used an online IAT. Consequently, an additional study is needed to measure automatic implicit attitudes towards Moselle Franconian and their respective standard varieties and, at the same time, automatic implicit attitudes towards additional standardised contact varieties in the speech communities.

The following section presents a second study to investigate how the different nature of standardisation processes and the resulting varying linguistic distance influence automatic implicit attitudes towards endangered vernaculars. This study uses a second measure of automatic attitudes, namely Affective Priming (AP) (see section 2.2.2). More specifically, it compares automatic implicit attitudes towards Moselle Franconian vernaculars to other standardised contact varieties in one multilingual speech community with a close endogenous standard (Standard Luxembourgish in Luxembourg) to another speech community with a distant exogenous standard (Standard German in Belgium). French is one of the additional standardised contact varieties that both speech communities have in common. Furthermore, in Luxembourg, German presents as an additional highly standardised contact variety, beside the Moselle Franconian vernaculars, Standard Luxembourgish and French.

Hypothesis 1b states that the positive effect of a close, endogenous standard variety will not only show when implicit attitudes towards Moselle Franconian in the two speech communities are compared – as done in the first study with the IAT paradigm – but it will also show in other attitudinal differences. According to prediction II, the positive effect will also show when the difference between implicit attitudes towards endangered vernaculars and additional standardised contact varieties in a speech community with a close standard (Luxembourg) is compared to the same difference in a speech community with a distant standard (Belgium). Similar to hypothesis 1b with prediction I, prediction II is also based on the application of social psychological research, which implies that the positive automatic evaluation of a close, endogenous standard variety will

be shared with its endangered vernaculars. Therefore, the close standard variety's prestige will positively impact on implicit attitudes towards its endangered vernaculars and decrease their attitudinal difference to other prestigious standardised contact varieties. In contrast, a distant, exogenous standard will not share its positive automatic evaluation with its endangered vernaculars. Therefore, the attitudinal difference between endangered vernaculars and additional prestigious standardised contact varieties will be greater in a speech community with a distant standard, compared to a speech community with a close standard (prediction II).

Section 4.3. elaborated on prediction II of hypothesis 1b) in the speech communities of Belgium and Luxembourg. More specifically, the hypothesis for study 2 concerns the attitudinal difference between Moselle Franconian and French as the additional prestigious standardised contact variety, which is present in both speech communities. In the following, this attitudinal difference is denominated as delta 1. Furthermore, in Luxembourg, the hypothesis of study 2 addresses the additional attitudinal difference between Moselle Franconian and German as a second additional, prestigious, standardised contact variety (delta 2).

Overall, refining prediction II of hypothesis 1b in the speech communities, gives rise to two hypotheses that form the basis of study 2 in this chapter:

a) The difference between implicit attitudes towards Moselle Franconian and French (delta 1) will be smaller in Luxembourg (close standard) than in Belgium (distant standard).

b) The difference between implicit attitudes towards Moselle Franconian and German (delta 2) will be smaller in Luxembourg (close standard) compared to delta 1 in Belgium (distant standard).

Similar to section 3.6, *implicit attitudes* denote *automatic implicit attitudes*. In addition, the second study explores further the results of the first study with a different experimental paradigm and thus investigates hypotheses 1a) and 1b) with prediction I:

Hypothesis 1a stated that the varying linguistic distance between the standard and its endangered Moselle Franconian vernacular – due to the different nature of standardisation processes in the

speech communities of Belgium and Luxembourg – will influence implicit attitudes towards Moselle Franconian.

Hypothesis 1b (prediction I) stated that implicit attitudes towards Moselle Franconian will be more positive in the speech community with the close, endogenous standard (Luxembourg) than in the speech community with a distant, exogenous standard (Belgium).

5.4. Study 2: Which standard? Implicit attitudes towards endangered vernaculars, their respective standard varieties and additional standardised contact varieties

5.4.1. Materials and methods

The second study measured automatic implicit attitudes towards the vernaculars, their respective standard and the additional standardised contact varieties with an Affective Priming experiment, see section 2.2.2. Generally, social psychological studies demonstrate that attitudes measured with the Affective Priming experimental paradigm are to a high degree automatic and implicit (Bargh et al., 1992; Bargh et al., 1996; De Houwer et al., 2009; Fazio, 1995; Fazio et al., 1986). The AP paradigm is based on the assumption that an affectively valent prime stimulus facilitates the response to an affectively valent target stimulus, if the affective valence is congruent (i.e. both are positive or both are negative). Unlike the IAT (see section 5.2.2.), participants' response task relates only to the target stimuli.

More specifically, participants will perform a response task quicker and more accurately when the prime stimulus is, for example, of positive valence like the target stimulus, compared to the response to a negative target stimulus after a positive prime. For an overview of the paradigm see Table 3.

Prime valence	+	-	+	-
Target valence	+	-	-	+
Response speed/ reaction time	fast	fast	slow	slow
Accuracy	high	high	low	low
	emotional congruency	emotional congruency	emotional incongruency	emotional incongruency

Table 3 The Affective Priming paradigm with emotional (in)congruency

Social psychological research (Bargh et al., 1996; Fazio et al., 1986; Spruyt & Tibboel, 2015) found that emotional valence congruence can facilitate the performance of different target response tasks, such as the pronunciation of a target word. However, Affective Priming studies, which aim to infer participants' attitudes from how fast and accurately they perform the response task, utilise an evaluation task (Czyzewska & Graham, 2008; Glock & Karbach, 2015; Herring et al., 2013). In this task, participants evaluate the target stimulus as positive or negative by key press and their reaction time and accuracy is measured. The valence of the target stimuli has been previously established, either idiosyncratically in individual pre-test (Fazio et al., 1986), or by using normed stimuli like emotionally valent adjectives from previous studies, e.g. beautiful and ugly (Bargh et al., 1996; Garcia & Bargh, 2003). Unlike the valence of the target stimuli, the valence of the prime stimuli is not known previously, but it constitutes the main object of study. The prime stimuli represent the attitude objects of the study. In the AP paradigm, the prime stimuli's emotional valence, that is to say the attitudes towards them, can be inferred from participants' performance in the response task. If participants react faster and more accurately to a positive target after a prime representing the attitude object "female" compared to a prime representing "male", this is indicative of them having more positive attitudes towards the attitude object "female" than towards "male".

Numerous Affective Priming studies in a variety of research fields, including education, health marketing, have investigated a range of attitude objects: food, religion, ethnicity and music, for an overview see De Houwer et al. (2009); Herring et al. (2013). These studies used prime and target stimuli of different modalities ranging from visual, to auditive (non-verbal and verbal) and even olfactory (Czyzewska & Graham, 2008; Degner, 2011; Duckworth, Bargh, Garcia, & Chaiken, 2002; Goerlich et al., 2012; Hermans et al., 1998), as well as cross-modal prime and target stimuli.

To the best of my knowledge, only one study used Affective Priming in order to investigate attitudes towards language varieties (Speelman et al., 2013), with one other study investigating attitudes towards speakers of different language varieties (Lehnert et al., 2018b).

5.4.1.1. Participants

Recruitment took place with the help of the communities' various organisations in the social and professional sphere (e.g. choirs, fire brigade, women's and carnival clubs etc.). Participants were mainly volunteers and only participants recruited at the Autonomous University in the German-speaking Community in Belgium received a 2 Euro voucher for their participation. A certain degree of disclosure of the study's aims was necessary to attract attention and encourage voluntary participation. However, open questions after the testing sessions screened for participants who had a high degree of awareness of the workings of the paradigm. This way, these participants could be excluded in line with research on the malleability of automatic attitudes (Blair, 2002; Degner, 2009) to ensure the automaticity of the implicit attitude measurement with defining features like unintentionality and uncontrollability (De Houwer & Moors, 2007). The overall aim of this screening was to address the criticism of implicit attitude measurements such as the AP (see sections 2.1.1. and 2.2.2). Attitude research critiqued, among other issues, the validity of the AP as a measurement of implicit attitudes that are defined to be based on automatic processes out of participants' control. Research showed that participants were able to manipulate their responses in implicit attitude measures, such as the Affective Priming experiments, under specific conditions (Blair, 2002; Degner, 2009; Fiedler & Bluemke, 2005). More specifically, studies found that repeated participation in an IAT or AP experiment and the knowledge of the workings of the experimental paradigms contributed to the malleability of implicit attitudes. The present study had to partially disclose its aim for participant recruitment, which could have potentially contributed to higher degrees of participants' awareness of the experimental paradigm. Thus, this study screened for participants whose measured implicit attitudes might not be based on automatic but controlled processes (see section 2.1.1.)

Overall, 120 participants took part in the experiment in both speech communities combined. Participants ranged from ages 18 to 93. However, in order to avoid a potential confound of age, I decided to exclude participants aged below 20 years and above 65 years. The sample was first unbalanced regarding age. More specifically, there was an overrepresentation of the below 20-year-old age group in the Belgium sample as the majority of participants were recruited at the University in the *Deutschsprachige Gemeinschaft* in Belgium. However, recruitment of an equal number of participants of this age group was not possible in Luxembourg. In addition, previous research

shows that age can be a confound in priming experiments (Hultsch et al., 2002; Thompson, Blair, & Henrey, 2014). Cognitive abilities influencing participants' performance in reaction time experiments decline with participants' age (De Houwer et al., 2009). Overall, researchers identified age to influence the reliability of reaction time experiments (Hultsch et al., 2002). Therefore, participants below the age of 20 years and above the age of 65 years were excluded from the current study, aiming for a more balanced design that was potentially less influenced by differences in cognitive abilities. This way, the present study aimed to also address the criticism regarding the reliability of measures of automatic implicit attitude (see section 2.2.2).

90 participants were included in the final analysis. 42 participants (27 female and 15 male) with the mean age of 41.2 years (s.d.: 15.8 years) came from Luxembourg. They assessed their skills in the language varieties under investigation (French, German, Standard Luxembourgish and vernacular Moselle Franconian) to be "very good" (scale ranging from 0, not at all to 4, perfect: mean = 3.02, s.d. = 0.51). More specifically, their language competence in the four different varieties differed significantly (Friedman's ANOVA: $\chi 2(3) = 56.50$, $p < 0.01$) and they reported to have the highest competence in the vernacular (mean = 3.46, s.d. = 0.63) and the lowest in Standard Luxembourgish, (mean = 3.02, s.d. = 0.73).

The second group consisted of 48 participants (18 female and 30 male) from Belgium, with the mean age of 34.3 years (s.d. = 14.4 years). Despite the above described exclusion of participants aiming for a more balanced design, the Belgian group differed significantly from the Luxembourgish group in age and gender (Mann-Whitney U tests: age: U = 739, p = 0.029; gender: U = 738, p = 0.012). Belgian participants assessed their competence in an all language varieties to be "very good" on average (mean = 2.72, s.d. = 0.43). Their language competence in the three different varieties, i.e. Standard German, French and the vernacular, differed significantly (Friedman's ANOVA: $\chi 2(2) = 29.70$, $p < 0.01$). French was their weakest language variety (mean = 2.19, s.d. = 0.71) and they rated their competence in Standard German (3.16; s.d.= 0.64) as the highest. Nevertheless, participants assessed themselves to be also very proficient in the vernacular, Moselle Franconian (mean = 2.80; s.d. = 0.85). Their language competence did not differ significantly from their Luxembourgish counterparts in all language varieties. Only the language

competence in the vernacular could not be compared, violating the assumptions of normality and equality of variance.

All participants had spent the majority of their childhood in the respective vernacular speech community as described in chapter 4 and section 5.2.1.

5.4.1.2. Materials: prime stimuli

The prime stimuli usually represent the attitude objects under investigation in an Affective Priming experiment (De Houwer et al., 2009; Herring et al., 2013). Accordingly, in the present study, the prime stimuli consisted of audio recordings of either the respective Moselle Franconian vernacular or of the standard varieties, i.e. Standard Luxembourgish, French and German in Luxembourg and Standard German and French in Belgium. Audio recordings were used in order to circumvent issues with the medium of writing, such as participants' lack of familiarity with vernaculars in the written domain.

The prime words of this study and the target stimuli for the first study (see section 5.2.) were not identical[17] since the AP experimental paradigm entails different requirements for stimuli, compared to the IAT, for example in mean length of stimuli audio recordings (see next paragraph and section 5.4.1). However, the selection of prime words and stimuli speakers were based on the same small-scale norming study and cross-linguistic corpus analyses. The norming study was conducted to provide both studies of this chapter, that is, the IAT and AP experiments, with frequency and valence information of vernacular words. Unlike the frequency and valence information of standard varieties, this information was otherwise unavailable for vernacular words. Furthermore, the results of the norming study informed the selection of stimuli speaker for both experiments. Alternatively, frequency and valence information of words in standard varieties was obtained with the same cross-linguistic corpus analyses as in the IAT study of this chapter. Since the norming study is described in detail as part of this first study (section 5.2.5), the present study presents only the results of the norming study regarding vernacular prime words and stimuli speakers in the following section.

[17] For a list of all prime words (Affective Priming study and Implicit Association Test) see 9. Appendix

Accordingly, a more detailed description of the corpora can be found in section 5.2.2., while here I provide only the results of their analyses, that is to say, the frequency and valence information for prime words in the standard varieties.

Overall, 18 words (Belgium) and 12 words (Luxembourg), consisting of one or two syllables, served as auditory primes. Fewer prime words were selected for the AP in Luxembourg, since implicit attitudes towards an additional variety (i.e. Standard Luxembourgish) needed to be investigated in this speech community compared to Belgium. The measurement of implicit attitudes towards one additional variety would have added significantly to the overall number of prime stimuli in Luxembourg. In order to avoid significantly more prime stimuli and thus a longer AP experiment in Luxembourg, fewer prime words were used to be then recorded in one more language variety compared Belgium. More specifically, in Belgium, 18 prime words were recorded in each of the three different language varieties: vernacular Moselle Franconian, Standard German and French. This resulted in 54 different auditory primes. The primes' duration (mean = 558.13 ms, s.d. = 33.98 ms, min = 440; max = 624 ms) did not differ significantly across language varieties (Kruskal Wallis test: $H = 0.44$; $p = 0.801$).
In Luxembourg, 12 different words served as auditory primes, which were recorded in four different language varieties: vernacular Moselle Franconian, Standard Luxembourgish (i.e. standardised Moselle Franconian), Standard French and German. Finally, 48 different words were used as primes and their duration (mean = 568.42 ms, s.d. = 56.00 ms; min = 439 ms; max.= 705 ms) did not significantly differ between language varieties (Kruskal Wallis test: $H = 1.80$; $p = 0.615$).

To clarify, from now on, the terms *prime words* and *auditory primes* will refer to the individual 54 (Belgium) or 48 (Luxembourg) different words in the description of the present study.

Controlling for frequency and valence

Numerous studies established that the frequency of a word impacts generally on the time participants need for its processing (Connine, Mullennix, Shernoff, & Yelen, 1990; Dede, 2012; Dufour, Brunellière, & Frauenfelder, 2013; Postman & Conger, 1954). Additionally, the semantic information of prime words could also be of emotional valence, which would potentially confound

the measurement of attitudes towards the language varieties in which the prime word is presented. To avoid these confounds, the present study controlled for frequency and emotional valence of the prime words.

Cross-linguistic (French, German, Dutch, English)[18] and cross-corpora analyses established that all prime words in the standard varieties were highly frequent (Zipf frequency, mean = 4.46; s.d. = 0.55) and of neutral valence (standardised positivity range[19] from 0% negative to 100% positive, mean = 58.54; s.d. = 6.00) (Bertels et al., 2009; Bonin et al., 2003; Bradley & Lang, 1999; Brysbaert et al., 2011; Keuleers et al., 2010; Lahl et al., 2009; Messina et al., 1989; Monnier & Syssau, 2014; Moors et al., 2013; New, Brysbaert, Veronis, & Pallier, 2007; New et al., 2001; van Heuven et al., 2014; Võ et al., 2009; Warriner et al., 2013).

In the norming study, the selected vernacular prime words were rated by the informants as highly frequent (scale from 0-4, not at all – highly frequent: mean in Belgium = 2.81, s.d. = 0.33; mean in Luxembourg = 3.17, s.d. = 0.28) and of neutral emotional valence (positivity range from 0 negative to 100 positive: mean in Belgium = 45.42, s.d. = 4.65; mean in Luxembourg = 50.59, s.d. = 5.29).

Selection of stimuli speaker

All prime words were recorded using a picture naming task. Based on the results of the norming study, one speaker of the prime words was selected for each speech community out of three potential speakers. The speakers of the prime words were identical to the speakers in the first study described in section 4.2. Nevertheless, a brief description of the speakers follows, since the present study required speakers to have additional characteristics, that is to say, additional language competence, compared to the first study. These additional characteristics are included in the description below.

The stimuli speakers were both male, from the same socio-economic background and 50 and 52 years old respectively. One speaker was of Luxembourgish and the other of Belgian nationality and they both had spent their childhood in the respective Moselle Franconian speech community

[18] I am grateful to Nathalie Entringer and Peter Gilles from the University of Luxembourg for the access to the only corpus for Luxembourgish, described in Gilles (2015). Unfortunately, it could not provide frequency information due to register and size issues.

[19] The different rating scales were re-scaled, not affecting data characteristics (Dawkes, 2008), in order to ensure cross-corpus and language comparability

(described in Chapter 4). Additionally, they rated their own proficiency in their respective standard and its vernaculars as very high (ranging from 1/not at all, to 5/perfect: vernacular competence: mean = 5.0; standard competence: mean = 4.25). Both stimuli speakers reported their parents to come from the same vernacular speech community as the speakers themselves and to be competent in the vernacular as well.

The results of the norming study indicate that the stimuli speakers were not only perceived to be representative vernacular speakers, but also representative standard speakers by informants from the respective speech communities. Only the results that led to this conclusion of the stimuli speakers' representativeness are presented below. In section 5.2.2., I described in detail the criteria for stimuli speakers to ensure that their vernacular and standard variety were perceived to be representative throughout the whole speech community, e.g. profession of speakers. Overall, informants of the norming study rated their own vernacular as strongly resembling the vernacular spoken by the stimuli speakers, as measured on a 5-point Likert scale (from 0, not at all, to 4, completely: Belgium: mean = 3.20; Luxembourgish: mean = 3.00). Informants also did not or only rarely agree over the speakers' childhood place of residence, but all their answers lay within the respective speech community. This is indicative of a lack of restricted areal features in each of the speakers' vernacular. This lack of restricted areal features contributed potentially to the perception of stimuli speakers as representative throughout the whole speech community. Finally, the informants of the norming study clearly distinguished between the stimuli speakers' vernacular and standard varieties and identified them as such.

Additionally, the stimuli speakers assessed themselves to be proficient speakers of Standard French in both speech communities (mean = 3.50). The Luxembourgish speaker rated his skills in Standard German, the second standardised contact variety in this speech community, to be very high (mean= 5.00).

Unlike the first study in section 5.2., the AP paradigm in this study required two more additional speakers. More specifically, one additional speaker was chosen for each speech community for the recordings of the catch trial words. Catch trials comprised the above described prime words, which were recorded in all varieties by a speaker of the same respective speech community as the main speakers, but of another gender. Participants were required to indicate this change in speakers of

prime stimuli with their response to the target stimuli. The aim of the catch trials was to support the overall presence of the primes in speakers' minds when responding to the target in all trials. The function and working of the catch trials will be explained in more detail in section 5.4.1.4. The stimuli speakers in the catch trials were both female, 55 and 40 years old, who spent their childhood in the vernacular speech community and assessed themselves to be proficient standard and vernacular speakers (standard and vernacular: mean = 5.00). Moreover, their self-assessed French competency was very high (mean = 5.00) and the Luxembourgish speaker rated her knowledge of the second standardised contact variety in Luxembourg, namely German, as very proficient (mean = 5.00).

5.4.1.3. Materials: target stimuli

In the AP paradigm, stimuli that require participants' response are called *target stimuli*. The name *target stimuli* in the AP paradigm may be misleading, since it does not describe the target of the investigation (as is the case for the target stimuli in the IAT that represent the attitude objects), but the target for participants' response. In contrast to the target stimuli in the IAT, the target stimuli in AP experiments have a previously established unambiguous emotional valence. Priming studies commonly use emotionally valent, written adjectives as visual target stimuli (Fazio et al., 1986). However, in order to avoid language interferences and issues with the medium of writing in the AP experiment of the present study, non-verbal visual stimuli were chosen. These visual stimuli consisted of 20 emotionally valent pictures[20] from the International Affective Picture System (Lang et al., 2008). The 10 positive pictures (mean = 7.70, s.d. = 1.49, ranging from 1: negative to 9 positive) and the 10 negative pictures (mean = 3.28; s.d. = 1.66) were different to the pictures used in the IAT experiment of the first study in order to avoid repeated exposure for participants who potentially took part in both studies. If exposed twice to the same pictures, participants' performance on the response task could be affected by familiarity with the stimuli. This could have confounded priming effects that are established based on the speed and accuracy of participants' responses.

[20] IAPS pic no: 1463; 8501; 1604; 1630; 1710; 2040; 2091; 2165; 2332; 2347; 1051; 9611; 1110; 1220; 1271; 2205; 6610; 9291; 9295; 9422

Similar to the IAT experiment in the first study, prime and target stimuli used in the present study did not have any semantic associative links, based on previous studies (Kiss et al., 1973; Melinger & Weber, 2006; Nelson et al., 1998). Thus, potential confounds of semantic priming processes could be eliminated.

5.4.1.4. Procedure

The study was programmed and run with OpenSesame 3 (Mathôt, Schreij, & Theeuwes, 2012) on four laptops. To avoid software differences as a confound for reaction times, all laptops booted from a Windows PE version on individual USB sticks. Participants listened to the auditory prime stimuli with Sennheiser HD 100 On-Ear Headphones and saw the visual target stimuli on the laptop screens (widescreen, 17''). A red sticker marked the "E" key and a green sticker the "I" key on two laptops and this condition was categorised as trial type 1. The keys of the other two laptops were marked conversely and categorised as trial type 2.

Testing took place in individual and group sessions of maximum four participants. Group sessions can frequently be found in priming studies, for example Degner (2009), and were necessary due to limited time and highly dispersed population of interest in the very decentralised speech communities. Testing sites included classrooms, offices, assembly rooms in city halls, fire stations and community centres. While this entailed highly varied testing conditions, I generally ensured a quiet and dimly lit testing environment to facilitate participants' focus on the stimuli.

The average AP experiment lasted between 20-30 minutes. Belgian participants received their instructions on screen in Standard German, whereas Luxembourgish participants could choose between Standard German or Standard Luxembourgish. Firstly, participants gave their informed consent and general information about their socio-demographic background and language competence. Before the experimental phase, participants used provided audio tracks to adjust the volume of the sound output. After the experiment, participants indicated their explicit language attitudes in a questionnaire (Schoel et al., 2012). This explicit attitude measure is described in chapter 6. Further questions checked participants' awareness of the workings of the attitude measurement. As discussed in 5.4.1.1., this way, the study screened for participants whose attitudes measures were not based on automatic processes in order to avoid the malleability of attitudes (Agosta et al., 2011; Blair, 2002; Fiedler & Bluemke, 2005).

Finally, two open questions gave participants the opportunity to report any problems with the stimuli or the speaker regarding their representativeness or familiarity. These questions aimed to screen for participants who might perceive the prime stimuli to be representative of an attitude object other than the intended language varieties. Unlike in the IAT, in which attitude objects are explicitly labelled as target categories, the Affective Priming paradigm leaves it to participants to generalise from the individual primes, e.g. prime word "Kop", to an attitude object, e.g. Moselle Franconian (De Houwer et al., 2009). The two open questions in the present study aimed to exclude participants who took prime stimuli to represent a different attitude object compared to the attitude objects intended by the present study, for example, Ripuarian instead of Moselle Franconian. Research identified participants' idiosyncratic generalisation from the prime stimuli to the attitude objects to be a potential reason for issues of reliability in AP experiments (De Houwer et al., 2009; Herring et al., 2013). By screening for participants' idiosyncratic generalisations, the study aimed to address issues with the reliability of AP measures (see section 2.2.2). Furthermore, one open question also aimed to screen for participants who identified the speaker due to the close-knit social networks in the speech communities.

The experimental phase started with a fixation cross presented for 500 ms, followed by an empty canvas for 500 ms. Then, the recording of the prime word was played followed by the immediate presentation of the target picture. The target picture remained on screen until participants' keypress or until the time-out after 2000 ms. The average stimulus onset asynchrony (SOA), the difference between the primes' and the target's onset, was 538.15 ms. The trial sequence ended by presenting feedback in form of a green dot or red cross for 500 ms. Accuracy and reaction time (RT) of participants were measured. For a summary see Figure 13.

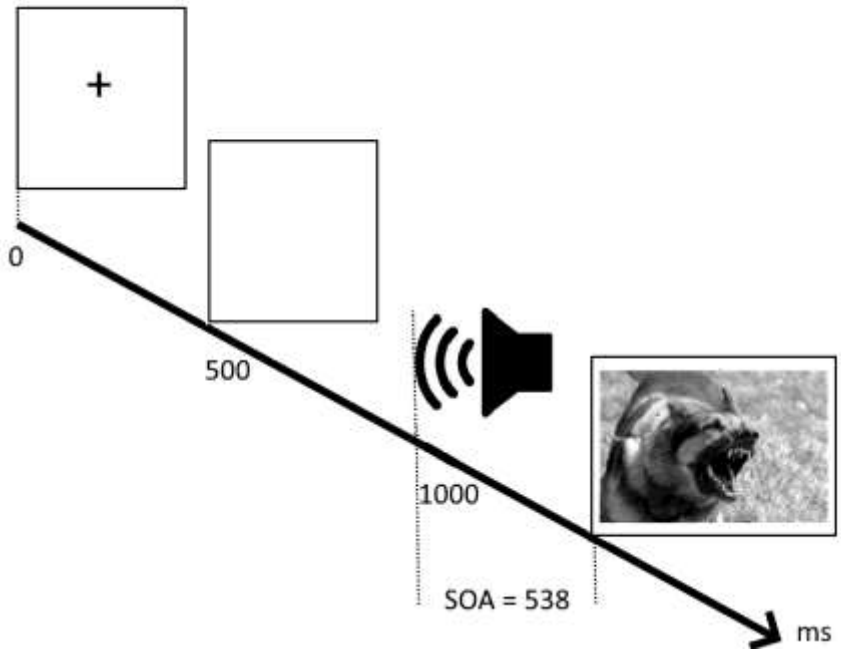

Figure 13 Timeline of the stimuli presentation in experimental phase in milliseconds (ms)

Participants were instructed to evaluate the target picture quickly and accurately as positive by pressing the green key or as negative by pressing the red key in measurement trials. To ensure that the prime is present in speakers' minds when they process the target, the present study introduced catch trials to the experimental paradigm. Participants were made aware of the presence of catch trials: they would occasionally hear a female speaker of the auditive prime word instead of the main male speaker. In these cases, they were not supposed to evaluate the valence of the target picture but press the space bar when the target picture appeared (see Figure 14 for the difference between a catch trial and a measurement trial sequence).

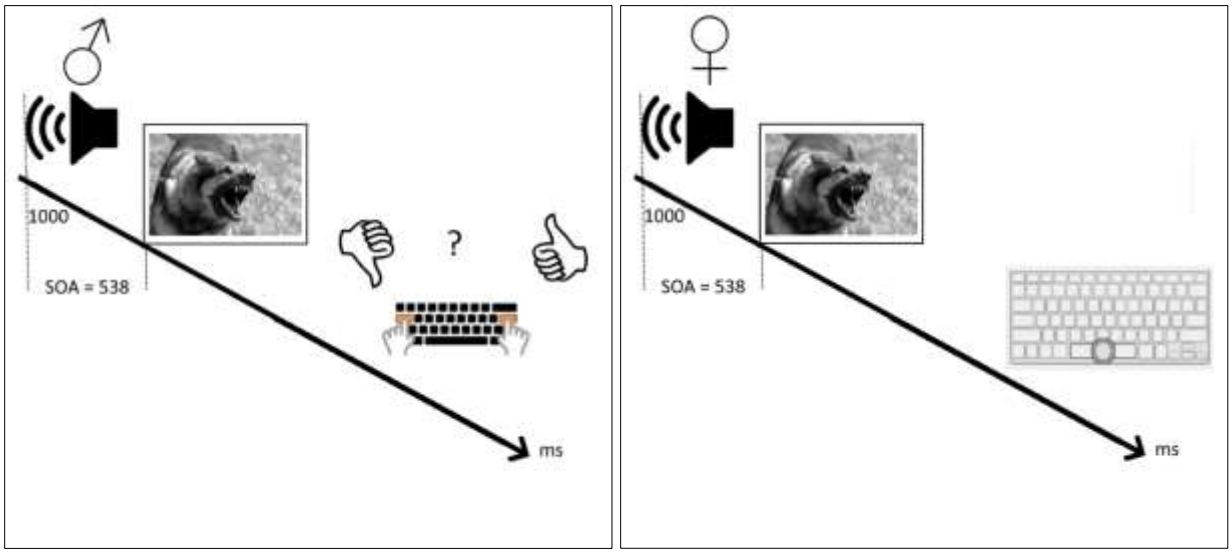

Figure 14 Left: measurement trial with male speaker and picture evaluation; Right: Catch trial with female speaker and key press

The catch trial words were identical to the prime words. However, they were recorded by a female speaker and were fewer in number. Target pictures in catch trials and measurement trials were identical.

Introducing catch trials is, to the best of my knowledge, new to the Affective Priming paradigm. It was motivated by considerations based on research into the workings of priming processes. Studies show that priming effects only occur when the prime is still present in speakers' minds when processing the target. This is normally governed by the SOA, with priming effects increasing for shorter SOAs (Klauer, 1997; Spruyt et al., 2007). The most commonly used SOAs (Herring et al., 2013) range between 150 and 300 ms. A longer SOA was anticipated for the present experiment due to the verbal and auditory nature of the attitude objects under investigation. While creating prime stimuli, it proved to be difficult to include only one syllable words that would highlight phonetic and lexical differences of the language varieties and be, at the same time, of neutral valence and highly frequent. Therefore, two syllable words were also included as primes, following a previous study using Auditory AP for language attitudes (Speelman et al., 2013). More specifically, Speelman et al. (2013) used one and two syllable words as auditive primes and their experiment had a mean SOA of 606 ms. Similarly, including two syllable prime words in the present study resulted in an increased prime length (Belgium: mean = 558.13 ms; Luxembourg: mean = 568.42 ms) and thus an increased SOA (mean = 538.15 ms). As discussed, the SOA governs the presence of the prime in speakers' minds when processing the target stimuli and thus the

priming effects (Klauer, 1997; Spruyt et al., 2007). Consequently, the unusually long SOA of the present study could have impacted negatively on the magnitude of the priming effect or even resulted in no priming effects at all (Hermans, Eelen, & De Houwer, 2001; Spruyt et al., 2007).

The aim of catch trials was to keep all primes – in catch or measurement trials – present in participants' minds, despite the longer SOA of the present study. Most importantly, in a catch trial, participants had to wait to indicate the catch trial until the target picture appeared and could not indicate it immediately after they heard the prime word, i.e. the female speaker. Consequently, catch trials introduced an alternative response, namely indication of a catch trial (space bar), to the target picture, besides its evaluation as positive (green key) or negative (red key) in measurement trials. This way, participants always had to keep the prime in mind, specifically the prime speaker's gender, to give the correct response to the target, including either evaluating the target picture or indicating a catch trial. This presence of the prime stimuli in participants' minds was reinforced with feedback: if participants evaluated the target picture in a catch trial, or indicated a catch trial instead of the target picture evaluation in a measurement trial, negative feedback was given in form of a red dot.

Overall, participants had to evaluate target pictures as positive or negative after prime words recorded by a male speaker in measurement trials. Additionally, they had to indicate a catch trial by keypress, while not evaluating the target picture after prime words, which were recorded by a female speaker in catch trials.

In both speech communities, the experiment started with a practice block of 12 trials. Their aim was to familiarise participants with the stimuli speakers and the response task. In the practice block, there was a 33% chance of a catch trial. Additionally, neither the prime words nor the target pictures of the practice block were used later in the main experiment.

In the main experiment, the presentation of prime and target stimuli was pseudo-randomised for measurement trials: each individual prime word was combined once with a negative and once with a positive target picture. In a catch trial, the presentation of catch prime words and target stimuli (picture) was completely randomised. Furthermore, a target picture was never presented consecutively. More specifically, the AP experiment in Belgium had 108 measurement trials presented in 3 blocks, after which participants could take a short break. Every 8th trial was a catch

trial, unequally distributed in the 3 blocks. Due to an additional language variety in Luxembourg, there were 6 prime words[21] fewer in this experiment compared to Belgium, resulting in 96 measurement trials presented in 3 blocks. Again, every 8th trial was a catch trial, unequally distributed in the 3 blocks.

5.4.2. Results

In line with previous research practice in Affective Priming, data of measurement trials with incorrect responses and reaction times (RTs) below 250 ms and above 1500 ms (Garcia & Bargh, 2003; Glock & Karbach, 2015; Hermans, Spruyt, & Eelen, 2003) were discarded to reduce the impact of outliers and to ensure the automaticity of the implicit attitude measurement (De Houwer et al., 2009). Overall, accuracy scores were extremely high and between-participant variation very low (Luxembourg: % of correct measurement trials: mean = 93.29; s.d.= 9.38; Belgium: mean = 95.67; s.d. = 5.68). Three participants were excluded as they were likely to have misunderstood the instructions based on significantly low accuracy rate (mean = 47.34 %) and on experimenter's observation. The extremely high rate of accuracy (means between 91.30 – 97.80 %) for all conditions of the experiment was indicative of ceiling effects, common in AP studies with longer SOAs (Glock & Karbach, 2015; Hermans et al., 2003). Therefore, analyses focused on reaction time (RT) and not accuracy.

The mean RTs for each possible trial combination, i.e. Prime Language Variety x Target Picture Valence, were calculated for each participant following standard procedure for analysing RTs in AP experiments (De Houwer et al., 2009; Herring et al., 2013). This resulted in six means for each participant in Belgium (three different language variety primes combined with positive and negative target picture) and eight means for each participant in Luxembourg (four different language variety primes combined with positive and negative target picture).

All statistical analysis was conducted with SPSS Version 25. Six outliers were removed based on Cook's distance and visual inspection, which were in line with the observations of participants' potentially compromised focus due to varying test conditions (see section 5.4.1.3.). RT data

[21] These individual six prime words would have been combined once with a negative and once with a positive target picture, resulting in the difference of 12 measurement trials between the AP experiment in Belgium compared to Luxembourg.

remained slightly positively skewed and the distribution had a slight negative kurtosis with light tails. Furthermore, the assumption of the homogeneity of variance was violated as assessed by the Box's M test, Levene's test and by visual inspection.

These violations of normality and homogeneity called for a data transformation or a non-parametric test to analyse the data, if considering only fixed effects models from classical statistical approaches. However, non-parametric tests did not present as an alternative to parametric tests in this case, for two reasons: the heterogeneity of variance in the data and the necessity to investigate interactions. Firstly, many non-parametric tests are based on the assumption of homogeneity of variance (Field, 2007; Leys & Schumann, 2010), which was violated for the data.

Secondly, the standard and easy-to-use non-parametric tests like Friedman's Repeated Measures ANOVA offered in common statistical packages like SPSS, STATA, jamovi and JASP cannot analyse interactions between factors (Leys & Schumann, 2010; Wobbrock, Findlater, Gergle, & Higgins, 2011). However, the present study required an analysis of interactions in order to test the success of the experimental paradigm and in order to investigate the hypotheses. Firstly, only a significant interaction of prime language varieties x target picture valence could confirm that the presentation of a prime in different language varieties affected participants' RT for the response task when evaluating the target. Moreover, in order to test all hypotheses with the results of this Affective Priming paradigm, the study needed to investigate three-way interactions of prime language variety x target picture valence x speech community. For example, in order to test hypothesis 1b with prediction I, the present study needed to explore whether the RT means for Moselle Franconian primes x positive target pictures would be lower in Luxembourg compared to the RT means for Moselle Franconian prime x positive target picture in Belgium. If results were to support hypothesis 1b, the emotional congruency of Moselle Franconian with positive pictures would facilitate the response in Luxembourg, resulting in lower RTs. Similarly, the study aimed to investigate whether RT means for Moselle Franconian primes x negative target pictures would be higher in Luxembourg than RT means for Moselle Franconian prime x negative target picture in Belgium, based on emotional incongruency for Luxembourgish participants. The testing of hypothesis 1b with prediction II needed to investigate three-way interactions as well. For example, the study wanted to explore the difference between RTs after French and Moselle Franconian primes (delta 1) x Target Picture Valence x Speech Community.

Overall, analyses of interactions were essential to, on the one hand, confirm the workings of the experimental paradigm, that is, the priming effects, and, on the other hand, for hypotheses testing. Since non-parametric tests did not provide analyses of interactions, data transformation was necessary to proceed with parametric tests.

As a result, data analysis followed two approaches. Firstly, raw data was transformed using the logarithmic function and the analysis proceeded with a parametric ANOVA, a statistical test which allows investigation of interactions. This way, the study followed common research practice by relying on the ANOVA's robustness (Field, 2007). Secondly, an Adjusted Rank Transformation (ART) was conducted, followed by an ANOVA, which is considered to be between parametric and non-parametric methods (Leys & Schumann, 2010). Originally, the aim was to conduct an ANCOVA with age as the covariate because of the potential confound of age. However, there was no linear relationship between age and RTs, violating one of the assumptions of an ANCOVA. Thus, the present study analysed RT data with ANOVAs after transforming data in two ways: the logarithmic function and the ART transformation.

More specifically, the first analysis involved a log 10 transformation of the data, which yielded normally distributed data for all cells of the experimental design but one (Shapiro-Wilk $p = 0.026$; skewness = 0.490, SE = 0.343; kurtosis = - 1.14; SE = - 0.677). Homogeneity of variance tests and visual inspection showed that this assumption was still violated (Levene's test: $F(1, 88) = 22.7$, $p < 0.01$; $F(1, 88) = 24.5$, $p < 0.01$; $F(1, 88) = 25.1$, $p < 0.01$; $F(1, 88) = 37.5$, $p < 0.01$; $F(1, 88) = 29.4$, $p < 0.01$; $F(1, 88) = 36.4$, $p < 0.01$).

Unfortunately, no statistical analysis could be conducted to rule out the confound of the different trial types, i.e. the mapping of the keys. The reason for this was that the data showed on these two levels (trial type 1 and 2) a significant heterogeneity of variance and violations of normality (Shapiro-Wilk: $p < 0.01$; Levene's test: $p < 0.01$), failing to meet the assumptions for both parametric and for non-parametric tests.

In order to investigate the success of the experimental paradigm and test hypothesis 1b with prediction I, a 3 x 2 x 2 ANOVA (Type 3 Sums of Squares) was conducted with two within-subjects factors, i.e. Language Variety of Prime (3 levels: Vernacular, Standard and French) and Target Picture Valence (2 levels: Positive and Negative), and one between-subjects factor, i.e. Speech Community (2 levels: Luxembourg and Belgium). The RT means for German in Luxembourg were

excluded for this first analysis in order to have a balanced design and to check whether only the three shared prime varieties had an effect. The present study planned a latter analysis of the mean RTs in Luxembourg in order to test whether prime words in German also influenced participants' response and thus priming effects occurred for German primes.

The ANOVA showed significant main effects for all three factors, Language Variety $F(2, 1, 1) = 4.18$, $p = 0.017$, partial $\eta^2 = 0.04$, Picture Valence $F(2, 1, 1) = 10.60$, $p < 0.01$, partial $\eta^2 = 0.11$, and Speech Community $F(2, 1, 1) = 31.10$, $p < 0.01$, partial $\eta^2 = 0.26$. However, the important interaction Language Variety X Target Picture Valence did not reach significance $F(2, 1, 1) = 2.30$, $p = 0.103$, partial $\eta^2 = 0.03$, nor did the three-way interaction Language Variety X Picture Valence X Speech Community $F(2, 1, 1) = 1.04$, $p = 0.356$, partial $\eta^2 = 0.01$. However, the observed power of these interactions was only 0.463 and 0.230 due to a small sample size, effect size and the number of factors. More specifically, there was only a 46.3% probability of detecting the two-way interaction and only a 23.0 % probability of detecting the three-way interaction, if they were present. Since none of the interactions proved to be significant, an analysis including German primes in Luxembourg was not conducted.

An Aligned Rank Transform (ART) with ARTool (Wobbrock et al., 2011) was the second approach to dealing with the violations of normality and homogeneity of variance. Research suggests the use of the Aligned Rank Transform for data with deviations from normality and especially heterogeneity of variance (Leys & Schumann, 2010; Sawilowsky, 1990; Wobbrock et al., 2011). Generally, ART first pre-processes the data before assigning ranks to it. This pre-processing, i.e. alignment, removes the effects for all but one variable from the response (dependent) variable, namely RTs, and repeats this for each variable and possible interaction. In a second step, the aligned data is ranked for each factor and interaction separately. The online available ARTool facilitates the calculation of the aligned means for each variable and variable interaction combination and also produces the final aligned and ranked means. In a third step, a parametric ANOVA is run on the aligned and ranked means, making this statistical analysis easy to apply with standard statistical software.

Following this procedure, the above 3 x 2 x 2 ANOVA, Language Variety X Target Picture Valence X Speech Community, was conducted again, but this time not on the data with a log 10 transformation, but on the data with an Aligned and Ranked Transformation by ARTool. Results

showed again the main effects of all factors, Language Variety, $F(2, 1, 1) = 4.52$, $p = 0.012$, partial $\eta^2 = 0.05$, Target Picture Valence, $F(2, 1, 1) = 9.85$, $p = 0.002$, partial $\eta^2 = 0.10$, Speech Community $F(2, 1, 1) = 24.43$, $p < 0.001$, partial $\eta^2 = 0.22$. More importantly, the two-way interaction Language Variety X Picture Valence reached significance even with a Huynh-Feldt correction for the violation of sphericity $F(2, 1, 1) = 3.06$, $p = 0.051$, partial $\eta^2=0.03$. But further post-hoc test without corrections and with Bonferroni, Tukey, Scheffe and Holm corrections were all non-significant. These apparently contradictory results are possible, since the omnibus F-ratio test of an ANOVA is testing a different hypothesis (e.g. Ho: $\mu1 = \mu2 = \mu3$) compared to the subsequent post-hoc t-tests (e.g. Ho: $\mu1 = \mu2$; Ho: $\mu1 = \mu3$; Ho: $\mu2 = \mu3$) (Chen, Xu, Tu, Wang, & Niu, 2018). Furthermore, the three-way interaction of Language Variety X Target Picture Valence X Speech Community was not significant, $F(2, 1, 1) = 1.96$, $p = 0.143$, partial $\eta^2 = 0.02$, but had low power with only 40.3 % chance of detecting a three-way interaction.

5.4.3. Discussion

This study set out to further explore what the role of different standardisation processes in Belgium and Luxembourg (exogenous vs. endogenous) is for automatic implicit attitudes towards Moselle Franconian vernaculars.
It was suggested that the present study might confirm the results of the first study in this chapter. More specifically, the present study was expected to support hypotheses 1a and 1b with prediction I.

Hypothesis 1a stated that the nature of standardisation processes, resulting in different linguistic distance between the respective standard and its endangered vernacular in Belgium and Luxembourg, would impact on implicit attitudes towards Moselle Franconian.

Hypothesis 1b stated that a close, endogenous standard variety would have a positive impact on implicit attitudes towards its endangered vernaculars due to a shared positive evaluation, in contrast to a distant, exogenous standard variety. Following prediction I of hypothesis 1b, it was expected that implicit attitudes towards Moselle Franconian would be more positive in the speech

community with the close, endogenous standard (Luxembourg) than in the speech community with a distant, exogenous standard (Belgium).

In addition, the present study of automatic implicit attitudes aimed to explore prediction II of hypothesis 1b. Prediction II stated that the positive impact of a close, endogenous standard would also be present, when comparing implicit attitudes towards Moselle Franconian in relation to the additional standardised contact language varieties, i.e. French in both speech communities and German in Luxembourg. More specifically, social psychological research on attitudes implied that the positive automatic evaluation of the close, endogenous standard variety in Luxembourg would be shared with its Moselle Franconian vernaculars. In section 5.3., the hypothesis was advanced that the close standard variety's prestige in Luxembourg would complement implicit attitudes towards Moselle Franconian vernaculars, making the attitudinal difference between the vernacular and the additional, prestigious, standardised contact varieties (i.e. German and French) smaller when compared to Belgium. In Belgium on the other hand, the distant standard would not share its positive automatic evaluation with its vernacular and therefore, the vernaculars' attitudinal difference to the prestigious standardised contact variety (i.e. French) would be greater than in Luxembourg.

Overall, refining prediction II of hypothesis 1b specifically in the speech communities led to the following two hypotheses of the present study:

a) The difference between implicit attitudes towards Moselle Franconian and French (delta 1) would be smaller in Luxembourg (close standard) than in Belgium (distant standard).

b) The difference between implicit attitudes towards Moselle Franconian and German (delta 2) would be smaller in Luxembourg (close standard) compared to delta 1 in Belgium (distant standard).

In addition, the present study aimed to further investigate the unexpected results of the first study of this chapter. In the first study, Luxembourgish participants preferred their Moselle Franconian vernacular over their standard variety, Standard Luxembourgish. Even if hypothesis 1b predicted more positive implicit attitudes towards Moselle Franconian in Luxembourg compared to Belgium,

a general preference for the respective standard variety in both speech communities was expected. In section 5.3. and 5.2.4., I argued that Luxembourgish participants' unexpected preference for their vernacular might be a result of its comparison with Standard Luxembourgish, instead of French or German. These additional contact varieties also show functions of standard varieties in Luxembourg. Consequently, section 5.3. identified a need for a second investigation of implicit attitudes towards Moselle Franconian and their respective standard varieties, comparing them this time to these additional standardised contact varieties. Such an investigation was in line with the testing of prediction II of hypothesis 1b, which was the focus of the present study of implicit automatic attitudes.

In the present study, automatic implicit attitudes were measured with an Auditory Affective Priming experiment, which was the second of its kind in the field of language attitudes, besides Speelman et al. (2013). Overall, the study aimed to infer the attitudes towards the language varieties from the specific effects that they cause when presented as primes, i.e. the priming effects.

Unfortunately, data analyses do not demonstrate that such priming effects occurred. In the first analysis of the data, the study followed common research practice counting on the robustness of an ANOVA, despite the heterogeneity of variance in the data. However, no interaction was found between the language variety in which the prime word was recorded and the valence of the prime picture. Thus, the AP experiment did not yield any results to support that the presentation of primes had an effect on RTs of target responses depending on the target picture valence. Consequently, the success of the experimental paradigm cannot be demonstrated.

The results of the second data analysis with ART corroborate these null results for priming effects. Despite a significant interaction between prime language variety and valence of the target pictures in the global omnibus F-ratio test of the ANOVA, post-hoc tests did not find specific differences between different group means. Research demonstrates that even if the omnibus test (F-ratio) in an ANOVA is significant, thus indicating that there is an overall difference between for example three groups, simultaneously all post-hoc tests can be non-significant indicating that no two groups are significantly different in comparison with each other. (Chen et al., 2018). Overall, a significant omnibus test with no significant post-hoc test may be a "false alarm". This occurs when data analysis aims to compare multiple groups in order to find specific differences in later post-hoc tests. In order to infer the attitudes towards individual language varieties and test the hypotheses,

an investigation of each language variety's effects as primes would have been necessary. More specifically, data analysis would need to compare participants' RT means in the evaluation task for each combination of differently valenced target pictures proceeded by different language varieties as primes. This investigation corresponds to the hypotheses of post-hoc testing, that is, the difference between two specific means, and not only to the global omnibus effect found in the ANOVA. Therefore, without any significant post-hoc tests, the significant two-way interaction in the F-ratio test can be interpreted as a "false alarm", since this significant interaction alone does not demonstrate priming effects (Chen et al., 2018)

Furthermore, results from both data analyses fail to show an influence of the speech community on priming effects. However, this cannot be interpreted as a rejection of hypothesis 1a and 1b. The reason for this is that the above analyses generally failed to show that RT means were affected by the presentation of prime and target combinations. Since results do not demonstrate that priming effects occurred, the study failed to show that any attitudes were elicited that could have been measured. Consequently, if no attitudes were elicited, hypotheses regarding implicit attitudes could not be tested. Thus, the lack of significant three-way interactions of Prime Language Variety x Target Picture x Speech Community does not provide evidence for hypotheses testing.

Due to the exploratory nature of this Affective Priming experiment in linguistic research, there are numerous factors that could have contributed to its potential failure. I would like to discuss four main factors: the sample, testing procedures, catch trials, and the Stimulus Onset Asynchrony (SOA). With the discussion of these factors, I hope to make a valuable contribution to improving the future application of the Affective Priming paradigm in language attitude research.

Sample

The first most evident factor contributing to the failure of the experimental paradigm is the sample itself. The small sample size did not provide enough power, considering the small effect sizes. Sample size and power calculation prior to data collection proved to be difficult, since the effect size could not be obtained from the only other study in linguistics which used an Auditory Affective Priming paradigm to investigate language attitudes (Speelman et al., 2013). Speelman et al. (2013) found significant priming effects for words in different language varieties, despite the study's considerably lower sample size compared to the sample of this study. However, Speelman et al.

(2013) tested participants from a more homogenous age group (n = 33; range between 18-25 years). The age range of the sample of the present study was considerably wider, despite excluding participants below the age of 20 and above the age of 65. Participants also differed significantly in age and gender between the speech communities (see section 5.4.1.1). Age is a known confound for reaction time experiments in general (Hultsch et al., 2002; Porciatti et al., 1999; Thompson et al., 2014) and cognitive abilities declining with age are discussed as a confounding variable specifically for Affective Priming experiments (De Houwer et al., 2009). Therefore, the considerable age variation in the sample could have confounded priming effects. Consequently, future research might need to consider either ensuring participants' membership to more or less the same age group, or increasing the sample size significantly.

Testing procedures

Secondly, the varying testing settings might have influenced the results. To the best of my knowledge, there are no previous studies that could shed light on the sensitivity of the Affective Priming paradigm to varying testing conditions. For example, no Affective Priming studies have until now been conducted as online studies, where the test settings would be out of the researcher's control. However, there is evidence from semantic priming showing that auditory primes show larger attentional demands compared to visual primes, due to different processing (Anderson & Holcomb, 1995). The potentially larger demand to focus on auditory primes might have made the priming effects of auditory primes more sensitive to the varying test conditions than visual primes would have. Future linguistic research applying the Affective Priming might be advised to ensure lab-conditions, although this might be difficult in decentralised speech communities without universities.

Catch trials

A third factor influencing the non-significant results might be the introduction of catch trials, which aimed to assure the prime's presence in participants' minds when processing the target. This seemed a necessary measure, since previous research showed that the Stimulus Onset Asynchrony

(SOA) might be potentially too long to cause priming effects (Hermans et al., 2003; Herring et al., 2013; Klauer, 1997; Spruyt et al., 2007).

However, overall, the catch trials might have interfered with the priming effects by shifting the attention of participants to non-evaluative features of the primes and by introducing the confound of task switch costs. Research shows that attentional factors influence Affective Priming effects, when participants focus on different prime cues (Gawronski, Cunningham, LeBel, & Deutsch, 2010). In the present study, participant's attentional focus could have been diverted from the evaluative features of the prime language variety by the catch trial, which required participants to focus on the gender of the speaker. This focus on gender might have entailed a focus on more semantic features of the prime and less on the evaluative features that would have been necessary to have emotional congruency effects between prime and target.

Furthermore, the catch trials could have introduced the confound variable of task switch costs. Task switch costs are discussed in research as reflecting control processes, such as executive control functions, and are therefore the object of extensive study (Mayr & Kliegl, 2003; Meiran, 1996; Wylie & Allport, 2000). Typically, switch costs are defined as the difference in RT between task switch and non-switch trials which is found to be positive under almost all conditions, for example, with or without preparing participants for switch (Wylie & Allport, 2000). In the Affective Priming experiment, a catch trial and a measurement trial required a different response from the participant. Participants had to switch between indicating a catch trial by pressing the space bar or evaluating the target picture in a measurement trial by key press. This could have potentially slowed down participants response after each switch, confounding priming effects.

Stimulus Onset Asynchrony (SOA)

Finally, the stimulus onset asynchrony (SOA) – the time difference between the stimuli presentation – has been found to significantly influence priming effects of any kind (Hermans et al., 2001; Spruyt et al., 2007). The SOA in the present experiment was considerably longer compared to the average SOA in Affective Priming experiments (Herring et al., 2013) and longer than the time interval, in which studies found reliable priming effects for mainly visual primes (Hermans et al., 2003; Klauer, 1997; Spruyt et al., 2007). The above average SOA of the present study resulted from the auditory nature of the primes and the length of the prime words. More

specifically, the auditory presentation of the prime word had to resemble natural speech production, including natural speed, in order to be representative and naturalistic items of the specific language variety and also to ensure speech intelligibility. Intelligibility was vital so that participants were able to recognise the primes as representative of a specific language variety. Additionally, primes were occasionally two-syllable words in order to tease out differences between language varieties. The presentation of the prime words as auditory stimuli in the present study was essential to circumvent issues with the written domain, such as participants' limited or non-existent familiarity with the vernacular in writing

However, there is evidence that auditory primes show semantic priming effects with longer SOAs compared to visual primes (Anderson & Holcomb, 1995; Holcomb, Anderson, & Grainger, 2005). Additionally, the only Affective Priming study investigating language attitudes (Speelman et al., 2013) had slightly longer SOAs than the present study and it nevertheless found priming effects. This would exclude the SOA from the factors potentially contributing to the present study's lack of priming effects.

The use of auditory primes and an optimal SOA will also continue to challenge future linguists applying the Auditory Affective Priming paradigm to investigate language attitudes. Further research is needed to examine whether the effects found for longer SOAs with verbal auditory primes are only limited to semantic priming (Anderson & Holcomb, 1995; Holcomb et al., 2005) or also show in Affective Priming. Additionally, research needs to shed light on Affective Priming effects occurring for overlapping auditory and visual stimuli presentation, since there is only evidence for semantic priming effects (Anderson & Holcomb, 1995). Such an overlapping presentation could potentially keep the SOA in future linguistic experiments with verbal auditory primes shorter compared to the sequential presentation in the present study.

Overall, the present study could not further investigate the positive influence of a close, endogenous standard in relation to other standardised contact varieties. However, I suggest that the second application of an auditory Affective Priming experiment in language attitude research provided valuable insights for potential further studies of language attitudes considering the use of this experimental paradigm.

5.5. Chapter conclusions

The chapter began by revisiting the hypotheses of section 3.6. and 4.3. and briefly summarising their motivation based on common defining features of automatic implicit attitudes (see section 2.1.1.).

In section 3.6., I suggested that applying definitions of implicit attitude which include automaticity could improve our understanding of the dynamics of standardisation as a language maintenance tool. Drawing on social psychological attitude research, I proposed that the different nature of standardisation processes, resulting in varying linguistic distance between the standard and its endangered vernaculars, influences implicit attitudes towards its those vernaculars (H1a). This hypothesis was then further refined by stating that a linguistically close, endogenous standard would more positively impact on automatic implicit attitudes towards endangered vernaculars, compared to a distant, exogenous standard variety (H1b). This positive effect of a close endogenous standard variety was expected to show in two ways. The first prediction stated that implicit attitudes towards endangered vernaculars will be more positive in a speech community with a close, endogenous standard, compared to a speech community with a distant, exogenous standard (prediction I). In addition, it was also expected that the difference between implicit attitudes towards endangered vernaculars and additional standardised contact varieties will be smaller in the speech community with a close, endogenous standard, compared to a speech community with a distant, exogenous standard (prediction II).

This chapter presented two quantitative attitudinal studies, each of which used a measurement of automatic implicit attitudes: an Implicit Association Test and an Affective Priming experiment respectively, see also section 2.2.2. The two studies aimed to investigate the above hypotheses in the Moselle Franconian speech communities of Belgium and Luxembourg (see also Chapter 4).

Study 1 measured automatic implicit attitudes with an online Implicit Association Test in Belgium and Luxembourg. Findings support hypothesis 1a, since the speech community was the strongest predictor for implicit attitudes towards Moselle Franconian (above age, gender and knowledge of French). Thus, evidence suggests that the different nature of standardisation processes in Belgium and Luxembourg – resulting in different linguistic distance between the respective standards and Moselle Franconian – influences implicit attitudes towards the endangered Moselle Franconian

vernaculars. The findings of study 1 also support hypothesis 1b with prediction I, since implicit attitudes towards Moselle Franconian in Luxembourg (close, endogenous standard) were found to be more positive compared to implicit attitudes towards Moselle Franconian in Belgium (distant, exogenous standard). This way, evidence suggests that a close, endogenous standard variety has a more positive effect on automatic implicit attitudes towards its endangered vernaculars.

Unfortunately, the second study in this chapter failed to elicit automatic implicit attitudes with its experimental paradigm. Therefore, it could not investigate on the one hand, prediction II of hypothesis 1b. On the other hand, it could not explore Luxembourgish participants' unexpected preference for their vernacular which results of study 1 showed. However, the second study still provided valuable insights in the use of an Affective Priming experiment in language attitude research and especially language maintenance research.

Overall, the results in this chapter show that the positive effect of a standard variety in endangered speech communities has limitations, such as an influence of the linguistic distance between the introduced standard and its endangered vernaculars.

However, an unexpected finding was Luxembourgish participants' preference for their vernacular over their standard variety. In section 5.2.4., it was suggested that this preference could be the result of incomplete standardisation processes of Luxembourgish. I also identified an additional factor likely to influence the unexpected finding: the contrast drawn between implicit attitudes towards Moselle Franconian and implicit attitudes towards Standard Luxembourgish. In both speech communities, there are additional standardised contact varieties besides the two standard varieties, i.e. Standard German and Standard Luxembourgish. A contrast of Moselle Franconian with these standardised contact varieties might have not led to its unexpected preference, but a preference for a standard contact variety.

One potential explanation for the unexpected preference of vernacular Moselle Franconian was not discussed in this chapter. Content-focused approaches to attitudes (see section 2.1.2), especially attitude dimensions, i.e. solidarity vs. status, might have provided further insights into why Luxembourgish participants prefer their vernacular over their standard. The preference could have presented itself on the solidarity dimension in positive attitudes towards vernacular Moselle Franconian as opposed to negative attitudes towards Standard Luxembourgish. However, the focus of the studies in chapter 5 moved away from attitude dimensions of solidarity and status.

The reasons as to why the studies in this chapter did not explore attitude dimensions are two-fold: theoretical focus and methodological considerations. First, the studies in this chapter are the first of their kind applying a new process-focused approach to attitudes in language maintenance research by including the criterion of automaticity. However, the studies did not address attitude content such as dimensions of language attitudes, since including them would have been a further theoretical leap which reaches beyond this new process-focused approach to language attitudes. This additional theoretical leap, which would have involved an investigation of the attitude content of automatic implicit attitudes, is outside of the scope of this work, especially since there is a lack of previous attitudinal studies on the speech communities of this thesis in general.

In addition, the content of language attitudes in general, and specifically language attitude dimensions are represented usually by written words such as "intelligent" (Campbell-Kibler, 2012, Kristiansen, 2015). I am not aware of any studies on language attitudes where participants are required to infer from non-verbal stimuli, for example pictures, language attitude dimensions of solidarity and status. However, the studies in this chapter had to avoid using written words as stimuli because they would have potentially introduced confounding factors. For example, the written medium could have confounded the investigation due to participants' unfamiliarity with written vernacular words. Therefore, the creation of such non-verbal visual stimuli would have constituted a new methodological approach to language attitude dimensions and would have been outside of the scope of this thesis. I elaborate on these caveats further in section 7.3.3. where I also outline avenues for future research.

To sum up, even if attitude dimensions of solidarity and status might have provided valuable insights into Luxembourgish participants' unexpected preference for their vernacular, the studies in this chapter chose not to adopt this content-focused approach. The next chapter is of exploratory nature and investigates explicit attitudes in Luxembourg and Belgium. It will explore the research questions of this thesis as well as the unexpected findings of study 1.

Chapter 6. Standardisation and explicit attitudes in Belgium and Luxembourg

6.1. Chapter introduction

The next sections provide a brief summary of the theoretical background and the previous two studies in this thesis. This summary shows how the present chapter on explicit attitudes and standardisation ties in with the general investigation of implicit attitudes and standardisation.

6.1.1. Summary of previous chapters

Theoretical approaches to attitudes

Section 2.1. discussed how studies on language attitudes in general, and language maintenance research in particular distinguish between explicit/overt vs. implicit/covert attitudes, when focusing on the underlying cognitive processes. Furthermore, these studies identify implicit/covert attitudes as potentially better predictors of language usage and language change (Kristiansen, 2011; Labov, 1972; Sallabank, 2011). However, they mainly base this distinction on speakers' attitude awareness and the type of attitude measurement, i.e. direct vs indirect. These approaches have been criticised for being atheoretical in general (Baker, 1992; Maitz, 2011) and accordingly, the criterion of attitude awareness tends to be discussed only casually or impressionistically in language attitude studies (Babel, 2016). Most importantly, studies on language attitudes have been criticised for lacking insights from sociopsychological theory and methodology on the automaticity of attitudes (Campbell-Kibler, 2016).

In this thesis, I have suggested applying the definitive criterion of automaticity in process-focused attitude definitions to distinguish between implicit and explicit attitudes (Chen, Duckworth, & Chaiken, 1999; De Houwer & Moors, 2007; Fazio & Towles-Schwen, 1999). Overall, definitions

of automatic implicit attitudes go beyond the criterion of attitude awareness in language attitude studies (Chambers, 1980; Kristiansen, 2011; Labov, 2001; Trudgill, 1972) and investigate implicit automatic attitudes with different methodologies (Fazio & Olson, 2003; Greenwald et al., 1998; Payne et al., 2005).

Abundant social psychological research, particularly into stereotyping and prejudices (Dovidio, Kawakami, & Beach, 2001; Dovidio, Kawakami, Smoak, & Gaertner, 2009), has been conducted regarding the conditions under which individuals evaluate different attitude objects in a similar manner. Prominent concepts including shared automatic evaluation are representative heuristics (Tversky & Kahneman, 2004) and applicability heuristics (Chen & Chaiken, 1999). Studies on these sociopsychological concepts show that the more participants perceive different attitude objects as resembling each other, the more likely they are to implicitly evaluate them in a similar manner in automatic processes.

Research questions

In chapter 3.6., I proposed applying these definitions of automatic implicit attitudes to investigate the conditions under which an endangered vernacular is evaluated in a similarly positive manner to its prestigious standard variety. Ultimately, this thesis has asked whether the introduction of a standard variety always positively impacts on attitudes towards its endangered vernaculars, as is argued and often assumed by numerous language maintenance studies (Brenzinger et al., 2003; Fishman, 1991, 2001; Laakso et al., 2016; Lewis & Simons, 2010). Of particular interest was whether this potentially positive effect of a standard variety depends on the different routes of standardisation. Speech communities can opt for different ways of introducing a standard: the vernaculars could be associated with a given exogenous standard or alternatively, the speech community could create an "own", endogenous standard variety for its vernaculars (see section 3.3.). These different approaches to standardisation result in different degrees of linguistic proximity between the vernaculars and their standard variety.

Following social psychological attitude research, I have argued that this linguistic proximity governs consequently the shared evaluation of the standard variety and its vernaculars. Since the linguistic proximity depends on the different ways of standardisation, the hypothesis emerged that

the nature of the standardisation processes, resulting in varying linguistic distance, would influence automatic implicit attitudes towards endangered vernaculars (hypothesis 1a).

Furthermore, sociopsychological research on automatic implicit evaluation implies that a close standard and its vernaculars will be perceived as resembling each other and be evaluated in a similar manner. This shared evaluation will be positive, since a host of sociolinguistic studies has shown the prestige of standard varieties (Giles & Marlow, 2011; Lippi-Green, 2000; Milroy, 1991; Preston, 1989). Therefore, hypothesis 1a was refined and stated that a close, endogenous standard variety would impact more positively on automatic implicit attitudes towards its endangered vernaculars, compared to a distant, exogenous standard variety. (hypothesis 1b).

More specifically, hypothesis 1b) stated that this positive impact would show, on one hand, in more positive implicit attitudes towards endangered vernaculars in a speech community with a close, endogenous standard, compared to a speech community with a distant, exogenous standard (prediction I). Additionally, the positive effect would also show in the difference between implicit attitudes towards the endangered vernaculars and other standardised contact varieties, which would be smaller in a speech community with a close, endogenous standard, compared to a speech community with a distant, exogenous standard variety (prediction II).

Chapter 5 reported two studies that tested these hypotheses in two potentially endangered Moselle Franconian speech communities. These speech communities provided the ideal testing ground for the hypotheses, since they opted for different ways of introducing a standard variety for their related Moselle Franconian vernaculars. In Luxembourg, the speech community created a "new", linguistically close, endogenous standard variety (Standard Luxembourgish) for its vernaculars, whereas in Belgium, the speech community associates their vernaculars with a linguistically distant, exogenous standard (Standard German).

The first study: The Implicit Association Test

The first study measured automatic implicit attitudes towards Moselle Franconian vernaculars and their respective standard varieties (Standard German and Standard Luxembourgish) in each speech community, i.e. Belgium and Luxembourg, with Implicit Association Tests (IATs). Results showed

that firstly the speech community, i.e. the way of introducing a standard variety, was the strongest predictor of implicit attitudes towards vernaculars among other well-established factors such as age and gender. Consequently, hypothesis 1a was supported. Additionally, implicit attitudes towards Moselle Franconian in Luxembourg (close, endogenous standard) were more positive compared to those in Belgium (distant, exogenous standard). As a result, the first prediction of hypothesis 1b was borne out as well, which stated that implicit attitudes towards endangered vernaculars would be more positive in a speech community with a close, endogenous standard (Luxembourg), compared to a speech community with a distant, exogenous standard (Belgium). This lent support to the hypothesis that a close, endogenous standard has a more positive effect on implicit attitudes towards its endangered vernaculars, compared to a distant, exogenous standard (H 1b).

However, the first study also yielded unexpected results: Luxembourgish participants preferred their Moselle Franconian vernacular over their standard variety, i.e. Standard Luxembourgish. Even though the first prediction of hypothesis 1b stated that participants would show more positive implicit attitudes towards Moselle Franconian in Luxembourg compared to Belgium, the present work still expected to find generally more positive implicit attitudes towards both standard varieties compared to their vernaculars.

This expectation of an overall preference of the standard variety in both speech communities was based on an abundance of sociolinguistic research, see section 3.1. and 3.2. and for example, Giles and Marlow (2011); Lippi-Green (2000); Milroy (1991). In addition, a positive evaluation of a standard variety is also suggested in language maintenance research (see section 3.4.). More specifically, a prestigious standard variety is part of the argument that the present work investigates: language maintenance research argues that introducing a standard variety in an endangered vernacular speech community has a positive effect, since the standard variety's prestige complements its vernaculars (Fishman, 1991). However, this preference of the standard variety over its vernaculars present in previous literature did not show in Luxembourgish participants' implicit attitudes in the first study of Chapter 5.

Sections 5.2.4. and 5.3. provided a potential explanation as to why Luxembourgish participants preferred their vernacular over the standard, unlike their Belgian counterparts. An incomplete

standardisation of Standard Luxembourgish compared to Standard German was among these potential explanations. The "new" endogenous Standard Luxembourgish has potentially not yet been implemented completely in the speech community, with a limited role in certain contexts, such as education.

On the contrary, Standard German is a highly standardised variety, the language status of which is not contested. Standard German is fully implemented in the Belgian speech community, with a major role in education and a strong standard language ideology. Overall, the difference in degrees of standardisation between Standard German and Luxembourgish may have led to Luxembourgish participants' unexpected preference for their vernaculars over their "new" standard variety.

An additional factor likely to influence the unexpected finding is the contrast drawn within study 1 between implicit attitudes towards Moselle Franconian and implicit attitudes towards Standard Luxembourgish. In both speech communities, there are additional standardised contact varieties besides the two standard varieties, i.e. Standard German and Standard Luxembourgish, which were contrasted with Moselle Franconian in study 1. Specifically, French presents as another prestigious highly standardised variety in both speech communities. Previous research on the Luxembourgish speech community argues French to be a genetically almost[22] unrelated standard variety for the Moselle Franconian vernaculars (Gilles, 2019), and describes it as being a functional standard (see also section 2.4.1.). In Belgium, French does to some degree occupy H(igh) domains indicative of a standard variety, but previous research questions its role as a functional standard variety to the degree found in Luxembourg (Darquennes, 2019). Additionally, German potentially could also present as a functional standard in Luxembourg (Gilles, 2019), since it is still being extensively used in standard functions, like the media (Fehlen, 2016). Overall, if the first study had chosen to contrast Moselle Franconian vernaculars with one of these additional standardised contact varieties in Luxembourg, it might have found a different preference, for example, French over Moselle Franconian, in contrast to the observed preference of Moselle Franconian over Standard Luxembourgish.

[22] Besides the fact that these varieties are very distantly related being Indo-European

Overall, the unexpected preference of vernaculars over the standard variety in Luxembourg called for further investigations including implicit automatic attitudes towards additional standardised contact varieties in the two speech communities such as French and German.

The second study: Affective Priming

The second study of Chapter 5 reported an Affective Priming experiment aiming to measure automatic implicit attitudes towards the vernacular Moselle Franconian varieties, their respective standard varieties (Standard German and Standard Luxembourgish) and other standardised contact varieties (French and German) in both communities.

Firstly, this second study mainly aimed to test hypothesis 1a and 1b. More specifically, this study intended to test the findings of study 1 with a different attitude measure, i.e. Affective Priming. Additionally, the second prediction of hypothesis 1b was still to be investigated since study 1 could not test this prediction due to its binary experimental design. The second prediction of hypothesis 1b stated that the difference between implicit attitudes towards endangered vernaculars and other standardised contact varieties in a speech community with a close standard (Luxembourg) will be smaller, compared to the same attitudinal difference in a speech community with a distant standard (Belgium). Therefore, the testing of the second part of hypothesis 1b also included implicit attitudes towards the standardised contact varieties French (in Belgium and Luxembourg) and German (in Luxembourg only).

In addition, the unexpected results in the first study of Chapter 5 called for a follow-up study that would further explore the preference of vernaculars over the standard variety in Luxembourg. The second study aimed to follow up on this unexpected vernacular preference and its potential explanations in Luxembourg. These post-hoc explanations included the presence of additional standardised contact varieties that might also carry prestige in the speech communities. For this reason, the second study, being a follow-up study, needed not only to investigate implicit attitudes towards the vernaculars and their respective standard varieties, but it needed to include all standardised contact varieties in the two endangered Moselle Franconian speech communities.

However, unfortunately, the Affective Priming experiment of the second study failed to elicit implicit automatic attitudes and therefore neither of the hypotheses could be tested, nor could the unexpected results of the first study be further explored

6.1.2. Investigating explicit attitudes: the motivations behind this chapter

In the present chapter, I will seek to examine explicit attitudes in the speech communities of Luxembourg and Belgium. I first argue that an investigation into explicit attitudes is worthwhile, despite implicit attitudes being potentially better predictors of language usage. Beyond this, I elaborate on how this third study ties in with the previous studies, constituting the follow-up study required to address the unexpected results from the first study.

Section 2.1.1. presented different sociopsychological attitude models, which differ in the way they frame the relationship between explicit and implicit attitudes, e.g. single and dual attitude models (Fazio & Towles-Schwen, 1999; Wilson, Lindsey, & Schooler, 2000). Nevertheless, these attitude models share the definitive features of automaticity when distinguishing between implicit and explicit. They also agree on the type of behaviour that can be best predicted by either explicit or implicit attitudes. They take implicit attitudes to be the strongest predictors of habitual (Chaiken, 1980) or spontaneous (Whitfield & Jordan, 2009) behaviour, as opposed to deliberate, well-reasoned behaviour. Therefore, section 2.3. concluded that automatic implicit language attitudes are the best predictors of habitual and spontaneous language usage in the home domain and thus the best predictors of language vitality in general. This is in line with sociolinguistic research asserting the importance of covert attitudes in language change (Kristiansen, 2011; Kristiansen & Jaworski, 1997). Consequently, this thesis started its investigation by exploring automatic implicit language attitudes (Chapter 5).

Nevertheless, an investigation of explicit attitudes is important as well: social psychological research findings show that explicit attitudes can mediate the predictive effect of implicit attitudes

on spontaneous behaviour, see section 2.1.1., and for example, Perugini (2005). This evidence mainly supports interactive attitudes models in social psychological research discussed in section 2.1.1., and Deutsch and Strack (2006).

Moreover, following dual attitude models (Greenwald et al., 1998; Greenwald & Nosek, 2009; Wilson et al., 2000), explicit attitudes could present as a "window into the future", since attitude formation is thought to follow a developmental course: when individuals change their attitude, the older attitude becomes implicit and is internalised, whereas the newer attitudes is explicit and conscious, see also section 2.1.1. Such a developmental course of attitude change can also be found in social psychological studies of persuasion and prejudice (Dovidio et al., 2001; Dovidio et al., 2009). Typically, attitude change in modern-day Western societies shows in more egalitarian attitudes on the explicit level, compared to implicit negative social biases (Dovidio et al., 2001; Dovidio et al., 2009). Therefore, any ongoing attitude change, due to language policies and language maintenance efforts in the speech community, is likely to manifest first in explicit attitudes. The potential top-down nature of language policies and language maintenance efforts might also first influence propositional reasoning and thus manifest first in explicit attitudes.

To summarise, as discussed in section 2.3., implicit automatic attitudes are potentially better indicators for language vitality, thus making them a more important object of study in language maintenance research. However, the reasons for investigating explicit attitudes as well are two-fold: they are found to be mediators of implicit attitudes and to serve as a starting point for ongoing attitude change (e.g. Deutsch, 2006).

6.1.3. Exploratory nature of research questions in this chapter

Overall, the present chapter focuses on explicit attitudes in the two speech communities of Belgium and Luxembourg. This section shows how this investigation of explicit attitudes ties in with the previous two studies on implicit attitudes on the one hand, and on the other hand, with the overall aim of the thesis: to investigate the conditions of a standard variety's positive attitudinal effect in endangered speech communities. This section demonstrates why this third study of the thesis cannot present and test hypotheses regarding the influence of linguistic distance on explicit attitudes towards endangered vernaculars, but it asks open research questions.

More specifically, this thesis aims to examine the conditions under which a standard variety will positively impact on attitudes towards its endangered vernaculars. Section 3.6. developed the research questions (RQ 1a, RQ 1b) and hypotheses (H 1a, H 1b) of this thesis, including implicit attitudes. These hypotheses are based on a general agreement in process-focused attitude models in social psychology that automatic processes underlie implicit attitudes. Typically, social psychological attitude research shows that attitude objects resembling each other will be evaluated in a similar manner (Chaiken & Ledgerwood, 2007; Chen et al., 1999; Tversky & Kahneman, 2004). Based on social psychological attitude research, the hypotheses in section 3.6. stated that the nature of standardisation processes, and the resulting varying degrees of linguistic distance between the standard and its vernacular, would impact on a shared automatic implicit evaluation of the varieties.

On the contrary, it is unclear what role the resemblance of attitude objects plays for explicit attitudes. Section 2.1.1. showed that process-focused social psychological attitude models do not agree on how implicit and explicit attitudes are linked, resulting in three different approaches: single, dual and interactive attitude models. Accordingly, whether the resemblance of attitude objects has an influence on explicit attitudes is part of the bigger question: how are implicit and explicit attitudes linked in general? Different sociopsychological attitude models find different answers to this question, touching on issues such as attitude awareness, social bias and motivation for attitude correction (Deutsch & Strack, 2006; Fazio & Towles-Schwen, 1999; Gawronski & Creighton, 2013). More specifically, the resemblance of attitude objects could potentially influence their shared explicit evaluation directly, following dual and single attitude models (Fazio & Towles-Schwen, 1999; Greenwald & Nosek, 2009; Wilson et al., 2000). Interactive attitude models imply that the resemblance of attitude objects could influence explicit attitudes via implicit attitudes, which are shown to be affected by the resemblance of these attitude objects in the first place (Deutsch & Strack, 2006; Gawronski & Creighton, 2013).

Not only do the three social psychological attitude models have different implications, but also within one attitude model multiple factors influence how the implicit attitude impacts on the explicit attitude, e.g. motivation and opportunity (Fazio & Towles-Schwen, 1999). Thus, even following just one attitude model, there are no clear-cut implications regarding whether the resemblance of attitude objects influences not only their implicit shared evaluation, but also their explicit one. Most importantly, a lack of attitudinal studies in the speech communities of Belgium

and Luxembourg impedes our understanding of factors such as speakers' motivations (see Chapter 4 and section 5.2.1.). Therefore, even when following one attitude model, it remains unclear how implicit attitudes influence explicit attitudes in these speech communities.

Overall, social psychological attitude research does not clearly imply whether the nature of standardisation processes and thus varying linguistic distance between a prestigious standard variety and its vernacular impacts on their shared explicit evaluation. Therefore, the study in this chapter cannot extend hypotheses1a and 1b including only implicit attitudes to explicit attitudes as well.

As a result, the investigation of explicit attitudes in this chapter is partially of exploratory nature, and only open research questions can be advanced for explicit attitudes:

RQ 2a) Does the nature of standardisation processes – resulting in varying linguistic distance between the standard and its endangered vernaculars – play a role in speakers' explicit attitudes towards these vernaculars?

RQ 2b) How does a linguistically close, endogenous standard differently impact on explicit attitudes towards endangered vernaculars, compared to a linguistically distant, exogenous standard variety?

6.1.4. A follow-up study for the unexpected vernacular preference

In addition, this chapter aims to further shed light on the unexpected results of the first study of Chapter 5. The first study in section 5.2. found that Belgian participants prefer their standard variety, i.e. Standard German, over their vernaculars. However, Luxembourgish participants preferred their vernacular over their newly introduced standard variety, Standard Luxembourgish, which was unexpected and contrary to the generally found preference of a standard variety in research on language attitudes (see sections 3.1. and 3.2.). Even if hypothesis 1b predicted that Luxembourgish participants would have more favourable implicit attitudes towards their vernacular compared to their Belgian counterparts, the present work still expected that both standard varieties would be evaluated more positively than their vernaculars. In Chapter 5, I suggested that this unexpected preference of vernaculars in Luxembourg might be due to two

intertwined factors: different degrees of standardisation of Luxembourgish and German and the presence of other highly standardised contact varieties in Luxembourg.

These results called for a follow-up study that would further explore the unexpected preference of the vernacular over the standard variety in Luxembourg. In addition, such a follow-up study needed to investigate implicit attitudes towards all standardised contact varieties. The second study in Chapter 5 aimed to explore implicit attitudes towards the Moselle Franconian vernaculars, their respective standard varieties and the other standardised contact varieties in Luxembourg and Belgium. Unfortunately, this study could not elicit implicit attitudes and thus failed to further investigate the unexpected results of the first study.

Chapter 5 concluded by explaining why attitude dimensions, i.e. solidarity and status, were not included in the studies of this chapter, even if they could have contributed to the better understanding of Luxembourgish participants' preference for the vernacular. The disregard of attitude dimension was motivated by the theoretical focus of the studies and on the other hand, methodological issues. First, the studies in chapter 5 applied a new process-focused approach to attitudes in language maintenance by including the definitive criterion of automaticity. The addition of attitude dimensions, i.e. content-focused approaches, would have constituted a further theoretical leap which would have been especially difficult since there is a lack of previous attitudinal studies on the speech communities considered in this thesis. Thus, the inclusion of language attitude dimensions would have been outside of the scope of this work. On the other hand, methodological issues arose regarding written stimuli which normally represent attitude dimensions, but would have potentially introduced a confounding variable due to participants' unfamiliarity with written stimuli in the vernacular.

Now, the present chapter follows up on the unexpected results of study 1 with an investigation of explicit attitudes. This follow-up is the second aim of the present study, besides addressing the overarching research questions (RQ2a and 2b) regarding whether and how the nature of standardisation processes and linguistic distance impacts on explicit attitudes towards endangered vernaculars. Unlike research questions 2a and 2b, the research questions for the follow-up study are not of exploratory nature, since hypotheses can be developed regarding why Luxembourgish

participants prefer their vernacular over their standard variety. These hypotheses are based on sociolinguistic research on standardisation (see chapter 3).

More specifically, the follow-up study is presented as a stand-alone paper, since it contains separate research questions regarding the acceptance of a standard variety in an endangered speech community. The paper argues that Standard German and Luxembourgish are accepted differently in their respective speech community due to their different degrees of standardisation and the presence of other highly standardised contact varieties. Numerous studies have investigated explicit attitudes, being explicit attitudes according to process-focused definitions of attitudes including the criterion of automaticity (see section 2.11.). Sociolinguistic research on standardisation demonstrates that different degrees of a standard variety's acceptance show in attitudes (Deumert & Vandenbussche, 2003; Jahr, 2003; O'Rourke, 2018; Patrick et al., 2018). Consequently, the paper hypothesises that the different degrees of acceptance of the respective standard variety in Luxembourg and Belgium show in different explicit attitudes towards them. This lack of acceptance showing potentially in explicit attitudes could also explain the unexpected results in the implicit attitude study of chapter 5.

The follow-up study once again does not include attitude dimensions of solidarity and status, even if they might have contributed to the understanding of the unexpected results, i.e. Luxembourgish participants' preference for their vernacular. The reason for this is that the present study aims to address the overarching research questions of the thesis (RQ2a and 2b) as well as the research question of the paper. Ultimately, the goal is to draw comparisons between the present study on explicit attitudes and the implicit attitudinal studies of chapter 5 which did not include attitude dimensions. The comparison requires some degree of comparability and thus a structural fit of theory and methodology. In addition, there is a general lack of previous attitudinal studies on the speech communities reported in this thesis which makes it difficult to advance any hypotheses regarding language attitude dimensions. Therefore, the follow-up study does not investigate attitude dimensions of solidarity and status and explores explicit attitudes in general.

Since the study is written up as a stand-alone paper for submission, there will be some amount of repetition, including the description of the speech communities. However, while chapter 4 described the historical and socio-political context of the speech communities, the paper will also add a review of research on explicit attitudes in Luxembourg and Belgium. After the presentation

of the paper, the exploratory research questions (RQ 2a and 2b) regarding the impact of linguistic distance will be addressed in section 6.3.

6.2. Study 3: Accepting a "new" standard variety: Explicit attitudes in Luxembourg compared to Belgium[23]

6.2.1. Introduction

Language maintenance efforts aim to bolster the vitality of endangered languages through a number of interventions, often including the introduction of a standard variety into the endangered speech community (e.g. Grenoble & Whaley, 2005; Lane, Costa, & De Korne, 2018). It is generally agreed within language maintenance research that the prestige and functions associated with a standard variety benefit its endangered vernaculars by improving attitudes, which in turn bolsters usage and consequently vitality (Fishman, 1991, 2001; Lewis & Simons, 2010). More specifically, researchers show that the introduction of a standard variety leads to use of the endangered language in more language domains overall and especially more prestigious domains such as education (Loureiro-Rodriguez, Boggess, & Goldsmith, 2013; O'Rourke, 2010). The additional functions and prestige of the standard variety are seen as a positive influence on the perception of the endangered vernaculars which are subsequently viewed as being part of a language in its own right (Fishman, 1991).

The underlying assumption behind this claim is that the newly introduced standard variety will carry prestige. This assumption is corroborated by an abundance of studies showing that speakers hold more positive attitudes towards a standard variety compared to its vernacular (Giles & Marlow, 2011; Milroy, 1991; Preston, 1989; Rosseel, Speelman, & Geeraerts, 2018).

These studies find favourable evaluations of a standard variety by investigating two different types of attitudes, i.e. implicit and explicit. This distinction is mainly based on the criteria of awareness, but also on criteria from social cognition, including the concept of automaticity (De Houwer &

[23] The abstract of this paper was accepted for submission to the special issue of *Languages* "Language Attitudes, Vitality and Development"

Moors, 2007; Rosseel & Grondelaers, 2019). In this paper, we follow the latter approach which defines explicit and implicit attitudes based on systematic vs. automatic underlying processes of social cognition depending on whether they require higher or lower degrees of cognitive resources and time (Fazio & Towles-Schwen, 1999; Wilson, Lindsey, & Schooler, 2000).

Besides the general agreement on the prestige of a standard variety, research identifies varying degrees of standardisation (Coupland & Kristiansen, 2011; Ferguson, 1968; Haugen, 1966). The most well-known sociolinguistic framework for the different stages of standardisation is probably Haugen's model (Haugen, 1966), which identifies four stages: norm selection; codification; elaboration of functions; and implementation and acceptance by the speech community, with researchers identifying this last stage as crucial in the standardisation process (Ammon, 1989; Coupland & Kristiansen, 2011; Haugen, 1966, 1997). In addition, studies identify positive attitudes towards the standard variety, i.e. its prestige, to indicate its acceptance in the speech community (Devonish, 2003; Mattheier, 2003; De Groof, 2002; Feitsma, 2002).

The prestige of vernaculars is occasionally also thought to comprise two different attitude dimensions: on the one hand, covert prestige, which touches on aspects of dynamism and solidarity and, on the other hand, the traditional overt prestige tied to status and domination (Cargile, Giles, & Ryan Bouchard, 1994; Grondelaers & van Gent, 2019; Grondelaers, van Hout, & van Gent, 2016). Further, some studies identify the emergence of new types of standard varieties based on the prestige of "media cool" (Grondelaers et al., 2016, p. 134). On the contrary, the current study does not further distinguish between different types of prestige, since our speech communities motivate a more generalized approach towards prestige (see section 6.2.1.1. and 6.2.1.2.). More specifically, prestige is not necessarily based on dynamism aspects due to the rural context of our speech communities and the absence of the vernacular in the media. In addition, no studies so far have explored social identity in our speech communities, thus making it difficult to investigate the solidarity dimension of attitudes. Overall, our definition of attitudes thus prestige focuses rather on the underlying cognitive processes than different types of content.

Overall, varying degrees of standardisation and the associated variation in prestige imply that there might be limitations to the positive effect of a standard variety. If a standard has not reached the last stage of acceptance in the speech community, it might not hold the prestige that language

maintenance researchers argue will complement its endangered vernaculars. Thus, an investigation of how well a standard variety is accepted in the community is the first step before any potentially positive effect on its vernaculars can be explored. Indeed, acceptance of a newly introduced standard has been the subject of numerous studies in language maintenance research (Devonish, 2003; O'Rourke, 2018; Urla, Amorrortu, Ortega, & Goirigolzarri, 2018). However, very few studies investigate this dimension in relation to attitudes (Urla et al, 2018; O'Rourke, 2010), or compare closely related varieties which differ in degrees of standardisation. Such comparative attitudinal studies would provide insights into the trajectory of standardisation processes and, therefore, into acceptance and implementation of the standard. Overall, such insights are necessary to fully understand the workings of standardisation and its potential contribution to language maintenance efforts.

In the following, we contribute to filling this research gap by presenting a comparative study of two speech communities with related endangered vernaculars and standard varieties. We selected Canton *Clervaux* (Luxembourg) and the *Belgische Eifel* (Belgium) for three reasons. Firstly, the Moselle Franconian vernaculars of these speech communities are linguistically very closely related (Bruch, 1953; Mattheier & Wiesinger, 1994; Wiesinger, 1982a, 2001) and they are considered to be vulerable (UNESCO, 2017).

In addition, in both speech communities, the vernaculars are in contact with additional standardised varieties (French in Belgium, French and German in Luxembourg) besides their respective standards.

Importantly, however, the two communities have opted for different ways of introducing a standard variety: in Luxembourg, the Moselle Franconian speakers have an “own”, endogenous standard (i.e. Standard Luxembourgish), whereas in Belgium, the Moselle Franconian vernaculars are associated with an exogenous standard, namely standard German. These two types of standardisation led to varying degrees of linguistic distance (i.e. Abstand in the sense of Kloss, 1978) between the endangered vernaculars and their standard, while also leading to varying degrees of standardisation (i.e. Ausbau in in the sense of Kloss (1978). This paper focuses on this latter point, namely the varying degrees of standardisation, with the aim to investigate how different degrees of standardisation resulting in different degrees of acceptance may surface in different attitudes across two speech communities.

The following section discusses language attitudes and standardisation processes in the two speech communities in order to establish the different degrees of standardisation of their respective standard varieties, i.e. Standard German and Standard Luxembourgish. Particular attention is given to the final stage of standardisation, namely implementation and acceptance (Haugen, 1966), with the intention of determining whether previous attitudinal studies found any differences across the two speech communities.

6.2.1.1. Belgische Eifel/ "Deutschsprachige Gemeinschaft" in Belgium

The political unit of the *Deutschsprachige Gemeinschaft* (German speaking community) is part of the geographical region of *Neubelgien*, "New Belgium", which the German Empire ceded to Belgium in 1919. The highly autonomous *Deutschsprachige Gemeinschaft* has legislative and executive powers similar to the French and Dutch speaking communities and to the bilingual area around Brussels-Capital and German is its only official language. Overall, German is one of the three official languages of Belgium (alongside French and Dutch) and the around 70,000 German speakers constitute the smallest speech community in Belgium, totalling only around 0.6% of the Belgian population (Möller, 2017). Additionally, the *Deutschsprachige Gemeinschaft* is part of the French speaking Walloon region of Belgium, on which it depends both economically and politically (Möller, 2017).

The *Deutschsprachige Gemeinschaft* community lacks an "own", endogenous standard (Möller, 2017), since it associates its East Limburgian, Ripuarian, Low and Moselle Franconian vernaculars with an exogenous standard variety, namely Standard German. The standardisation processes of German are at a very advanced stage and their beginnings can be at least dated back to the 16th century (Mattheier, 2003). The degree of codification of Standard German is higher compared to some other highly standardised varieties, e.g. English, since even a spoken standard variety is codified (Durrell, 1999; Ferguson, 1968). Its functions are highly elaborated for usage in different contexts in its "own" speech community in addition to functions and prestige in an international context (Ammon, 2015; Mattheier, 2003). Consequently, attitudes towards native speakers of Standard German are shown to be overwhelmingly positive when compared to other standardised majority languages (Adler, 2019; Schoel et al., 2012). Similarly, studies show more positive

attitude towards Standard German in contrast to its vernaculars (Adler, 2019; Schoel et al., 2012). In addition, the prestige of Standard German is intertwined with high levels of prescriptivism and linguistic discrimination of the vernaculars and regional variation (Davies, 2006; Maitz & Elspass, 2012; Schmidlin, 2011).

In the *Deutschsprachige Gemeinschaft*, Standard German is well-implemented in all functions. Sociolinguistic analyses show that the standard variety covers functions such as school, media, and official use (Ammon, 1995, 2015; Combuchen, 2009; Nelde & Darquennes, 2002). More specifically, Standard German has a major role of in the education system, which research suggests influences attitudes significantly (Davies, 2018; Horner & Weber, 2015; Woolard & Gal, 2001). Standard German is the medium of instruction and also a subject in the schools of the *Deutschsprachige Gemeinschaft* (Combuchen, 2009). Its usage in education is intertwined with high levels of prescriptivism (Weber, 2009).

Empirical studies on speakers' perception in the *Deutschsprachige Gemeinschaft* are extremely scant (Gramß, 2008; Weber, 2009), however, they show how the standard variety is accepted on a contextual level. Participants in these studies report the usage of Standard German to be obligatory in language domains like work, government and education. Similarly, participants recognise model speakers like local politicians and news presenters, who they rate as speaking more "standard-like" (Weber, 2009).

To the best of our knowledge, there is only one quantitative study on explicit attitudes towards vernaculars and Standard German in the *Deutschsprachige Gemeinschaft,* i.e. (Weber, 2009). Overall, it demonstrates predominantly egalitarian explicit attitudes, with the majority of participants reporting that they equally like the standard and its vernacular in the whole *Deutschsprachige Gemeinschaft.* More specifically, the study found that in the *Belgische Eifel* region of the *Deutschsprachige Gemeinschaft*, vernaculars were ranked in second place in terms of preference order. In third place, Standard German closely followed the vernaculars. Typically, participants showed overwhelmingly positive attitudes towards vernaculars on the solidarity dimension, i.e. integrative attitudes. This attitude dimension is argued to index social identity and a feeling of belonging (Cargile et al., 1994; Lambert et al., 1965; Ryan Bouchard et al., 1982). Additionally, the study found somewhat positive attitudes towards Standard German on the

status/instrumental attitude dimension, which research finds to be indicative of social, political and economic status (Cargile et al., 1994; Lambert et al., 1965; Ryan Bouchard et al., 1982).

Besides the significant lack of quantitative studies investigating explicit attitudes in this speech community, we are only aware of one study investigating implicit attitudes (Vari & Tamburelli, 2020). Following sociolinguistic and social psychological research, speakers are less likely to correct implicit attitudes according to social expectations compared to explicit attitudes (Dovidio et al., 2009; Fazio & Towles-Schwen, 1999; Kristiansen, 2011; Wilson et al., 2000). Accordingly, implicit attitude measurements in the *Belgische Eifel* did not show the same egalitarianism as the explicit attitude measurement (Weber, 2009). On the contrary, implicit attitudes towards Standard German were more positive compared to its Moselle Franconian vernaculars. This is in line with studies showing that a highly standardised variety carries prestige in its speech community (Coupland & Kristiansen, 2011; Haugen, 1966).

Neither of these two quantitative attitudinal studies measured explicit or implicit attitudes towards Standard German and its vernaculars in relation to French, which is an additional standardised contact variety present in the *Deutschsprachige Gemeinschaft* (Vari & Tamburelli, 2020; Weber, 2009). Thus, it remains unclear to what degree French might also carry prestige and perhaps even be a functional standard variety[24] of the vernaculars in the *Deutschsprachige Gemeinschaft,* which is part of the French speaking Walloon region. Some studies find that French competes with Standard German over H(igh) domains in some parts of the *Deutschsprachige Gemeinschaft,* it being a majority language in Belgium compared to German (Gramß, 2008; Nelde & Darquennes, 2002). Overall, the multilingual contact situation has led to some degree of language endangerment, since Moselle Franconian and Limburgian-Ripuarian in the *Deutschsprachige Gemeinschaft* are identified as vulnerable varieties (UNESCO, 2017).

The implicit attitude study (Vari & Tamburelli, 2020) focused on the southern region of the *Deutschsprachige Gemeinschaft,* the *Belgische Eifel* (see Figure 15 below), where it found an expected preference for the standard variety over the endangered vernaculars. Speakers of the same

[24] Most famously Muljacic (1989) defines a functional standard variety in opposition to a structural standard variety. A functional standard is genetically mostly unrelated to its vernaculars but has standard functions in the vernacular speech community.

region also participated in the study, which found mainly egalitarian explicit attitudes (Weber, 2009). The *Belgische Eifel* has the highest levels of vernacular competence and is the region with the most widespread usage of the vernacular in the *Deutschsprachige Gemeinschaft* (Darquennes, 2019; Nelde & Darquennes, 2002; Weber, 2009). Both competence and usage are well known factors that influence attitudes (Garrett, 2010; Lambert et al., 1968).

The *Belgische Eifel* constitutes five districts of the *Deutschsprachige Gemeinschaft*, namely Amel, Büllingen, Burg-Reuland, Bütgenbach and St. Vith and is a predominantly rural area with its 631 km^2 and a population of 30,219. Dialectological studies reported the majority of Moselle Franconian vernaculars in this area to be closely related to Moselle Franconian spoken in the Éislek region of Luxembourg (Möller et al.; Nelde, 1979).

Figure 15 The location of the Belgische Eifel, based on Verhiest, 2015, p. 55

6.2.1.2. Clervaux/ Éislek/ Luxembourg

The Moselle Franconian varieties in Luxembourg have undergone some standardisation (Gilles, 2015; Newton, 2000; Stell, 2006) since the Grand Duchy became an independent nation state in 1839. The Moselle Franconian varieties in Luxembourg, namely Luxembourgish/ *Lëtzebuergesch*,

have an endogenous standard, since the speech community decided to create an "new", endogenous standard variety (Stell, 2006). Historically considered a German "dialect", Luxembourgish was originally only a spoken variety, used mainly in the home domain (Gilles, 2019; Newton, 1996; Stell, 2006). During the 19th century, a written tradition of Moselle Franconian developed only in Luxembourg, even if clearly considered to be "only" folk literature in the vernacular (Gilles, 2019). Finally, standardisation processes resulted in codification, the *Lëtzebuerger Online Dictionnaire* for example, and an increase in model texts since the 1980s (Gilles, 2019; Stell, 2006). Luxembourgish was recognised as a national language in 1984 (alongside French and German as official languages[25]) and its functions are now significantly more elaborated compared to its originally exclusive use in the home domain. Typically, it also occupies main functions in the political sphere, for instance, in parliamentary speeches, and in the (digital) media. Overall, Luxembourgish is now considered to be an Ausbau-language – in the sense of Kloss (1978) – with around 266, 000 native speakers and a significant number of L2 learners (Fehlen, 2016; Weber-Messerich, 2011).

However, researchers argue that standardisation processes are not complete since Standard Luxembourgish has not reached the last stage of full implementation in the speech community, see for example Gilles (2015). Typically, Standard Luxembourgish plays only a minor role in the education system resulting in limited implementation of existing codification, for example spelling norms (Gilles, 2015; Horner & Weber, 2010). Despite its occasional, unofficial use in the classroom (Redinger, 2010), Standard Luxembourgish is not the official medium of instruction and the teaching of Luxembourgish as L1 is limited (Horner & Weber, 2015). Additionally, a lack of prescriptivism could also be indicative of the limited implementation of Standard Luxembourgish in the speech community. Typically, teachers are advised by the ministry of education to demonstrate high levels of tolerance regarding spelling norms (Horner & Weber, 2010). This officially endorsed linguistic tolerance suggests that Standard Luxembourgish has lower levels of prescriptivism compared to other standard varieties, such as Standard German (Davies, 2006; Horner & Weber, 2015).

[25] the language law in 1984 did not use the term "official language", but it defined Luxembourgish to be the national language, next to German and French as the languages of administration and judiciary (see Fehlen 2016)

Attitudinal studies show conflicting findings regarding how well Standard Luxembourgish is accepted in the speech community as a prestigious standard variety (Bellamy & Horner, 2018; Entringer et al., 2018; Fehlen, 2009; Gilles et al., 2010; Neises, 2013).

On the one hand, a qualitative study found that speakers doubt whether their Luxembourgish can be considered a fully-fledged language, especially in comparison with other highly standardised contact varieties such as German and French (Bellamy & Horner, 2018). It also reported speakers' perceived lack of competence in the written standard.

On the other hand, perceptual studies demonstrate an awareness among speakers of the contexts and geographical regions in which Standard Luxembourgish can be found. First, this norm awareness is present on a contextual level (Entringer et al., 2018; Fehlen, 2009; Neises, 2013). More specifically, speakers recognise model speakers of and models texts in Standard Luxembourgish, such as news presenters and invitations to official events (Entringer et al., 2018).

Generally, norm awareness can be present on a geographical level, when speakers localise a region of the standard variety, for example the "Copenhageness of Danish" (Kristiansen & Jaworski, 1997). Numerous perceptual dialectological studies show that this localisation of a standard variety also shows in attitudes towards regional variation (Preston, 1989, 1999b; Schmidt, 2010). However, to the best of our knowledge, only three quantitative studies have investigated attitudinal differences between Moselle Franconian varieties in Luxembourg (Entringer et al., 2018; Neises, 2013; Vari & Tamburelli, 2020). Typically, speakers identify varieties of the Alzette Valley and Luxembourg City as the most "standard-like" in contrast to the varieties from the northern Éislek region, especially the Canton Clervaux, which are perceived to be the most "non-standard-like". Similarly, speakers hold more positive explicit attitudes towards the "standard-like" varieties than varieties spoken in the Éislek region, or specifically Clervaux (Entringer et al., 2018; Neises, 2013). This difference also shows in explicit attitudes towards speakers of these varieties (Neises, 2013), especially in relation to traits like intelligence, social status and correctness, which are indicative of a standard speaker, see for example Milroy (2001).

However, participants in one attitudinal study were likely to have come predominantly from the "standard region", i.e. the Alzette Valley, themselves (Neises, 2013), and thus likely to evaluate

their own variety positively. Additionally, the second study did not include information regarding participants' region in the results (Entringer et al., 2018)[26].

To the best of our knowledge, only one study investigated attitudes exclusively in the Éislek region, especially Canton Clervaux (Vari & Tamburelli, 2020), whose vernacular speakers are identified to be the most "non-standard-like" (Entringer et al., 2018; Neises, 2013). This quantitative study explored vernacular speakers' implicit attitudes, which are demonstrated to be less influenced by social desirability (Dovidio et al., 2009; Fazio & Towles-Schwen, 1999; Kristiansen, 2011; Wilson et al., 2000). The results showed more positive implicit attitudes towards the Moselle Franconian vernacular of this region compared to Standard Luxembourgish. This finding is in line with research showing that Standard Luxembourgish has not yet reached the last stage of standardisation and thus is not yet fully accepted as the prestigious standard variety in the vernacular region of the Éislek. The study contrasted these results with speakers' implicit attitudes in the *Belgische Eifel*, see previous section, which were more positive towards the standard variety, i.e. Standard German, compared to the Moselle Franconian vernaculars.

Furthermore, the geographical localisation of standard and vernacular regions, which was reported in perceptual studies, is in line with dialectological studies (Bruch, 1953; Gilles, 1999): The varieties in the Éislek region are reported to constitute a separate dialectal area, which retains the regional features the most and differs the most from the varieties in the Alzette valley (Entringer et al., 2018; Gilles, 1998; Gilles & Trouvain, 2013). Moselle Franconian of the Éislek region is closely related to Moselle Franconian in the *Belgische Eifel* (Bruch, 1953; Mattheier & Wiesinger, 1994; Wiesinger, 1982b), especially to the vernacular of the most northerly part of the Éislek, namely Canton Clervaux.

Canton Clervaux with a size of 342 km^2 and a population of 18,436 (STATEC, 2019a, 2019b), is situated in Luxembourg's northern, rural border region, neighbouring Belgium and Germany (see map in Figure 16 below). It has five districts: Parc Hosingen, Wincrange, Troisvierges, Weiswampach and the city of Clervaux itself. However, dialectological studies exclude Parc Hosingen from a more or less homogenous northern dialectal area (Bruch, 1953; Gilles, 1999), as

[26] We are very grateful to Nathalie Entringer for having provided us with the raw data of this study, which has not been matched yet with participants' biographical information including their place of residence.

did the only attitudinal study of this region (Vari & Tamburelli, 2020). Information about the usage of Moselle Franconian vernacular and the competence of its speakers in Canton Clervaux is scarce. Studies establishing speaker numbers of Luxembourgish often lack the distinction between vernacular and Standard Luxembourgish/Moselle Franconian, for example Fehlen (2016). But in a large-scale study (Fehlen, 2009), 50% of the participants from Canton Clervaux considered themselves to be vernacular Moselle Franconian speakers.

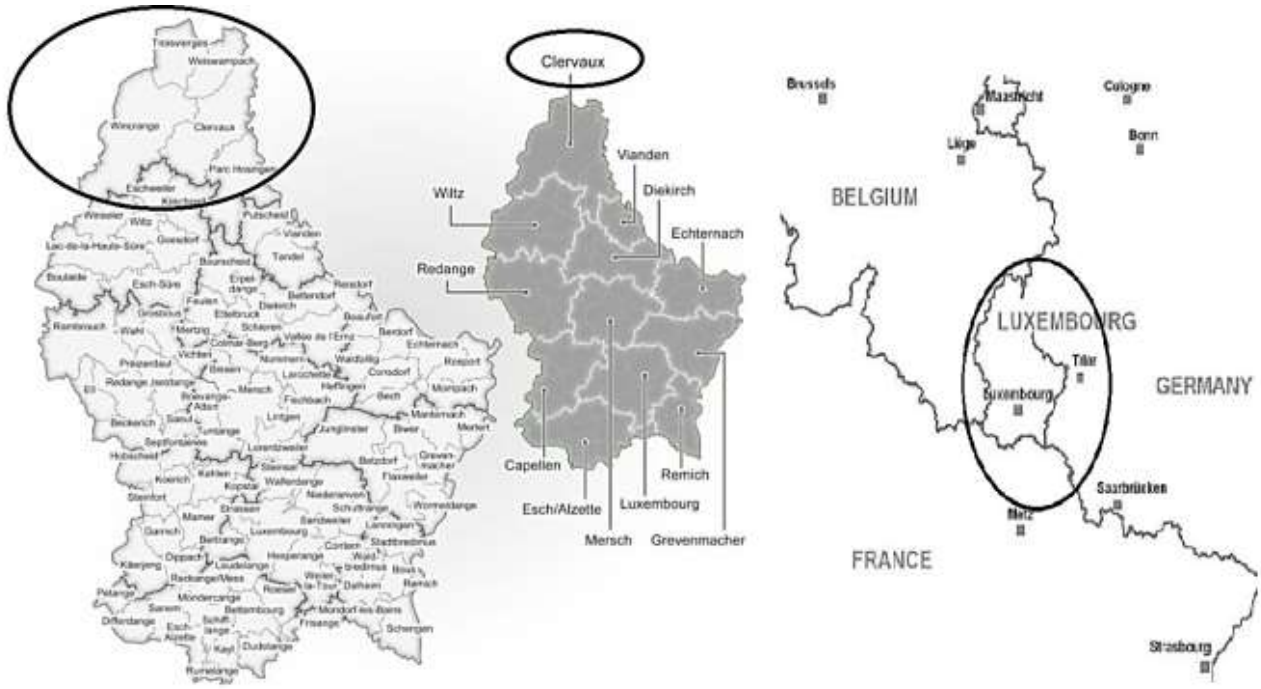

Figure 16 Canton Clervaux, situated in Luxembourg (Neises, 2013; STATEC, 2019)

Additionally, the sociolinguistic situation in Luxembourg, including Canton Clervaux, is characterised by high degrees of multilingualism. Historically, Luxembourgish has been in language contact with Standard German and French, which have occupied H(igh) domains for a longer time and more extensively than the newly standardised Moselle Franconian varieties, i.e. Standard Luxembourgish (Gilles, 2019; Horner & Weber, 2008; Newton, 1996). Standard German especially acted as a structural standard variety during the 19th and 20th century, before the Moselle Franconian speech community gradually introduced Standard Luxembourgish (Gilles, 2019; Stell, 2006; Ziegler). In addition, French historically occupied functions of a standard variety and is

identified as potentially contributing to the endangerment of the Moselle Franconian vernaculars in Luxembourg (Fehlen, 2016; UNESCO, 2017).

Research shows conflicting findings regarding how well Standard German and French are implemented and accepted in modern-day Luxembourg. Both contact varieties still occupy H(igh) domains such as the media and the workplace (Fehlen, 2016). However, their acceptance as prestigious standard varieties among Luxembourgish speakers is mixed, but studies on attitudes towards Luxembourgish in relation to other standardised contact varieties in the speech community are scant. Only two quantitative studies explored explicit attitudes towards Luxembourgish in relation to French and German (Fehlen, 2009; Gilles et al., 2010), while one study investigated only explicit attitudes towards Luxembourgish in relation to French (Lehnert et al., 2018b). In two studies, (Fehlen, 2009; Lehnert et al., 2018b), speakers preferred French (slightly) over Luxembourgish, whereas Gilles et al. (2010) found Luxembourgish to be ranked first by participants, followed by French in second place, and German in third place. Similarly, Fehlen (2009) found German to be the least favourable language.

Conflicting findings might be a result of methodological differences, such as different semantic differential scales (i.e. modern, useful, pleasant) of the questionnaires. Only Lehnert et al. (2018b) used the Attitudes towards Language (AtoL) questionnaire, (Schoel et al., 2012), one among numerous standardised questionnaires in language attitudes research (Giles & Rakić, 2014; Mulac & Lundell, 1982; Zahn & Hopper, 1985). By using the AtoL questionnaire, Lehnert et al. (2018b) aimed to measure language attitudes exclusively, as opposed to speaker evaluation. Attitudinal studies demonstrated that these two concepts differ, even if they are often mixed together in numerous attitudinal studies (Cargile et al., 1994; Gilles et al., 2010; Lehnert et al., 2018a; Neises, 2013). In addition, Lehnert et al. (2018b) complemented their explicit attitude measure with an implicit attitude measurement. This implicit attitude measurement is found to be less influenced by social desirability (Dovidio et al., 2009; Fazio & Towles-Schwen, 1999; Kristiansen, 2011; Wilson et al., 2000), and it showed Luxembourgish participants to prefer Luxembourgish over French, unlike the explicit attitude measure.

To the best of our knowledge, no quantitative studies have yet investigated explicit attitudes towards Standard Luxembourgish and Moselle Franconian vernaculars in relation to additional

standardised contact varieties, i.e. French and German. The above reported studies (Fehlen, 2009; Gilles et al., 2010) referred only to Luxembourgish, conflating the standard variety, that is, Standard Luxembourgish, with its vernaculars, such as Moselle Franconian varieties found in the Canton Clervaux. Regional variation of Luxembourgish was also not taken into account regarding the participants of these studies. They were all reported to be Luxembourgish nationals, occasionally contrasted with non-nationals (Fehlen, 2009; Gilles et al., 2010), but no distinction was made regarding the participants' residence or origin within Luxembourg. Therefore, we suggest that these attitudinal studies cannot be assumed to be necessarily indicative of explicit attitudes towards the Moselle Franconian vernacular spoken in Canton Clervaux, in the northern vernacular region of the Éislek.

For the sake of brevity, the Moselle Franconian speech communities, i.e. Canton Clervaux in the Éislek region and the *Belgische Eifel* in the *Deutschsprachige Gemeinschaft*, will henceforth be referred to as 'Luxembourg' and 'Belgium' respectively.

6.2.1.3. Research questions and hypotheses

This study aims to investigate the final stage of a variety's standardisation: implementation and acceptance. More specifically, it explores how standard varieties are implemented and accepted in endangered speech communities. Sociolinguistic frameworks of standardisation find that the degree of implementation of a standard variety surfaces in its acceptance and thus prestige (see for example Haugen, 1966). Previous research suggests speakers' attitudes to reflect how well a standard variety is implemented and accepted in any speech community, endangered or otherwise (Devonish, 2003; O'Rourke, 2018; Urla et al., 2018; De Groof, 2002; Feitsma, 2002).

The Moselle Franconian communities of Belgium and Luxembourg lend themselves to an investigation of the relationship between standardisation and speakers' attitudes, since their respective standard varieties, i.e. Standard Luxembourgish and Standard German, vary in their degree of standardisation. As emerged from the literature review, Standard German is a highly standardised variety that is well-implemented in Belgium. In contrast, standardisation processes of

Luxembourgish are incomplete and so is its implementation, with Standard Luxembourgish lacking certain functions, for example in the educational domain.

This paper focuses on the explicit level to investigate how degrees of standardisation emerge in attitudes in both Moselle Franconian speech communities. Social psychological research shows that explicit and implicit attitudes can influence each other and only an investigation of both attitude types allows us to fully understand the evaluation of objects, people and events (Gawronski, Strack, & Bodenhausen, 2009; Whitfield & Jordan, 2009; Wilson et al., 2000). Accordingly, we suggest that both types of attitudes reflect how well a standard variety is accepted in an endangered speech community. A study of explicit attitudes is not only needed to complement insights from implicit attitudes (Vari & Tamburelli, 2020), but it is specifically important in the special context of our Moselle Franconian speech communities. The ongoing standardisation processes in Luxembourg motivate an outlook on attitudes rather than only a snapshot of current attitudes. Numerous studies find that explicit attitudes are the "window into the future", arguing that attitude change manifests first in explicit attitudes (McKenzie & Carrie, 2018; Dovidio et al., 2009; Wilson et al., 2000). Standardisation in Luxembourg is arguably nowadays more hegemonic in its nature based on top-down language policies rather than grass-root movements, which researchers occasionally identify in modern day minority language communities (Costa, De Korne, & Lane, 2018). We suggest that especially top-down standardisation, such as in Luxembourg, are more likely to manifest first in conscious propositional learning processes which social psychological studies find mainly influencing explicit attitudes (Gawronski et al., 2009). Consequently, we aim to in investigate explicit attitudes towards Standard German and Standard Luxembourgish in relation to their Moselle Franconian vernaculars.

Overall, we propose to explore the following research question:

1) Are explicit attitudes towards Standard German in Belgium more positive than towards Standard Luxembourgish in Luxembourg, as suggested by their different degrees of standardisation and implementation?

We suggest that explicit attitudes towards the respective standard variety, i.e. Standard German or Standard Luxembourgish, will indicate its implementation and acceptance in Luxembourg or Belgium, reflecting its overall degrees of standardisation.
We hypothesise that these different degrees of acceptance will surface in explicit attitudes in a) within and b) between speech community comparisons and therefore,

> Hypothesis a): Luxembourgish speakers will hold more **negative** explicit attitudes towards their respective standard variety, i.e. Standard Luxembourgish, compared to Moselle Franconian vernaculars. Conversely, Belgian speakers will hold more **positive** explicit attitudes towards their respective standard variety, i.e. Standard German, compared to Moselle Franconian vernaculars.

> Hypothesis b): Luxembourgish speakers will hold more **negative** explicit attitudes towards their standard variety, i.e. Standard Luxembourgish, compared to Belgian speakers' explicit attitudes towards their own standard variety, i.e. Standard German.

Social psychological research implies that our hypotheses regarding explicit attitudes in Belgium and Luxembourg need to be independent from the findings of the previous comparative study on implicit attitudes. More specifically, explicit attitudes might potentially be subject to more influence by social desirability in the form of official ideologies compared to implicit attitudes (Dovidio et al., 2009; Fazio & Towles-Schwen, 1999; Kristiansen, 2015; Wilson et al., 2000). However, there is no information on whether and how social desirability might influence explicit attitudes towards the respective standard varieties when compared to implicit attitudes. Specifically, research shows that the way social desirability influences explicit attitudes is dependent on the socio-political and cultural context of the participants (Dovidio, Kawakami, & Beach, 2001), but attitudinal studies in Luxembourg and Belgium are scarce and show mixed results (Fehlen, 2009; Gilles et al., 2010; Gramß, 2008; Lehnert, 2018; Weber, 2009).

In addition, based on findings from language maintenance research, we expect that whether speakers accept the respective standard variety also depends on other standardised contact varieties present in the speech community (Fishman, 1991, 2001). Very positive attitudes towards other

standardised contact varieties have been shown to negatively influence the implementation and acceptance of a "new" standard (Loureiro-Rodriguez, Boggess, & Goldsmith, 2013; O'Rourke, 2018). However, no study has thus far investigated attitudes towards Moselle Franconian vernaculars or their respective standard variety in relation to other standardised contact varieties, namely German and French. Therefore, this study also explores explicit attitudes toward other standardised contact varieties in Luxembourg and Belgium by addressing the following research question:

2) What are the explicit attitudes towards additional standardised contact varieties, i.e. French in Belgium, and French and German in Luxembourg?

Particularly in Luxembourg, German could impede the implementation and acceptance of Standard Luxembourgish, due to its former role as structural standard variety for the Moselle Franconian vernaculars of Luxembourg (Gilles, 2019). However, the few attitudinal studies conducted in Luxembourg found Standard German to have low prestige (Fehlen, 2009; Gilles et al., 2010), despite its still widespread usage in the media and in the education system (Fehlen, 2016; Wagner, 2015). This mismatch between high levels of usage and low levels of prestige prevents us from presenting a hypothesis, as does the complete lack of quantitative attitudinal research in Belgium comparing French and Standard German. Therefore, the investigation of attitudes towards additional standardised contact varieties remains exploratory in nature.

6.2.2. Materials and methods

6.2.2.1. Participants

Participants were recruited via advertisement in the local media and co-operations with local societies in the speech communities such as choirs and women's clubs. Overall, 167 participants took part in the present study, but only 131 were included in the final analysis. We excluded 36 participants based on requirements of an implicit attitude study, in which participants took part immediately before this present study (Vari & Tamburelli, 2020). More specifically, the implicit attitude study required more homogeneous age groups and an exclusion of older age groups, based

on their slower reaction times which were potential confounds. Therefore, the current study includes only participants between the age of 20 and 60 years, which resulted generally in a more balanced sample, especially regarding participants per speech community.

In Luxembourg, 62 participants, (38 females, 24 males, mean age = 35.7 years, s.d.= 12.1) took part in the study. Overall, participants assessed themselves as highly competent in all varieties under investigation on a 5-point Likert scale (from 0/not at all, to 4/perfect: mean = 3.23, s.d. = 0.47). The ratings of their language competences differed significantly (Friedman's ANOVA: $\chi2(3) = 83.3$, $p < 0.01$) and they reported their French competence to be the lowest, (mean = 2.68, s.d. = 0.68) and their vernacular competence to be the highest (mean = 3.71, s.d. = 0.56).

The Belgium sample included 69 participants, (43 females, 26 males, mean age = 40.3 years, s.d. = 10.4). Their overall self-assessed language competence was also high (mean = 3.06, s.d. = 0.48) and their language competence in the three varieties differed significantly (Friedman's ANOVA: $\chi2(2) = 73.0$, $p < 0.01$) and they similarly rated their French competence to be the lowest, (mean = 2.53, s.d. = 0.68). However, unlike their Luxembourgish counterparts, they reported the highest competence in their standard variety, Standard German, (mean = 3.41, s.d. = 0.52). Nevertheless, the vernacular competence of the Belgian participants was still fairly high (mean = 3.23, s.d. = 0.71) and comparable to their Luxembourgish counterparts.

All participants were Luxembourgish/ Belgian nationals and reported to have spent the majority of their childhood living in the respective speech community, as described in section 5.2.1.1. and 5.2.1.2.

6.2.2.2. The Attitudes towards Language (AtoL) questionnaire

To investigate our hypotheses and to measure explicit attitudes, we used a multi-scale online questionnaire with semantic differential scales featuring bipolar adjectives (Osgood, 1952). Two reasons motivated our decision against applying the speaker evaluation paradigm, i.e. Matched or Verbal Guise Experiments (Lambert, Hodgson, Gardner, & Fillenbaum, 1960; Ryan Bouchard & Carranza, 1977). First, there is significant controversy regarding whether such experiments constitute a measure of explicit attitudes, due to the fact that they involve partial deception, and depending on how one approaches the distinction between explicit and implicit (Adams, 2019;

Kristiansen, 2015; Rosseel & Grondelaers, 2019). On the other hand, it is generally agreed that survey studies specifically measure explicit attitudes because they present participants directly with overt questions regarding their preferred language variety (Baker, 1992; Garrett, 2010). In addition, we aimed to disentangle speaker evaluation and language evaluation, both of which are incorporated in the speaker evaluation paradigm, as many argue that attitudes towards speakers and attitudes towards language are potentially separate constructs (Lehnert, 2018; Schoel, Roessel, et al., 2012). Consequently, we decided to use the Attitudes towards Language Questionnaire (AtoL), which aims to measure exclusively explicit attitudes towards language as opposed to explicit attitudes towards speakers (Schoel, Roessel, et al., 2012). Our application of the AtoL questionnaire to measure explicit language attitudes was motivated by its careful construction and validation described below. In addition, we aimed to facilitate the contextualisation of our findings, since the AtoL questionnaire has been previously employed in a study investigating language attitudes in Luxembourg (Lehnert, 2018).

Overall, the original AtoL questionnaire was developed with carefully conducted statistical analyses described below and its validity was confirmed with various cross-linguistic applications, for example in different speech communities with different samples of speakers (Schoel et al., 2012). More specifically, the development of the AtoL questionnaire included a principal component analysis of 51 semantic differentials scales taken from previous literature, resulting in the three main factors of language perception represented in the questionnaire: these factors reflect the dimensions of *Sound* (e.g. harsh – soft), *Structure* (e.g. precise – vague) and *Value* (e.g. beautiful – ugly) of a language, towards which participants can hold attitudes. Analyses showed the *Value* dimension to be the superordinate factor of *Sound* and *Structure*. Finally, the construction of the questionnaire included reducing the semantic differentials scales to 15 by analysing the discriminatory power and factor loadings. In the final questionnaire, each of the three factors, *Sound, Structure and Value*, has five semantic differential scales with a 5-point scale.

Additionally, the validity and reliability of the AtoL questionnaire was corroborated by its application in measuring language attitudes towards various language varieties in different contexts (e.g. Bavarian, Saxonian, German, English, Chinese). These studies were conducted in different languages of instruction (i.e. German, English, French, Italian, Spanish and Serbian) in different speech communities with diverse samples (including non-student participants). The factors *Value*, *Sound* and *Structure* were found to account for between 56% and 72% of the total variance in the

data, which corroborates the validity and reliability of the AtoL questionnaire as a new tool for measuring explicit language attitudes.

In further analyses, researchers aimed to contextualise the AtoL questionnaire within previous methodological and theorical approaches to language attitudes (Fiske et al., 2002; Mulac & Lundell, 1982; Zahn & Hopper, 1985). More specifically, the factor *Sound* was found to be potentially related to the attitude dimension of solidarity (integrative attitudes) (Gardner, 1988; Lambert et al., 1968), since measures of warmth (Fiske, Cuddy, Glick, & Xu, 2002) and aesthetic quality (Mulac & Lundell, 1982) were moderately correlated with this factor. Conversely, *Structure* showed a stronger correlation to competence (Fiske et al., 2002) and socio-intellectual status measures (Mulac & Lundell, 1982), indicating that this factor is related to the attitude dimension of status (Gardner, 1988; Lambert et al., 1968). Finally, the factor *Value* was intercorrelated with the attitude measures of warmth and language competence, as well as socio-intellectual status and aesthetic quality (Mulac & Lundell, 1982). Consequently, Schoel et al. (2012) argue that the factor *Value* refers mostly to the general overall attitude.

For a good structural fit between theory and methodology, the current study encompasses only the main factor *Value*. We chose the *Value* factor due to the fact that it is superordinate to *Sound* and *Structure*, and it correlates with both attitude dimensions, i.e. status/instrumental attitudes and solidarity/integrative attitudes, as discussed above. Most importantly, the *Value* dimension constitutes a general measure of explicit preference, which is in line with the definition of attitudes adopted here as developed from a social cognitive perspective. In this definition, the fundamental difference between attitudes is based on underlying cognitive processes, namely implicit and explicit, and not the content of the attitude such as the structure or sound of a language variety.

Furthermore, we decided to add one additional semantic differential scale to the five originally included in the *Value* dimension. This additional scale has been previously used in the only study applying the AtoL questionnaire in Luxembourg (Lehnert, 2018). More specifically, Lehnert (2018) added one additional semantic differential scale for each dimension, i.e. *Value, Sound, Structure,* in order to adapt the questionnaire for the unique multilingual speech community of Luxembourg.

Overall, our AtoL questionnaire encompassed six semantic differential scales for the *Value* dimension, five from the original questionnaire (Schoel et al., 2012) and one from Lehnert (2018), see Table 3 below. These six semantic differential scales were combined with three (Belgium) and four (Luxembourg) labels indexing the language varieties under investigation. We selected the labels based on our small-scale (n = 19–23) online norming study as well as on previous studies (Entringer, Gilles, Martin, & Purschke, 2018; Möller, 2017; Neises, 2013; Weber, 2009). In our norming study, informants were presented with speech samples in the respective varieties (standard and its vernacular) and were asked to provide and chose labels through open and multiple-choice questions on the appropriate name for each variety at issue. In Belgium, the norming study confirmed the two most common designations for the standard and vernacular varieties in the literature, i.e. "Platt" and "Hochdeutsch". In Luxembourg, the norming study showed the same diversity of labels for the standard and its vernaculars as emerged in previous research (Entringer et al., 2018). Example screens in the Appendix (see section 5) provide more insights on the labels of the language varieties and the phrasing of the question which were used in our study.

6.2.2.3. Procedure

The study was carried out entirely online. Participants were first asked to provide information on their general socio-biographical background and language competence, which took on average 5 minutes. This was followed by an implicit attitude measure of 15-20 minutes, reported in Vari and Tamburelli (2020). Finally, explicit attitudes were measured with our AtoL questionnaire lasting on average 5-10 minutes. The AtoL questionnaire comprised of six semantic differential scales of the *Value* dimension described above. More specifically, participants were asked to indicate on these six scales the positions between six bipolar adjective pairs ranging from 0/left adjective to 4/right adjective, which best described the language variety under investigation. Overall, the *Value* ratings on this 5-point scale constituted the dependent variable and the language variety to be evaluated was the independent variable of the study.

In Luxembourg, participants evaluated each variety (their Moselle Franconian vernacular, German, French and Standard Luxembourgish) on six different semantic differential scales. In Belgium, participants evaluated their Moselle Franconian vernacular, German and French on six semantic

differential scales as well, which consisted of the same bipolar adjective pairs as in Luxembourg. Due to technical issues, the order in which the language varieties were presented to participants to be evaluated, remained the same for all trials in each speech community. The order of presentation of the bipolar adjective pairs was randomised and their positions on the two opposing sides of the semantic differential scales pseudo-randomised. The position of the negative and positive adjectives on either the left or the right side of the scale changed for every 3rd semantic differential scale. The reason for this was to avoid participants engaging only superficially with the questionnaire, or having their responses influenced by position effects, as both can potentially impact on the validity of responses (Dörnyei & Taguchi, 2009).

In Belgium, the language of instruction and of the questionnaire was Standard German. In Luxembourg, the participants could choose between either German or Standard Luxembourgish. The German bipolar adjective pairs were identical to the adjectives used in the original AtoL study (Schoel et al., 2012) and in the AtoL study previously conducted in Luxembourg (Lehnert et al., 2018b). In addition, the German adjectives were translated into Luxembourgish by a native speaker. Table 4 (see below) shows the original bipolar adjective pairs of the AtoL scales plus additions from Lehnert (2018). Our study included only the *Value* dimension (in bold).

Screenshots showing the layout of the AtoL questionnaire and the phrasing of the questions can be found in the Appendix, see section 5.2.5.

English	German	Luxembourgish
VALUE	**VALUE**	**VALUE**
beautiful – ugly	**schön – hässlich**	**schéin – ellen**
appealing – abhorrent	**ansprechend – abstoßend**	**uspriechend – ofstoussend**
pleasant – unpleasant	**Angenehm – unangenehm**	**agreabel – desagreabel**
inelegant – elegant **Without style – with style**	**Unelegant – elegant**	**net elegant – elegant**
clumsy - graceful	**schwerfällig – anmutig**	**schwéierfälleg – liichtfälleg**
practical – impractical (L)	**Unpraktisch – praktisch (L)**	**onpraktesch – praktesch (L)**
SOUND	SOUND	SOUND
angular – round	eckig (steif) – rund	eckeg (steif) - ronn
harsh – soft	hart – weich	haart – duuss
choppy – fluent	flüssig – abgehackt	flësseg – ofgehackt
smooth - raspy	geschmeidig (glatt) – rau	geschmeideg (glat) – rau
flowing – abrupt	stockend (abrupt) – fließend	Stockend (abrupt) – fléissend
tuneless – melodic (L)	unmelodisch – melodisch (L)	onmelodesch – melodesch (L)
STRUCTURE	STRUCTURE	STRUCTURE
unstructured – structured	strukturlos – strukturiert	strukturlos – strukturéiert
systematic – unsystematic	systematisch – unsystematisch	systematesch – onsystematesch
logical – illogical	logisch – unlogisch	logesch – onlogesch
precise – vague	genau/ eindeutig – ungenau	genau/eendeiteg – ongenau
unambiguous – ambiguous	verständlich – missverständlich	eendeiteg – mëssverständlech
statical – dynamic (L)	statisch – dynamisch (L)	statesch – dynamesch (L)

Table 4 Bipolar adjective pairs of the AtoL semantic differential scales with additions from Lehnert (2018), here (L). Adjectives included in the present study in bold

6.2.3. Results

Data was screened for duplicates to avoid multiple participation and inverted semantic differential scales were matched. Two participants were excluded from the analysis due to missing responses and contradictory responses for inverted items. The latter are indicative of superficial responding or positions effects, which can potentially impact on the validity of the responses (Dörnyei & Taguchi, 2009). The final analysis included a total of 131 participants. All statistical analysis was conducted with SPSS Version 25.

Cronbach's alpha was calculated to ensure internal consistency, i.e. reliability, of the six semantic differential scales for each language variety. The semantic differential scales of our AtoL questionnaire showed a high internal consistency for all language varieties (Cronbach's alpha for all language varieties > 0.734). Accordingly, the proportion of error variance in our AtoL scales was always under 30 %.

Recall hypotheses a) and b), which stated that attitudinal differences between Standard German and Luxembourgish would show in a) relation to their Moselle Franconian varieties and b) in relation to each other. Consequently, we explored a) the within-speech community variation and b) the between-speech community variation of the dependent variable, i.e. AtoL ratings. In addition, we investigated the exploratory research question 2) regarding explicit attitudes towards additional standardised contact varieties in between- and within-speech community analyses.

First, we ran two Friedman's ANOVAs, one on the Luxembourgish and one on the Belgium sample, in order to explore the within-speech community variation. The dependent variable, i.e. AtoL ratings, was not normally distributed in both samples (visual inspection and Shapiro-Wilk $p < 0.001$) and measured on an ordinal scale. Therefore, we preceded with non-parametric tests to investigate the within-speech community variation of AtoL ratings.

Within-speech community analysis: Luxembourg

The non-parametric Friedman's ANOVA in Luxembourg had four levels for the independent variable, i.e. Language Variety, namely vernacular, French, German and Standard Luxembourgish. Overall, Luxembourgish participants evaluated their language varieties significantly differently ($\chi^2(3) = 21.97$, $p < .001$). In addition, we conducted pairwise comparisons – Wilcoxon signed ranked tests with Bonferroni corrections – to explore further the differences in AtoL ratings. Most importantly, the difference in ratings of Standard Luxembourgish vs. its vernacular was significant ($z = -4.45$, $p < 0.001$). Similarly, AtoL ratings of German vs. the vernacular were significantly different ($z = -4.22$, $p = 0.001$) as well as AtoL ratings of Standard Luxembourgish vs. German ($z = -3.12$, $p = 0.002$).

The differences between the AtoL ratings of French vs. all other language varieties did not prove to be significant, i.e. French vs. vernacular ($z = -1.46$, $p = 0.145$), French vs. German ($z = -0.20$, p

= 0.884) and French vs. Standard Luxembourgish (z = -2.40, p = 0.016, non-significant with Bonferroni correction, significance level raised to α = 0.008).

Overall, Luxembourgish participants' AtoL ratings of their vernacular were the highest (median = 3.00, IQR = 2.00, 3.00, 4.00). French also received high ratings (median = 3.00, IQR = 2.00, 3.00, 3.38), however as shown above, its ratings were non-significantly different to all other language varieties. German received the second highest ratings (median = 2.50, IQR: 2.0, 2.50, 3.0) and Standard Luxembourgish was rated the lowest on the AtoL scale (median= 2.00, IQR= 2.0, 2.0, 2.5). Figure 17 summarizes the results for Luxembourg.

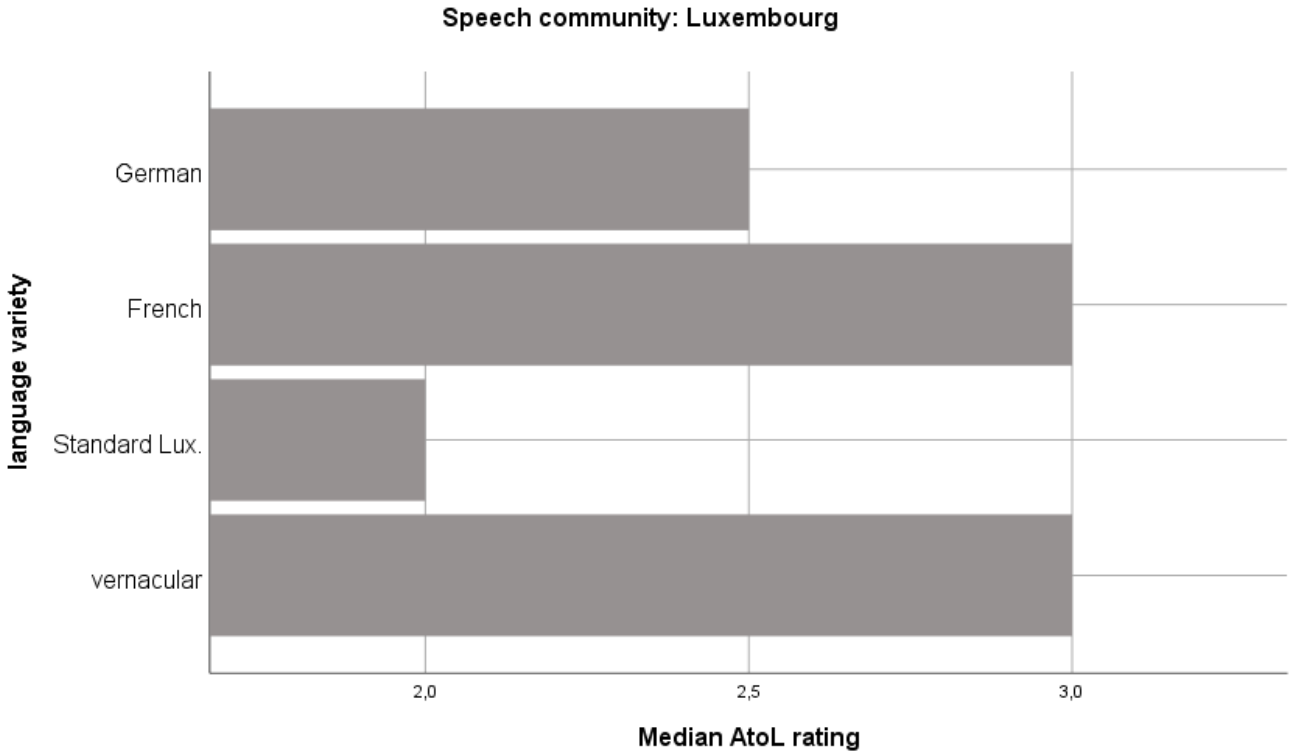

Figure 17 AtoL ratings in Luxembourg: vernacular (median = 3.00; IQR = 2.00, 3.00, 4.00), standard* (median = 2.00; IQR = 2.00, 2.00, 2.50), French (median = 3.00; IQR = 2.00, 3.00, 3.38), German* (median = 2.50; IQR = 2.00, 2.50, 3.00). *sign. different*

Within-speech community analysis: Belgium

We ran a second, non-parametric, Friedman's ANOVA on the Belgian AtoL ratings, but this time with three levels of the independent variable Language Variety, i.e. vernacular, Standard German and French. Overall, Belgian participants rated their language varieties significantly differently on the AtoL scales ($\chi^2(2) = 28.79$, $p < .001$). Pairwise comparisons explored these differences further. Participants evaluated almost all language varieties significantly differently, i.e. Standard German vs. French ($z = -4.19$, $p < .001$), Standard German vs. the vernacular ($z = -3.92$, $p < .001$). Only the difference in evaluation between the vernacular and French did not prove to be significant ($z = -1.06$, $p = 0.291$). As shown in Figure 18, Belgian participants rated their vernacular the highest (median = 3.50, IQR = 2.50, 3.50, 4.00), followed by French (median = 3.0, IQR: 2.50, 3.00, 4.00), however the ratings for French did not differ significantly from Standard German and the vernacular. Participants' standard variety, i.e. Standard German, was rated the lowest on the AtoL scale (median = 2.50, IQR = 2.00, 2.50, 3.00).

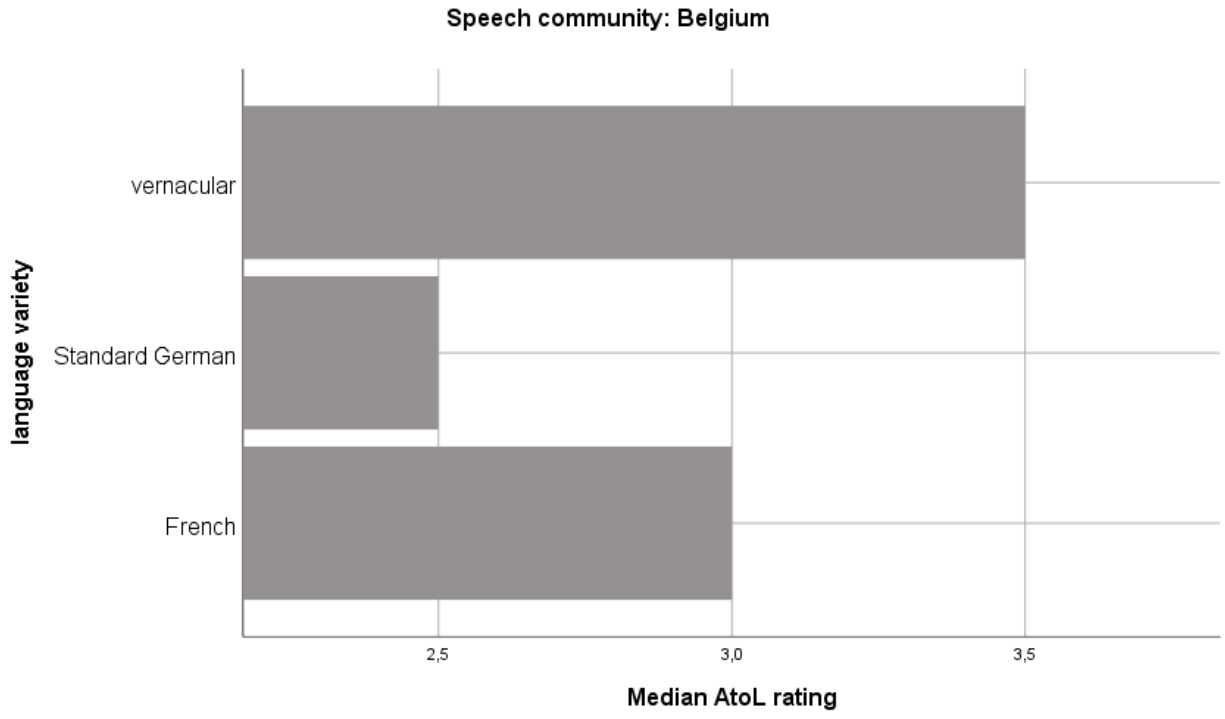

*Figure 18 AtoL ratings in Belgium for: vernacular** (median = 3.50; IQR = 2.50, 3.50, 4.00), standard* (median = 2.50; IQR = 2.00, 2.50, 3.00), French** (median = 3.00; IQR = 2.50, 3.00, 4.00). *sign. different to all other varieties; **sign. different to each other*

Between-speech community analysis: Belgium vs. Luxembourg

In addition, we analysed the variation of AtoL ratings between speech communities comparing Belgium and Luxembourg. Before the main analyses, we aimed to establish that Belgian and Luxembourgish participants did not differ significantly regarding potential confounding variables.

However, we could not conduct all analyses needed to rule out such potential differences. The assumptions of normality and equality of variance were violated for participants' age and language competence in the standard and vernacular (Levene's test: Age: $F(1, 129) = 4.03$, $p = 0.047$; Vernacular Competence: $F(1, 129) = 8.52$, $p = 0.004$, Standard Competence: $F(1, 129) = 8.83$, $p = 0.004$). Thus, we could not conduct any common, parametric or non-parametric fixed effects statistical analyses to compare the Belgian and the Luxembourgish sample regarding the potential confounding variables of age and language competence in the respective standard variety and the vernaculars. For two other confounding variables, French competence and gender, the assumption of the equality of variance was not violated and two Mann-Whitney U tests showed that the Belgian and Luxembourgish participants did not differ significantly in these two aspects (gender: $U= 2117$, $p = 0.906$; French: $U = 1855$, $p = 0.179$).

For the main between-community analyses, the dependent variable, i.e. the AtoL ratings, was not normally distributed and measured on an ordinal scale. The assumption of the equality of variance was not violated but for one cell of the experimental design, i.e. Leven's test for AtoL ratings for French ($F(1, 129) = 7.82$, $p = 0.006$). Thus, we proceeded with non-parametric independent samples tests, i.e. Mann-Whitney tests, to analyse the between-community variance of AtoL ratings. The results are summed up in Figure 19.

First, we analysed AtoL ratings for the language varieties present in both speech communities, i.e. French, German and the vernacular, and conducted three Mann–Whitney U tests with Speech Community as a grouping variable. Luxembourg participants evaluated French significantly differently from their Belgian counterparts ($U = 1545$; $z = -2.80$, $p = 0.005$). However, the assumption of equality of variance was violated for French and in addition, the median AtoL ratings for both speech communities are identical and only the interquartile range is higher for the Belgian AtoL ratings (both medians = 3.00; BELG: IQR = 2.50, 3.00, 4.00; LUX: IQR = 2.00, 3.00, 3.38).

Ratings for German and for the Moselle Franconian vernaculars showed no difference between the two communities (German: $U = 1994$, $z = -0.70$, $p = 0.485$; vernacular: $U = 1798$, $z = 1.63$, $p = 0.103$).

Furthermore, in the second step of the between-speech community analysis, we created two new variables and conducted two further Mann–Whitney U tests. More specifically, we collapsed AtoL ratings for the two standard varieties, i.e. Standard German in Belgium and Standard Luxembourgish in Luxembourg, in a variable called "standard". We also created a variable called "crosslinguistic contact variety", which included ratings for French in Belgium (as the only additional contact variety) and German in Luxembourg as the second additional contact variety. Overall, two Mann–Whitney U tests showed that Luxembourgish participants' AtoL ratings of their respective standard variety, i.e. Standard Luxembourgish, were significantly lower compared to their Belgian counterparts' ratings of their respective standard, i.e. Standard German. (Standard Luxembourgish: median = 2.00; Standard German: median = 2.50; $U = 1361$, $z = -3.82$, $p < 0.001$).

For the cross-linguistic analysis of the additional contact varieties (i.e. French in Belgium and German in Luxembourg) a statistically significant difference was found between the two groups ($U = 1382$, $p < 0.01$), with higher ratings for French in Belgium (median = 3.00; IQR = 2.50, 3.00, 4.00) than for German in Luxembourg (median = 2.50; IQR = 2.00, 2.50, 3.00).

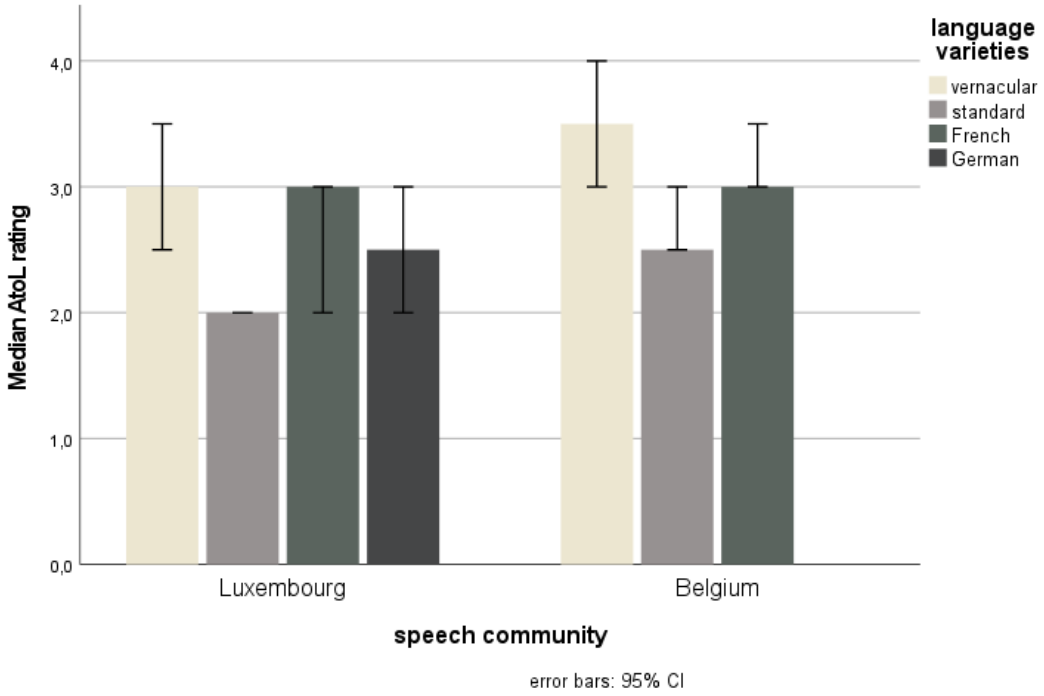

Figure 19: Between speech community comparisons: Luxembourg (LUX) and Belgium (BELG)
vernacular (LUX: median = 3.00; BELG: median = 3.50)
standard (LUX: median = 2.00; BELG: median = 2.50)*
French (LUX: median = 3.00; BELG: median = 3.00)*
German (LUX: median = 2.50; BELG: median = 2.50
crosslinguistic contact variety (LUX: German: median = 2.50; BELG: French median = 3.00)*
**sign. different between speech communities*

6.2.4. Discussion

Previous literature demonstrated how varieties with varying degrees of standardisation are implemented and accepted differently in (endangered) vernacular speech communities (Ferguson, 1968; Haugen, 1966; Loureiro-Rodriguez et al., 2013; O'Rourke, 2018). In addition, attitudes are found to be indicative of this implementation and acceptance (Coupland & Kristiansen, 2011; Loureiro-Rodriguez et al., 2013; O'Rourke, 2018).

The present study investigated the effect of varying degrees of standardisation in a comparative study of explicit attitudes. More specifically, we explored speech communities in Belgium and Luxembourg, which underwent different standardisation processes resulting in the introduction of different standard varieties for their closely related Moselle Franconian vernaculars, namely

Standard German in Belgium and Standard Luxembourgish in Luxembourg. Our literature review described research findings showing that Standard German and Standard Luxembourgish differ in their degree of standardisation. Consequently, we proposed to explore whether explicit attitudes in Belgium and Luxembourg reflect how differently the respective standard varieties are implemented and accepted in their endangered speech communities. We hypothesised that these different degrees of acceptance would surface in explicit attitudes in both within and between speech community comparisons.

More specifically, hypothesis a) stated that Luxembourgish speakers would hold more negative explicit attitudes towards their respective standard variety, i.e. Standard Luxembourgish, compared to its Moselle Franconian vernaculars due to the lower degrees of standardisation of Luxembourgish. Simultaneously, we expected Belgian speakers to hold more positive explicit attitudes towards the respective standard variety, i.e. Standard German compared to its Moselle Franconian vernaculars, since Standard German showed higher degrees of standardisation and was thus better implemented and accepted.

In addition, hypothesis b) stated that the different degrees of standardisation would also show in a between-speech community comparison. Specifically, Luxembourgish speakers would hold more negative explicit attitudes towards their standard variety, i.e. Standard Luxembourgish, compared to Belgian speakers' explicit attitudes towards their own standard variety, i.e. Standard German.

Finally, based on findings in language maintenance research, we expected that additional standardised contact varieties might also foster or impede the acceptance of a standard variety introduced in endangered speech communities. However, lacking insights from previous attitudinal studies in our speech communities, a hypothesis could not be derived. We therefore posed a research question of exploratory nature (i.e. research question 2): What are the explicit attitudes towards additional standardised contact varieties, i.e. French in Belgium, and French and German in Luxembourg?

Our results show that hypothesis a) was partially borne out. As expected, Luxembourgish speakers evaluated their vernacular significantly more positively than Standard Luxembourgish. The lower degree of standardisation, which especially shows in a lack of implementation in the educational

domains, leads to lower degrees of acceptance of this "new" endogenous standard variety by the vernacular speech community. This result is especially interesting in light of previous attitudinal research in Luxembourg. Previous studies showed mixed results but reported overall positive attitudes towards Luxembourgish, often without distinguishing between Standard Luxembourgish and its Moselle Franconian vernaculars, for example, see Fehlen (2009); Gilles et al. (2010); Lehnert (2018). In addition, they did not focus on the most "non-standard like" vernacular community in Luxembourg, i.e. the Éislek region. Our study investigated this speech community exclusively, and our findings are in line with the only other attitudinal study of this community (Vari & Tamburelli, 2020). Both studies found participants to clearly prefer their vernacular over Standard Luxembourgish. This demonstrates the need to distinguish between attitudes towards a standard variety and its vernaculars in the first place and additionally, to include varieties that are more distant from the standard variety in any investigation of the acceptance of a standard variety in vernacular communities.

However, our results did not support the second part of hypothesis a) which expected Belgian speakers to hold more positive explicit attitudes towards Standard German compared to its Moselle Franconian vernaculars due to the fact that German showed higher degrees of standardisation. On the contrary, our results indicate that Belgian participants hold more positive explicit attitudes towards their Moselle Franconian vernacular compared to Standard German. This reflects to some extent the findings of the only other study on explicit attitudes in this speech community, which found mainly egalitarian attitudes, but also a preference for vernaculars over Standard German (Weber, 2009). In contrast, the findings of a study on implicit attitudes in this speech community showed a preference for the standard variety over the vernaculars (Vari & Tamburelli, 2020). Social psychological research provides potential explanations as to why explicit attitudes towards Standard German (in relation to its vernaculars) do not indicate that it is well implemented and accepted in the Belgian speech community, despite its high degree of standardisation. Research demonstrates that social desirability often leads to more egalitarian explicit attitudes, or to explicit attitudes that show over-corrected implicit negative biases leading to a preference of the subordinate group in intergroup relationships (Dovidio et al., 2009; Wilson et al., 2000). Accordingly, Belgian participants might have over-corrected their demonstrated implicit negative bias towards their vernacular (Vari & Tamburelli, 2020) and consequently reported a clear

preference for their Moselle Franconian vernacular in explicit attitudes. The social desirability of attitudes might have touched on attitude contents such as the covert prestige of Moselle Franconian (see (Trudgill, 1972) and/or the solidarity dimension of attitudes reflecting feelings of belonging, (Cargile et al., 1994; Ryan Bouchard et al., 1982). Overcorrection processes of negative implicit biases could have not taken place in explicit attitudes in Luxembourg since speakers also have a preference for the subordinate variety, i.e. the Moselle Franconian vernacular when tested on implicit attitudes (Vari & Tamburelli, 2020). This would be in line with the post-hoc explanation that social desirability in the speech communities involves the covert prestige of Moselle Franconian and its positive evaluation on the solidarity dimension.

To sum up, hypothesis a) was partially borne out. Results supported only its first part, which stated that Luxembourgish participants would hold more positive attitudes towards their Moselle Franconian vernacular compared to Standard Luxembourgish due to its low degree of standardisation.

We also tested a second hypothesis, hypothesis b), which stated that the differences in standardisation would also show in a between-speech community comparison. The results of our AtoL ratings support this hypothesis. Luxembourgish speakers evaluated Standard Luxembourgish less favourably compared to Belgian speakers' evaluation of Standard German. This difference in explicit attitudes towards the respective standard variety is especially noteworthy in light of comparably positive attitudes towards the endangered Moselle Franconian variety in both speech communities. This contrast highlights that attitudinal differences between the speech communities lie in their different explicit evaluation of their respective standard varieties and not in their evaluation of their closely related endangered vernaculars.

Finally, our last research question was exploratory of nature and concerned explicit attitudes towards the other standardised contact varieties in the speech community, namely French in Belgium and German and French in Luxembourg. These additional contact varieties compete with the respective standard varieties over usage in H(igh) domains and could also act as potential functional standards (in the sense of Muljacic, 1989), see also Gilles, 2019) for the endangered vernaculars. Thus, we suspected that Standard German in particular, which acted formerly as the structural standard variety in Luxembourg, might impede the implementation of the "new" standard variety, i.e. Standard Luxembourgish. Indicative of such an impediment would be very positive

attitudes towards Standard German in Luxembourg, showing that the variety still carries prestige in the speech community. Despite this, previous research in Luxembourg seemed to show negative attitudes towards German, despite its still widespread usage (Fehlen, 2009, 2016; Gilles et al., 2010). However, these attitudinal studies did not distinguish between Standard Luxembourgish and vernacular Moselle Franconian varieties, collapsing them together under a generic "Luxembourgish". Our study filled this research gap by investigating attitudes towards the vernacular and its "new" standard, i.e. Standard Luxembourgish, and how these fare in relation to attitudes towards Standard German. However, lacking previous attitudinal research, we were unable to present a hypothesis for this investigation. Notably, we found that vernacular Moselle Franconian speakers hold significantly more positive attitudes towards German compared to Standard Luxembourgish. This might be indicative of Standard German impeding the implementation and acceptance of Standard Luxembourgish in this speech community. Once again, our findings highlight the need to take into account the internal variation of endangered languages, specifically the differences between the endangered vernacular and its associated standard, warning against making *a priori* assumptions of homogeneity.

Our last research question also referred to French which is present as an additional contact variety in both speech communities. However, the evaluation of French did not differ significantly from any other language varieties in between-speech community analyses. In within-speech community analyses, French differed only from Standard German in Belgium. where it was evaluated more positively. These findings are in contrast with previous suggestions of a limited influence of French as an additional standard variety in the *Belgische Eifel* region of Belgium (Darquennes, 2019). In addition, the cross-linguistic analysis showed that French was evaluated more positively in Belgium compared to German in Luxembourg. The lack of significant differences in other comparisons could again be indicative of the influence of social desirability on egalitarian attitudes. However, previous research in Luxembourg reported very favourable explicit attitudes towards French, occasionally even more favourable than towards Luxembourgish (Fehlen, 2009; Gilles et al., 2010; Lehnert, 2018). In contrast, the only study including implicit attitudes found a preference of Luxembourgish over French (Lehnert, 2018). The contradictory findings in Luxembourg and the lack of attitudinal research in Belgium makes it difficult to contextualise our findings. Overall, more research is needed on attitudes towards the standard variety and its vernaculars in relation to additional varieties in order to fully understand standardisation in language contact situations.

Two caveats of our study are a potential selection bias and order effects. First, our participant recruitment via media and local societies such as women's clubs might have led to the recruitment of participants with a particular intertest in the vernacular speech community. In addition, our findings could be influenced by order effects, since - due to technical issues - the order of presentation remained the same for all trials in each speech community. However, both practices are common in language maintenance research, where participant recruitment is potentially biased towards including predominantly "language enthusiasts" from the local community, particularly – albeit not solely - in cases where the overall number of speakers is low (e.g. Deminger, 2000; Hawkey, 2020). Elderly speakers of endangered languages, who require paper versions of questionnaires are also commonly subject to order effects in these studies.

To summarise, our comparative study found indications of an incomplete standardisation of Luxembourgish that results in more negative explicit attitudes. This standardisation might be potentially impeded by the former standard variety, Standard German, which still carries prestige in the community. Attitudes towards the standard variety of Belgium, i.e. Standard German, reflected its higher degrees of standardisation and acceptance only in comparison to Standard Luxembourgish, not in comparison to the Moselle Franconian vernacular. We suggested that this explicit preference of the vernaculars in Belgium might be due to over-correction processes of implicit negative biases against the vernacular (Vari & Tamburelli, 2020). These over-correction processes could be based on the socially desirable attitude dimension of solidarity and/or reflect the covert prestige of Moselle Franconian in Belgium. Unfortunately, our study could not investigate social desirability and the attitude dimensions of solidarity vs. status, since it lacked insights from previous studies in the speech communities in order to advance any hypotheses. Future research needs to explore this avenue further.

Overall, this study showed the importance of considering the internal variation within an endangered language by distinguishing between the endangered vernaculars and their standard varieties when measuring attitudes. Similarly, the study also showed that research into the acceptance of a standard must of include speakers of vernaculars that are distant from the standard at issue. In addition, our study shows that a complete understanding of the potential obstacles that may impede the acceptance of a standard variety in an endangered speech community must include

exploration of attitudes towards the standard and its vernaculars in relation to other standardised contact varieties.

Most importantly, our study indicates that there are potential limitations to relying on standardisation as a language maintenance effort. As a cautionary note to the widespread belief that the introduction of a standard variety will necessarily bolster attitudes towards an endangered vernacular (Brenzinger et al., 2003; Fishman, 1991; Lewis & Simons, 2010) and that a standard variety will complement endangered vernaculars with its prestige (Fishman, 1991), our study has shown that only a fully implemented and accepted standard variety carries the prestige that can potentially positively influence endangered vernaculars. Our results in Luxembourg suggest that a newly introduced standard variety may sometimes not yet fully carry the prestige that would be needed to have a strong positive effect in the endangered speech community.

6.2.5. Appendix of paper

All screens are example screens, since the presentation of the AtoL questionnaire items was randomised.

A) Example screens of German as language of instruction

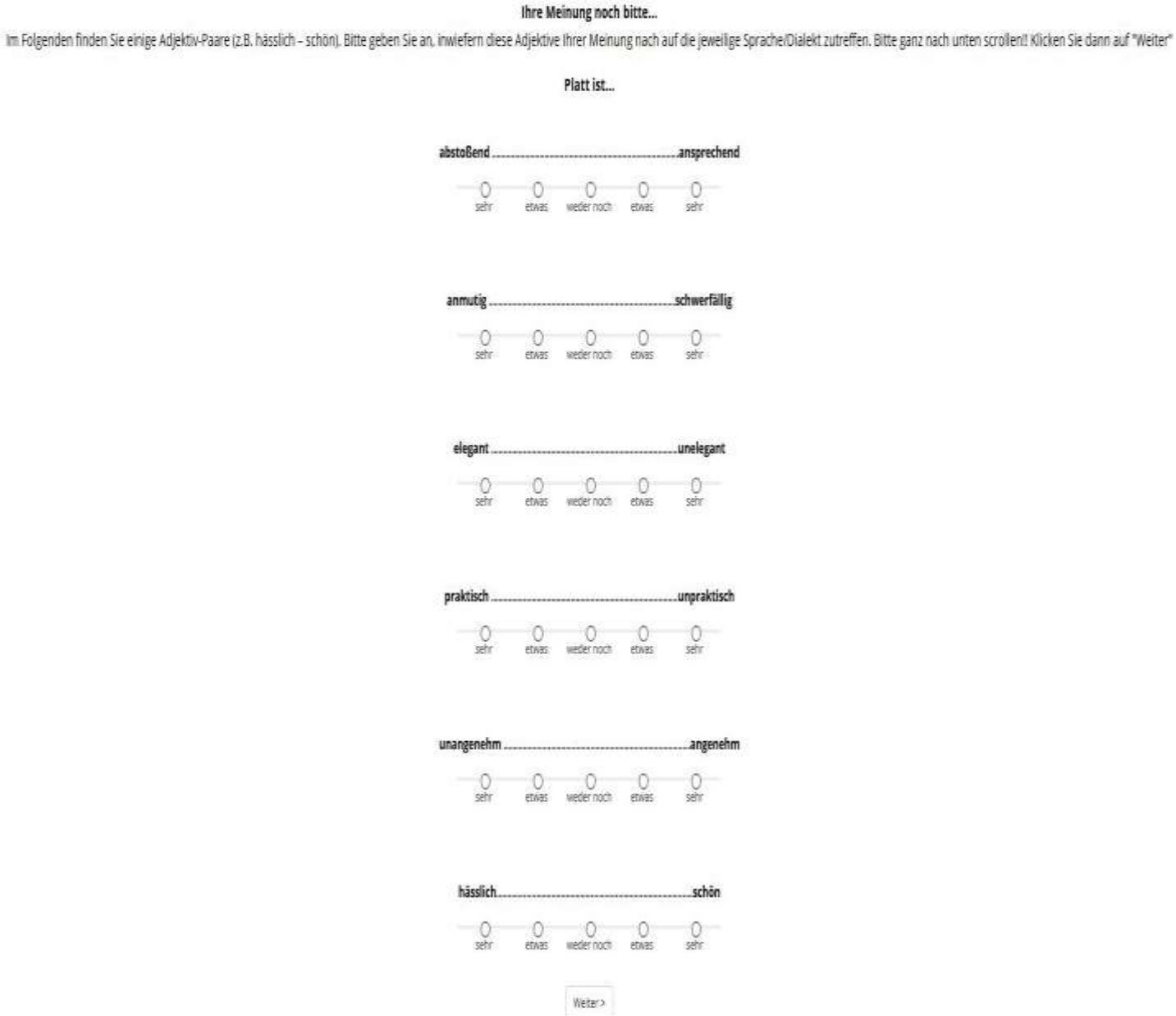

Figure 20 semantic differential scales to measure attitudes towards the vernacular in Belgium

Figure 21 semantic differential scales to measure attitudes towards the vernacular in Luxembourg

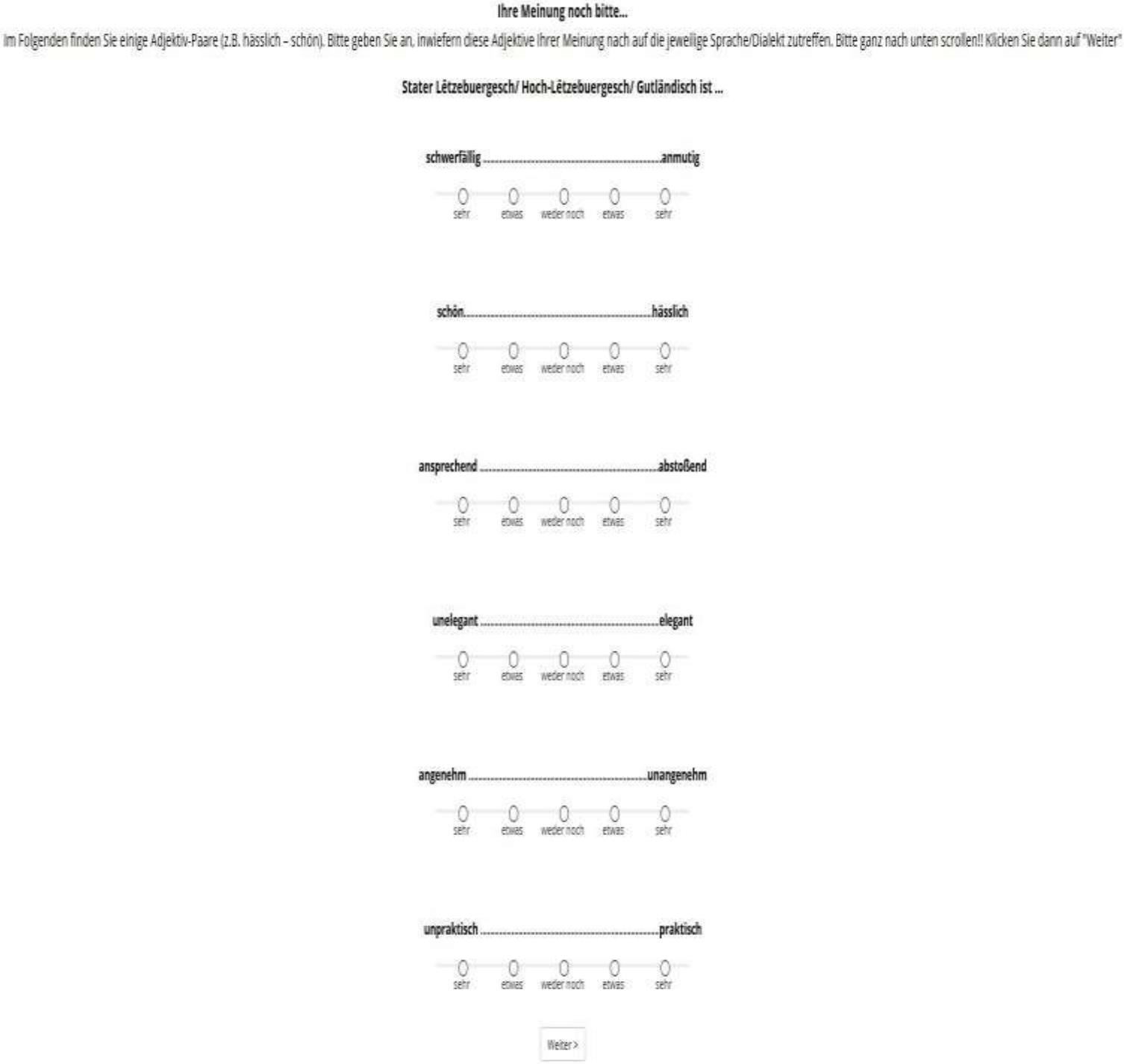

Figure 22 semantic differential scales to measure attitudes towards Standard Luxembourgish in Luxembourg

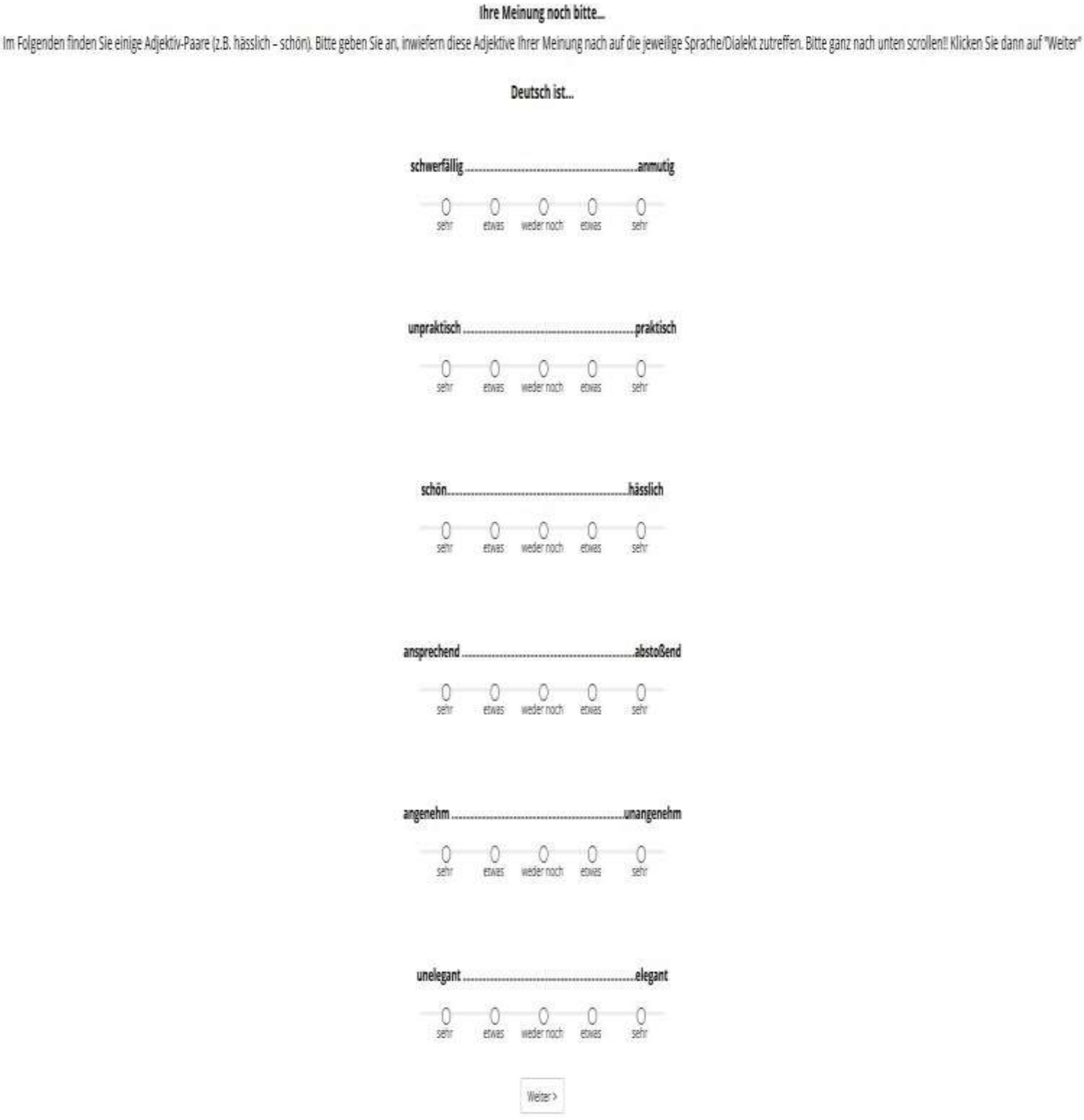

Figure 23 semantic differential scales to measure attitudes towards German in Belgium and Luxembourg

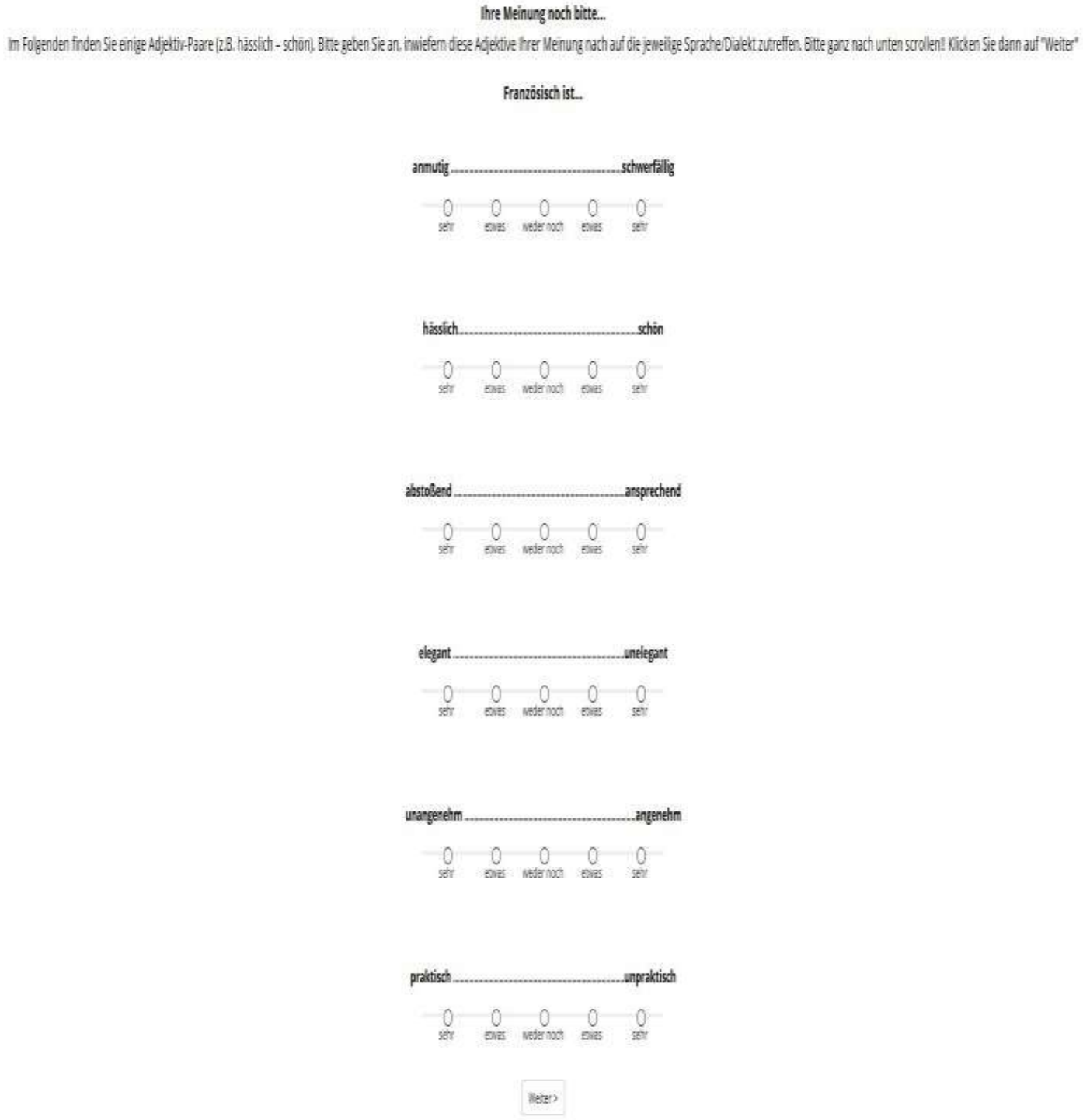

Figure 24 semantic differential scales to measure attitudes towards French in Belgium and Luxembourg

B) Example screens for Luxembourgish as language of instruction

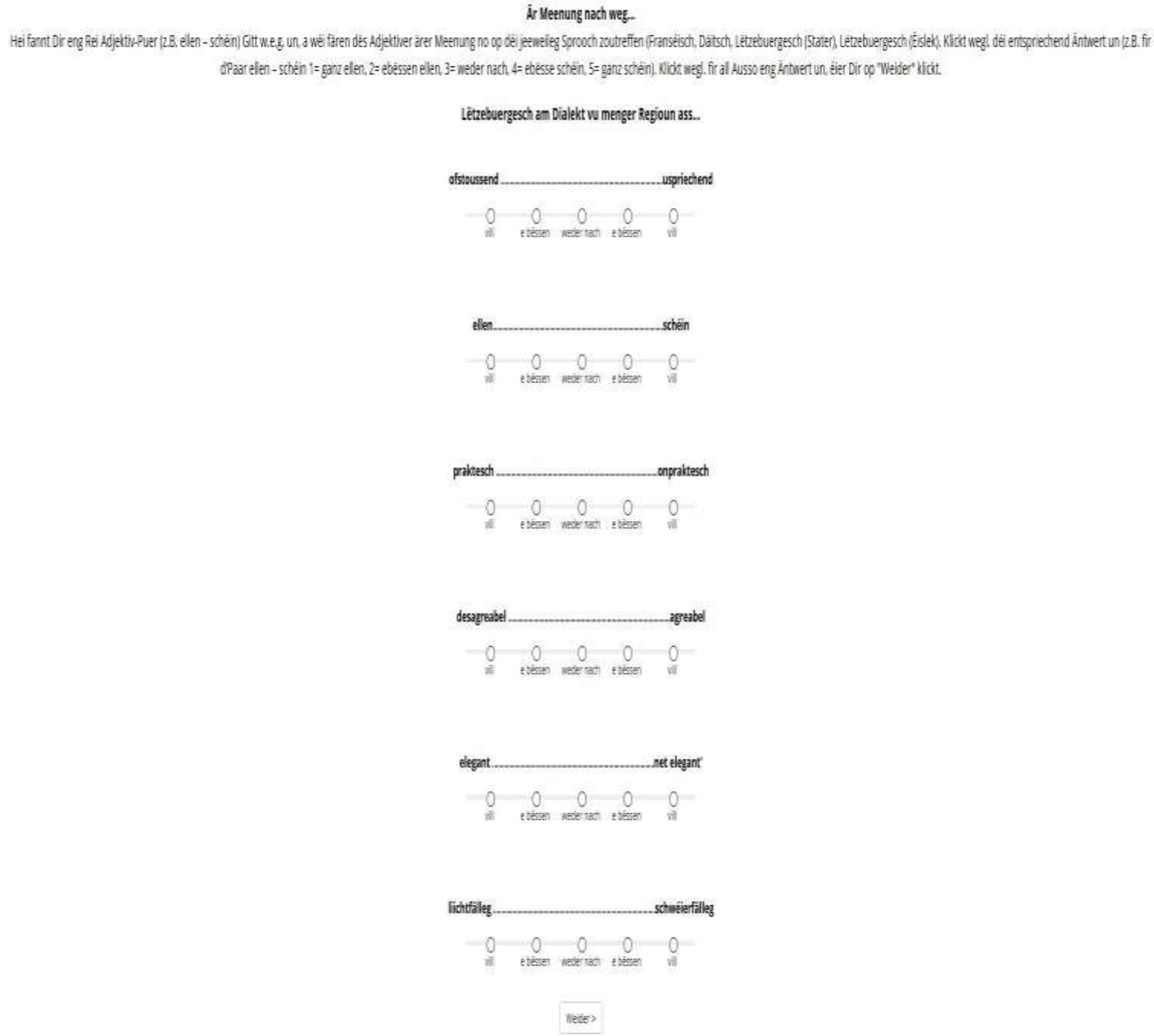

Figure 25 semantic differential scales to measure attitudes towards the vernacular in Luxembourg

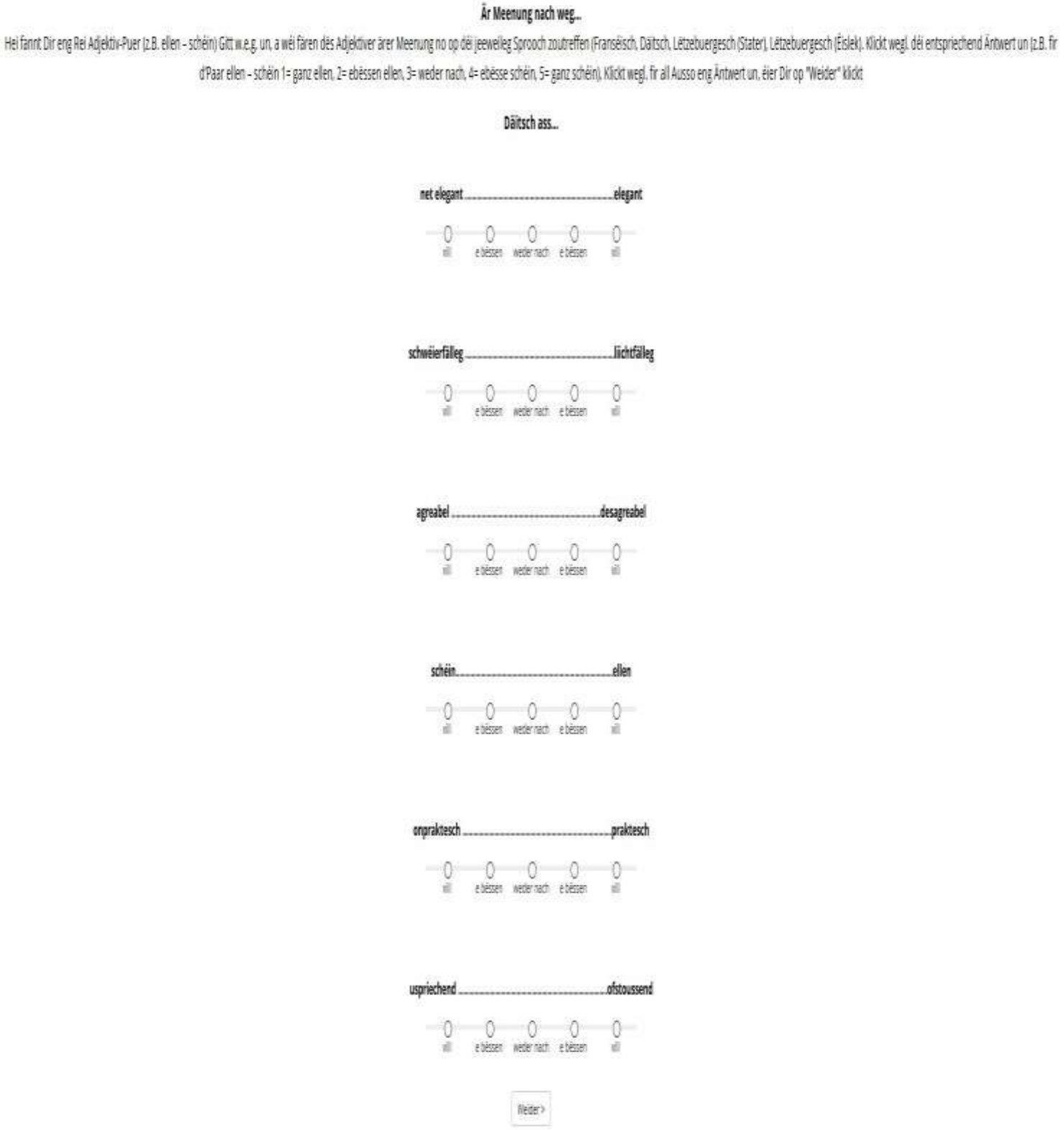

Figure 26 semantic differential scales to measure attitudes towards German in Luxembourg

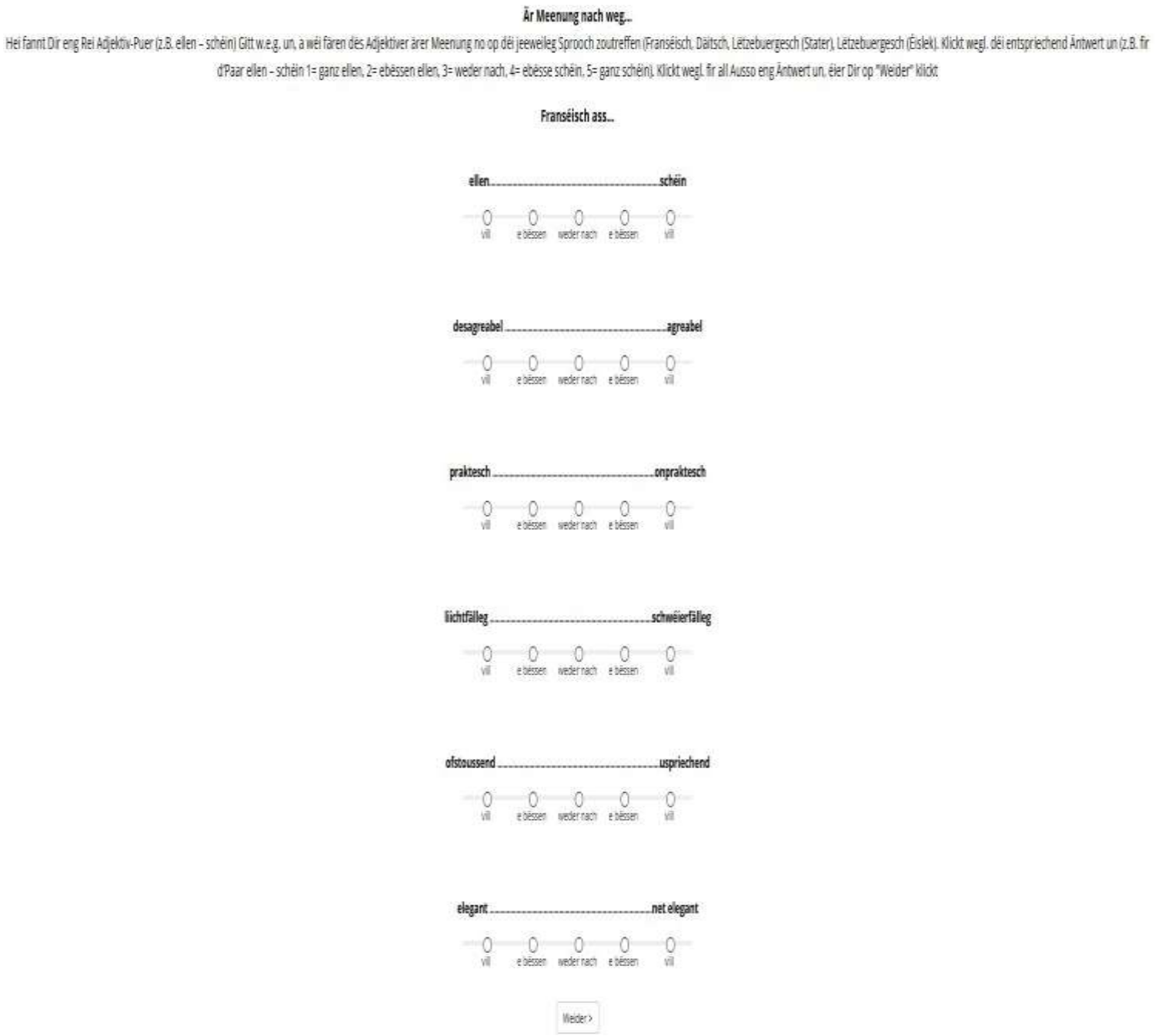

Figure 27 semantic differential scales to measure attitudes towards French in Luxembourg

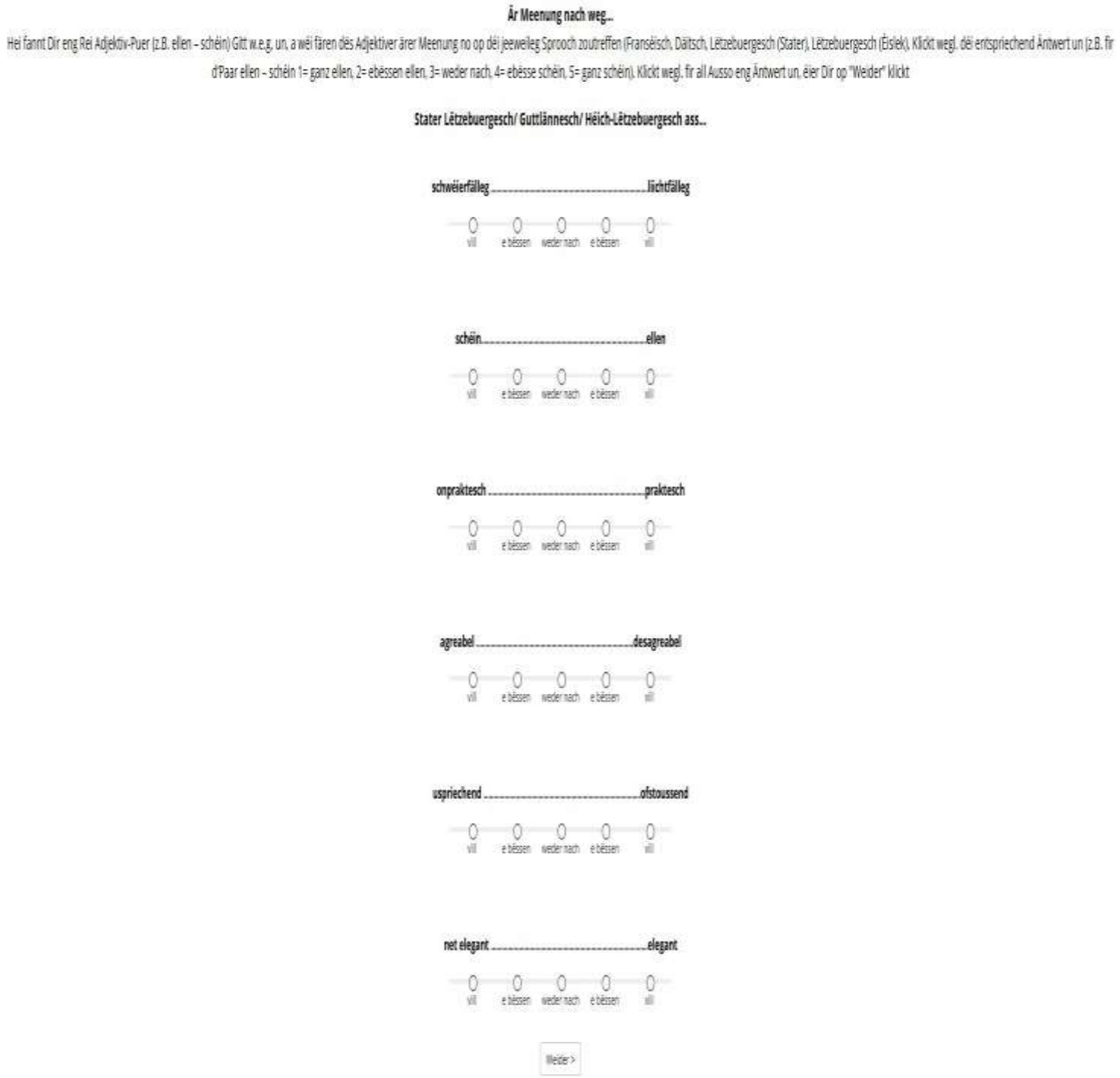

Figure 28 semantic differential scales to measure attitudes towards Standard Luxembourgish in Luxembourg

6.3. Chapter conclusions

The paper in the previous section constitutes the third study in this thesis. It aimed to further shed light on unexpected results found in the first study in Chapter 5. In this first study on implicit attitudes (see section 5.2.), Luxembourgish participants preferred their vernacular over their "newly" introduced standard variety, i.e. Standard Luxembourgish, unlike the findings of an abundance of sociolinguistic studies would imply, see section 3.1. and 3.2. These sociolinguistic studies demonstrated that speakers tend to evaluate implicitly and explicitly their standard variety more positively compared to its vernaculars (Eichinger & Stickel, 2012; Milroy, 1991; Rosseel et al., 2018; Schoel et al., 2012; Speelman et al., 2013). Even if prediction I of hypothesis 1b in this thesis stated that endangered vernaculars in a speech community with a close standard (Luxembourg) would be implicitly evaluated more positively compared to a speech community with a distant standard (Belgium), both standard varieties were still expected to be evaluated more positively compared to their Moselle Franconian vernaculars in their respective speech communities (see section 2.5.). Therefore, Luxembourgish participants' preference for their vernacular in study 1 of Chapter 5 was unexpected.

These unexpected results called for a follow-up study, which needed to investigate attitudes towards additional standardised contact varieties, as well as attitudes towards the Moselle Franconian vernaculars and their respective standard varieties in the speech communities. This follow-up study was presented in the previous section as a stand-alone paper, exploring the unexpected results in light of higher degrees of standardisation of Standard German compared to Standard Luxembourgish. More specifically, the paper hypothesised – developing the post-hoc explanations of study 1 – that Standard German would be evaluated more positively compared to Standard Luxembourgish since Standard German is more fully implemented and accepted than Standard Luxembourgish in its respective speech community. The findings of the paper supported this hypothesis partially, and results indicated that higher degrees of standardisation and acceptance in the speech communities show in more positive explicit attitudes towards a standard variety.

Overall, the paper provided evidence for potential limitations of a standard variety's positive impact on attitudes towards endangered vernaculars. The paper suggested that a standard variety needs to be fully implemented and accepted in order to carry the prestige that can complement its endangered vernaculars. Thus, a standard variety's positive attitudinal effect potentially depends

on its degrees of standardisation, resulting in varying degrees of acceptance in the endangered speech community. These insights contribute to the present work's overall aim to investigate the conditions under which a standard variety impacts positively on attitudes towards its endangered vernaculars.

Most importantly, this thesis set out to investigate how another factor, namely linguistic distance, influences the conditions under which a standard variety impacts positively on attitudes towards its endangered vernaculars. Section 2.1.1. discussed findings in social psychological research showing that the degree to which attitude objects resemble each other influences the degree to which they are implicitly and automatically evaluated in the same manner, i.e. equally negatively or positively. The hypotheses (1a and 1b) of this thesis – see section 3.6. – drew on these social psychological findings and stated that linguistic proximity between the standard and its endangered vernaculars – governing the varieties' resemblance – influences whether a standard variety impacts positively on implicit attitudes towards those vernaculars. However, as section 6.1. at the beginning of this chapter showed, social psychological research only found a clear influence of resemblance for implicit automatic attitudes.

On the contrary, social psychological attitude models provide no clear-cut insights into the way the resemblance of attitude objects influences their shared explicit evaluation (Fazio & Towles-Schwen, 1999; Gawronski & Creighton, 2013; Wilson et al., 2000). Consequently, social psychological attitude models did not imply how the linguistic proximity between the standard variety and its endangered vernaculars could impact on explicit attitudes towards these vernaculars. In addition, the lack of clear implications was also due to a lack of attitudinal studies in the speech communities of Belgium and Luxembourg. The scarcity of empirical evidence impedes the understanding of factors, such as speakers' motivations, which play an important role in social psychological attitude models. Therefore, no hypothesis could be developed for the below research questions:

RQ 2a) Does the nature of standardisation processes – resulting in varying linguistic distance between the standard and its endangered vernaculars – play a role in speakers' explicit attitudes towards these vernaculars?

RQ 2b) How does a linguistically close, endogenous standard differently impact on explicit attitudes towards endangered vernaculars, compared to a linguistically distant, exogenous standard variety?

These research questions are now discussed in light of the results of the explicit attitude measurement in the paper in section 6.2.

Results do not indicate that the different nature of standardisation processes – resulting in varying linguistic proximity between the standard variety and its vernaculars –influences explicit attitudes towards endangered vernaculars (RQ 2a). Explicit attitudes towards Moselle Franconian in Luxembourg did not differ significantly from explicit attitudes towards Moselle Franconian in Belgium, despite the different nature of standardisation processes in the two speech communities. Additionally, research question 2b) asked how an endogenous, linguistically close standard impacts differently on explicit attitudes towards its endangered vernaculars (in Luxembourg) compared to an exogenous, distant standard variety (in Belgium). However, since explicit attitudes towards Moselle Franconian vernaculars did not differ significantly in the two speech communities, there is also no indication of how a linguistically close, endogenous standard variety impacts differently on explicit attitudes towards its endangered vernacular, compared to a linguistically distant, exogeneous standard.

Overall, the investigation of explicit attitudes did not show that the linguistic distance between the standard and its endangered vernaculars – resulting from the different nature of standardisation processes – influences how a standard variety impacts on explicit attitudes towards its endangered vernaculars. This is in stark contrast to the results from the first study in Chapter 5, where the influence of the linguistic distance showed in more positive implicit attitudes towards endangered vernaculars in the speech community with a close, endogenous standard (Luxembourg) compared to the speech community with a distant, exogenous standard (Belgium). Potential explanations for these conflicting results are discussed below and include the distinct nature of explicit and implicit attitudes, other standardised contact varieties, and finally, methodological issues.

6.3.1. Conflicting results due to differences between implicit and explicit attitudes

The reasons for the conflicting results of study 1 and 3 could lie in the nature of explicit and implicit attitudes, as described by process-focused social psychological attitude models (see section 2.1.1.). Even if the attitude models vary in the way they link implicit and explicit attitudes, they share common defining features for the underlying processes of the two attitude types.

Implicit attitudes are defined as being based on automatic processes, which are to a certain degree uncontrolled and participants' awareness of them is limited. Section 2.1.1. suggested that implicit attitudes are better predictors of habitual and spontaneous behaviour. Thus, they were identified in section 2.3. to be better predictors of language use in the home domain and consequently, of language vitality. On the other hand, explicit attitudes are defined as being based on deliberate, thought through evaluative processes, prone to being influenced by social desirability (Chaiken & Ledgerwood, 2007; Fazio & Towles-Schwen, 1999; Wilson et al., 2000). Research into prejudices has demonstrated that this social desirability often results in more egalitarian explicit attitudes reflecting values of equality in Western societies (Dovidio et al., 2001; Dovidio et al., 2009), while prejudices and negative biases still show in implicit attitude measures. Additionally, social psychological research found that the awareness of negative implicit bias towards minority groups and their potential discrimination can lead to an overcorrection in explicit attitudes, when participants evaluate minority groups significantly more positively compared to the majority group (Dovidio et al., 2001; Dovidio et al., 2009; Wilson et al., 2000). Such (over-) correction of negative attitudes to positive ones can be also found in other sociolinguistic and social psychological studies regarding how subordinate speaker groups re-evaluate explicitly and deliberately the dominant group's negative attitudes to construct a positive social identity (Giles et al., 1977; Tajfel, 1982).

These social psychological and sociolinguistic findings provide potential post-hoc explanations for the results of the explicit attitudes study in section 6.2.3., compared to the implicit attitude study in Chapter 5. The different findings of the two attitudinal studies in this thesis are possible outcomes within all process-focused social psychological attitude models (see section 2.1.1.). However, as discussed in this chapter's introduction, section 6.1., it was not possible to present any hypothesis regarding the precise outcome of (over-) correction processes. Three reasons were identified for this lack of hypothesis: first, the varying link between explicit and implicit attitudes in different attitude models; second, multiple factors within one attitude model, such as speakers' motivation;

third and most importantly, the scarcity of empirical studies in the speech communities impeded the understanding such factors, i.e. speakers' motivation. However, even if no hypothesis could be presented, (over-) corrections processes and social desirability can explain post-hoc as to why participants in the explicit attitudinal study expressed their egalitarian or more positive attitudes towards their vernacular and French. Most importantly, I suggest that this (over-) correction of negative implicit biases, especially towards the endangered vernacular (see study 1), could have counteracted the influence of linguistic distance in explicit attitudes and thus led to the conflicting results of study 1 and 3 (see for more detail section 7.2.).

Following social psychological dual attitude models, for example Wilson et al. (2000), these conflicting results could indicate ongoing attitude change, which was potentially set in motion by language maintenance efforts. This type of attitude model describes a developmental course of attitude formation from explicit to implicit attitudes (see for details section 2.1.1). Therefore, an attitude change would show first in explicit attitudes. Consequently, the more egalitarian explicit attitudes toward the Moselle Franconian vernacular and French on the one hand, and on the other hand, more positive attitudes towards the vernacular compared to its respective standard variety could be a "window into the future". Drawing on dual attitude models, these explicit attitudes could be internalised in time and become implicit attitudes. Ultimately, these more positive or at least more egalitarian, "new" implicit attitudes towards the vernacular could influence habitual and spontaneous language behaviour positively in the home domain, which would improve the vernaculars' transmission and its vitality.

6.3.2. Conflicting results due to other standardised contact varieties

In addition, social psychological research shows that results are sensitive to which attitude objects are contrasted in a study (De Houwer et al., 2009). Consequently, the choice of languages varieties for comparison might also explain the conflicting results of the implicit and explicit attitude studies.

The first study of Chapter 5 measured implicit attitudes towards only the Moselle Franconian vernaculars and their respective standard varieties: Standard German and Standard Luxembourgish.

In contrast, the explicit attitude study of this chapter also included additional standardised contact varieties, namely French in Belgium and German and French in Luxembourg, as well as the Moselle Franconian vernaculars and their respective standards. Especially, explicit attitudes towards German in Luxembourg indicated that this former standard variety still carries prestige in the speech community. This prestige might influence the evaluation of Standard Luxembourgish as the "new" standard variety.

Overall, the different attitude types of the implicit and explicit attitude studies make it impossible to determine whether the conflicting results can be put down to which language varieties were contrasted. Only a study on implicit attitudes including additional standardised contact varieties would shed light on this issue. Unfortunately, the second study of Chapter 5 failed to elicit implicit attitudes towards additional standardised contact varieties.

6.3.3. Conflicting results due to additional methodological issues

There are also methodological issues that might have also contributed to the conflicting results of implicit and explicit attitude measurements in Chapter 6 and Chapter 5.

First, the above discussed non-significant results, which were interpreted as egalitarian attitudes, might be only due to the combination of the sample size, effect size and the statistical tests selected, i.e. non-parametric test, which tend to have less power (Field, 2007).

Additionally, the attitude objects, that is the language varieties, were denominated slightly differently in the first implicit attitudinal study, Chapter 5, compared to the study in this chapter. More specifically, the labels for the language varieties in the implicit attitude measure were established based on literature and by the norming study described in section 5.2.5. However, there was no clear agreement between Luxembourgish informants in this norming study on designations for their vernacular Moselle Franconian and their standard variety, i.e. Standard Luxembourgish. This was in line with previous research in Luxembourg (Entringer et al., 2018; Neises, 2013). Nevertheless, the implicit attitude measure of the first study, the Implicit Association Test, needed short labels due to the workings of the experimental paradigm, which measures reaction time (see section 2.2.2.). Therefore, the abbreviation *St. Lez* was chosen for the standard variety in Luxembourg in order to foster the association with either the label *Stater Lëtzebuergesch* or with

Standard Lëtzebuergesch. In Belgium, the informants of the norming study provided unanimously the labels also found in literature: *Platt* for the vernacular opposed to *Hochdeutsch* for the standard variety.

The labels for the explicit attitude measurement of this chapter were also informed by the same previous research and norming study (see section 5.2.5.). However, explicit attitude measurement with the AtoL questionnaire (described in section 6.2.2.), allowed for longer designations of language varieties and therefore it could incorporate a variety of labels provided in the norming study. Consequently, the vernacular in Luxembourg was described ambiguously as "the Luxembourgish dialect of my region", in order to encourage participants' individual associations with the varieties spoken in the Éislek, in the Canton Clervaux, or in participants' individual villages. Similarly, drawing on participants' individual association, the designation of the standard variety combined three labels from the norming study and previous literature, calling it *Stater Lëtzebuergesch, Hoch-/Héich- Lëtzebuergesch* and *Gutländisch/ Guttlännesch* in German and Luxembourgish.

However, these differences in the labelling of the language varieties might have introduced a confounding variable, which could have contributed to the conflicting results of the explicit attitude study in this chapter and the implicit attitude study of Chapter 5. Sociolinguistic and social psychological research shows that labels of attitude objects, e.g. language varieties, influence their evaluation (Nosek et al., 2005; Pantos, 2015; Roessel et al., 2018).

To sum up, this chapter provided valuable insights into a further factor that might potentially influence the conditions under which a standard variety positively impacts on its endangered vernaculars. Different varieties show different degrees of standardisation and thus prestige in their endangered speech community. Consequently, I suggested that a standard variety must be highly standardised and accepted in the speech community in order to have a positive effect on its endangered vernaculars.

In addition, the investigation in this chapter did not find an effect of linguistic distance for the standard variety's positive impact on explicit attitudes towards endangered vernaculars (RQ2a and 2b). The post-hoc explanation I provided identified social desirability to counteract the effect of linguistic distance, since negative implicit biases, especially towards the vernacular, could get

(over-)corrected in explicit attitudes. Thus, the type of attitudes also emerged as a factor for the conditions of a standard variety's positive effect.

Chapter 7. Conclusion

7.1. Summary of thesis

7.1.1. Research questions and hypotheses

The point of departure for this thesis was the suggestion to apply the criterion of automaticity and process-focused attitude definitions and methodology in language maintenance research (see section 2.3.). This way, the present work aimed to improve our understanding of language maintenance efforts and their dynamics. Such language maintenance efforts include standardisation processes in an endangered speech community. Section 3.4. presented language maintenance studies, which overwhelmingly argue that introducing a standard variety will bolster attitudes towards its endangered vernaculars. However, our understanding of this positive attitudinal effect of a standard variety is limited, due to shortcomings in language maintenance research on standardisation and attitudes (see section 2.1.4. and 2.2.3.)

In section 3.6., it was suggested that social psychological research on automatic implicit attitudes in particular implies limitations for the positive effect of a standard variety in an endangered speech community. Social psychological research on the underlying automatic processes of implicit attitudes showed that the resemblance of attitude objects matters for their shared implicit evaluation. I proposed that within the context of standardisation, the resemblance between the standard variety and its vernaculars would be governed by their linguistic distance. This linguistic distance between the standard and its vernaculars varies as a result of two fundamentally different ways of introducing a standard variety (see section 3.3.). A speech community can decide to associate its vernaculars with an exogenous standard variety, or on the other hand, a speech community could create an "own" endogenous standard for its vernaculars. These differences in the nature of the standardisation process result in a linguistically close, endogenous standard variety as opposed to a linguistically more distant, exogenous standard variety. In section 3.6., I proposed that the resemblance of a standard variety to its vernaculars is governed by their linguistic distance,

which in turn is the result of the different nature of standardisation processes, i.e. exogenous vs. endogenous. Consequently, social psychological research implied that the shared evaluation of a standard variety and its vernaculars would be influenced by the nature of standardisation processes in the speech community and the degree of linguistic distance that arises as a result.

Section 3.1. and 3.2. presented sociolinguistic research that overwhelmingly found standard varieties to be more prestigious compared to vernaculars showing in explicit and implicit attitudinal studies.

Thus, I argued in section 3.6. that if a standard and its vernacular were to be evaluated in a similar manner due to their resemblance, this shared evaluation would be positive. Therefore, a close, endogenous standard variety would impact more positively on implicit attitudes towards its endangered vernaculars by sharing its positive evaluation, i.e. prestige, compared to a distant, exogenous standard variety.

Overall, drawing on social psychological insights, two hypotheses were advanced in this thesis:

H 1a) The nature of the standardisation processes, resulting in varying linguistic distance between the standard and its endangered vernaculars, will influence implicit attitudes towards those vernaculars.

H 1b) A linguistically close, endogenous standard variety will impact more positively on implicit attitudes towards its endangered vernaculars, compared to an exogenous, linguistically distant standard variety.

In addition, H1b) was further refined into two predictions:

Prediction I: Implicit attitudes towards vernaculars will be more positive in an endangered speech community with a linguistically close, endogenous standard variety, compared to an endangered speech community with a linguistically distant, exogenous standard variety.

Prediction II:

The difference between implicit attitudes towards the endangered vernaculars and other standardised contact varieties will be smaller in a speech community with a close, endogenous standard, compared to a speech community with a distant, exogenous standard variety.

Chapter 4 presented the Moselle Franconian speech communities in Luxembourg and Belgium, in which the above hypotheses were tested. These two speech communities provided an ideal testing ground, since speakers of endangered Moselle Franconian vernaculars had opted for two different ways of introducing a standard variety. While the speech community in Luxembourg has created its "own", linguistically close, endogenous standard variety for its Moselle Franconian vernaculars, i.e. Standard Luxembourgish, the speech community in Belgium associated its Moselle Franconian with an exogenous, linguistically more distant standard, i.e. Standard German.

The refined hypotheses for these two specific speech communities were therefore as follows:

H 1a) The differences in linguistic distance between the standard and its vernacular – due to the different nature of standardisation processes in the speech communities of Belgium and Luxembourg – will influence implicit attitudes towards Moselle Franconian.

H 1b) Standard Luxembourgish, being a linguistically close, endogenous standard variety, will impact more positively on implicit attitudes towards its Moselle Franconian vernaculars, compared to Standard German, as a linguistically distant, exogenous standard variety for its Moselle Franconian vernaculars.

Prediction I: Implicit attitudes towards Moselle Franconian in Luxembourg will be more positive, compared to implicit attitudes towards Moselle Franconian in Belgium.

Prediction II:

The difference between implicit attitudes towards Moselle Franconian vs. French and German will be smaller in Luxembourg, compared to the difference between implicit attitudes towards Moselle Franconian vs. French in Belgium.

Two studies in Chapter 5 tested the above hypotheses regarding implicit attitudes towards endangered vernaculars. Chapter 6 comprised study 3, which investigated these hypotheses as exploratory research questions for explicit attitudes. Subsequently, the two chapters are briefly summarised. The section concludes with an overall discussion of the conditions for a standard variety's positive effect on attitudes towards its vernaculars. Besides the nature of standardisation processes resulting in varying linguistic distance, two more factors emerged in this thesis that could potentially influence these conditions, i.e. the degrees of standardisation and the attitude type.

7.1.2. Summary of chapters

Summary of Chapter 5

Study 1 in Chapter 5 explored implicit automatic attitudes towards Moselle Franconian and their respective standard varieties, i.e. Standard Luxemburgish and Standard German, in Luxembourg and Belgium. More specifically, a method developed originally in the field of social psychological research, the Implicit Association Test, was used to measure these implicit attitudes. This experiment was presented in a stand-alone paper and tested H 1a and H 1b with prediction I. Prediction II could not be tested with this method due to the binary design of the experiment and was tested in study 2 instead.

Overall, the results of study 1 supported hypothesis 1a and hypothesis 1b with prediction I. More specifically, the speech community, with the specific nature of its standardisation processes, was the strongest predictor of implicit attitudes towards Moselle Franconian. This way, hypothesis 1a was borne out, since the difference between standardisation processes, thus linguistic distance, in the speech communities influenced implicit attitudes towards the endangered vernaculars. In addition, Luxembourgish participants implicitly evaluated their endangered vernacular more positively than their Belgian counterparts. Consequently, results also supported hypothesis 1b with prediction I: implicit attitudes towards endangered vernaculars in a speech community with a close, endogenous standard variety (Luxembourg), were more positive compared to a speech community with a distant, exogenous standard variety (Belgium).

However, the study found an unexpected preference of Luxembourgish participants for their vernacular over Standard Luxembourgish. Even though hypothesis 1b stated that implicit attitudes towards Moselle Franconian would be more positive in Luxembourg compared to Belgium, I still expected to find more positive implicit attitudes towards both standard varieties, i.e. Standard Luxembourgish and Standard German, compared to their vernaculars. This general standard preference was based on an abundance of research showing the more positive evaluation of a standard variety compared to its vernaculars (see section 3.1. and 3.2.). A potential post-hoc explanation for Luxembourgish participants' unexpected preference of their vernacular is the different degrees of standardisation of Standard German and Standard Luxembourgish. Based on previous research, it was argued that Luxembourgish shows lower degrees of standardisation compared to Standard German, which might have reflected in more negative implicit attitudes towards Standard Luxembourgish. In addition, the presence of other standardised contact varieties, namely French and German in Luxembourg, could have contributed to the results. I proposed that these additional standardised contact varieties could potentially serve as functional standard varieties for Moselle Franconian, especially in Luxembourg. Overall, the results of this first study highlighted the need for further investigation into implicit attitudes towards Moselle Franconian, its respective standard varieties and the additional standardised contact varieties. i.e. French and German. Overall, an investigation was needed to further explore the unexpected results of the first study and additionally, test prediction II of hypothesis 1b.

The second study in Chapter 5 aimed to achieve exactly these two goals by measuring implicit attitudes towards Moselle Franconian, its respective standard variety and additional standardised contact varieties (French and German) in Luxembourg and Belgium. This second study applied an Affective Priming paradigm, which is also an implicit attitude measure originally from social psychology, like the Implicit Association Test of study 1 (see section 2.2.2.). Unfortunately, the experiment failed to elicit participants' implicit attitudes. Thus, the hypotheses could not be tested.

Summary of Chapter 6

In study 3, reported in Chapter 6, this thesis investigated explicit attitudes. On the one hand, this study followed up on the unexpected results of study 1 of Chapter 5. Study 1 had found Luxembourgish participants to unexpectedly prefer Moselle Franconian over Standard

Luxembourgish. Post-hoc explanations of this unexpected result had included the different degrees of standardisation of the two standard varieties, that is to say, Standard German and Standard Luxembourgish. In Chapter 6, study 3 followed up on this discussion of study 1. Consequently, study 3 asked whether explicit attitudes in Belgium and Luxembourg reflect how well implemented and accepted the respective standard varieties are in light of their different degrees of standardisation. In a stand-alone paper, hypotheses could be developed for these research questions drawing on sociolinguistic frameworks of standardisation and previous sociolinguistic research in the speech communities (see Chapter 3 and Chapter 4). More specifically, Standard Luxembourgish had been shown to be less standardised and less well implemented, for example, in the education system. In contrast, the paper discussed previous research, which found Standard German to be highly standardised and widely implemented in Belgium. Drawing on sociolinguistic frameworks of standardisation, the paper suggested that these different degrees of standardisation, and thus implementation and acceptance, would show in explicit attitudes. Consequently, the hypotheses were advanced in the paper that:

> a) Luxembourgish speakers would hold more negative explicit attitudes towards their respective standard variety, i.e. Standard Luxembourgish, compared to its Moselle Franconian vernaculars. Simultaneously, Belgian speakers, would hold more positive explicit attitudes towards their respective standard variety, i.e. Standard German, compared to its Moselle Franconian vernaculars.
>
> b) Luxembourgish speakers would hold more negative explicit attitudes towards their respective standard variety, i.e. Standard Luxembourgish, compared to Belgian speakers, who would hold more positive explicit attitudes towards their respective standard variety, i.e. Standard German.

The hypotheses of the paper were mainly borne out. Between-community comparisons showed that explicit attitudes towards Standard Luxembourgish were more negative compared to Standard German, supporting hypothesis b. Within-community comparison demonstrated that Luxembourgish participants evaluated their standard more negatively compared to their vernacular. This supported the first part of hypothesis a. Even so, results did not support the second part of hypothesis a, since Belgian speakers did not evaluate Standard German more positively compared

to their Moselle Franconian vernaculars, but on the contrary preferred their vernacular over Standard German. The paper provided social psychological insights into explicit attitudes as explanations, as well as sociolinguistic notions of covert prestige and the attitude dimension of solidarity. More specifically, social psychological research shows participants to frequently overcorrect for their implicit negative biases when expressing explicit attitudes (see section 2.1.1.). Consequently, the interpretation of Belgian participants' preference of their vernaculars over Standard German in explicit attitudes could be the result of overcorrecting their implicit negative bias against their vernacular, which was shown in study 1, Chapter 5. This overcorrection might have been based on the social desirability to express the covert prestige of vernaculars and the attitude dimension of solidarity. Overall, the results of the third study indicated that the degrees of standardisation might be an additional factor present influencing the positive attitudinal effect of a standard variety on its endangered vernaculars.

However, the main aim of this thesis was to investigate the role of linguistic distance – as a result of the different nature of standardisation processes – for the positive attitudinal effect of a standard variety on its endangered vernaculars (see section 3.6.). But the two hypotheses of this thesis, H 1a and H 1b, did not include explicit attitudes, since they drew on social psychological insights into automatic processes underlying implicit attitudes. Overall, section 6.1. argued that social psychological attitude research does not imply the role played by the nature of standardisation processes (exogenous vs. endogenous) and the resulting linguistic distance in influencing explicit attitudes towards endangered vernaculars. Therefore, this chapter's investigation of explicit attitudes was of an exploratory nature, with open research questions RQ 2a and 2b.

RQ 2a) Does the nature of standardisation processes – resulting in varying linguistic distance between the standard and its endangered vernaculars – play a role in speakers' explicit attitudes towards these vernaculars?

RQ 2b) How does a linguistically close, endogenous standard impact differently on explicit attitudes towards endangered vernaculars, compared to a linguistically distant, exogenous standard variety?

Chapter 6 concluded with a discussion of these exploratory research questions in light of the findings of the third study, which were presented in a stand-alone paper in section 6.2. Overall, the

results did not clearly indicate whether the nature of standardisation processes and linguistic distance influence a standard variety's positive effect on explicit attitudes towards endangered vernaculars. There was no significant difference between explicit attitudes towards the endangered vernacular in a speech community with a close, endogenous standard (Luxembourg), compared to a speech community with a distant, exogenous standard (Belgium). In addition, in both speech communities, explicit attitudes towards the vernacular were more positive compared to their respective standard. In section 6.2.4., I suggested that these results could be interpreted as evidence for (over-) correction of negative implicit biases towards endangered vernaculars, as found in study 1 in Chapter 5. This interpretation was in accordance with social psychological attitude research showing that explicit attitudes are significantly influenced by social desirability, unlike implicit attitudes (see section 2.1.1.). This social desirability can lead to egalitarian or contrary explicit attitudes. I proposed that when such an (over-)correction of implicit attitudes takes place, the influence of linguistic distance on explicit attitudes towards the vernaculars might be counteracted. Accordingly, results could be interpreted as demonstrating that the positive effect of a close, endogenous standard variety only shows in implicit attitudes and not explicit attitudes towards its endangered vernaculars.

However, the chapter concluded that such an interpretation of results is tentative due to various confounding variables. First, this explicit attitudinal study comprised different attitude objects compared to the implicit attitude study of Chapter 5, which did not include additional standardised contact varieties. In addition, different methodologies might have confounded results.

7.1.3. Positive attitudinal effect of introducing a standard variety: interplay of three factors?

Overall, this thesis aimed to investigate whether introducing a standard variety will always have a positive effect on attitudes towards endangered vernaculars, as it is argued in language maintenance research (see section 3.4.). The general goal was to identify potential conditions for the standard variety's positive effect. In order to investigate these conditions, the present work suggested applying process-focused social psychological attitude theory and methodology in language maintenance research. This way, it was hypothesised that a standard variety's effect would depend

on linguistic distance and thus the nature of standardisation processes. The findings of study 1 showed that endangered vernaculars were evaluated more positively in Luxembourg (a speech community with a close, endogenous standard variety), compared to Belgium, a speech community with an exogenous, distant standard variety. In Chapter 5, these results supported hypotheses 1a and 1b of this thesis: the nature of standardisation processes, exogenous vs. endogenous—resulting in different linguistic distance between the standard and its vernaculars—influences a standard variety's positive implicit attitudinal effect, and a close, endogenous standard variety has a more positive effect on implicit attitudes towards its endangered vernaculars.

However, the results of studies 1 and 3 also indicated that this positive effect of close, endogenous standard variety might be influenced by its degrees of standardisation. More specifically, in both studies of this thesis, Luxembourgish participants preferred implicitly and explicitly their vernacular over Standard Luxembourgish. This was in contrast to their Belgian counterparts, who implicitly preferred their standard variety over their vernacular, while their explicit attitudes were potentially influenced by social desirability. They held more positive explicit attitudes towards their vernacular compared to their standard variety. These different preferences were described as being the result of lower degrees of standardisation of Luxembourgish as a "new" standard variety, compared to Standard German, which is highly standardised. Overall, studies 1 and 3 indicated that a variety's degree of standardisation influences its prestige.

Ultimately, I suggest that high degrees of standardisation and prestige are additional conditions that influence whether a standard variety positively impacts on attitudes towards its endangered vernacular. More specifically, in section, 3.6. I argued that the shared implicit evaluation of a standard and its vernacular is influenced by their resemblance, as governed by linguistic distance. Shared evaluative features were taken to be positive, since sociolinguistic research shows overwhelmingly positive attitudes towards a standard variety (see sections 3.1. and 3.2.). However, the results of study 1 and 3 demonstrated that implicit and explicit attitudes towards a standard variety cannot be necessarily assumed to be equally positive. A "new" standard variety, such as Standard Luxembourgish, might carry less prestige compared to more highly standardised varieties, such as Standard German. So even if a close, endogenous standard variety complements its vernaculars with its prestige due to their resemblance, this prestige varies depending on degrees of standardisation. Thus, the degree of standardisation emerges as a potential mediating factor for

the influence of the nature of standardisation processes, i.e. exogenous and endogenous, and linguistic distance. Overall, this thesis suggests that Standard Luxembourgish, as a close, endogenous standard in Luxembourg, complements its vernaculars with its prestige, unlike Standard German as a distant, exogenous standard variety in Belgium. However, Standard Luxembourgish has less prestige – compared to Standard German or other standardised contact varieties – which it can share with its endangered vernaculars.

Admittedly, this conclusion needs further investigation. Typically, a variety's degree of standardisation is best investigated in comparison with other standardised varieties. However, additional standardised contact varieties were not included in study 1, besides the Moselle Franconian vernacular and its respective standard varieties. Unfortunately, the experiment in study 2, which also included additional standardised contact varieties, failed to elicit implicit attitudes. Thus, further research is needed into the role degrees of standardisation play for a standard variety's positive attitudinal effect in endangered speech communities (see also section 7.3. below).

Furthermore, I suggest that the findings of this thesis potentially indicate that the positive effect of a close, endogenous standard variety might also be mediated by the types of attitudes towards its endangered vernaculars. Section 2.1.1. presented process-focused social psychological attitude models, which define explicit attitudes as based on deliberate, systematic processes frequently influenced by social desirability. In contrast, automatic processes are shown to underpin implicit attitudes. The hypotheses of this thesis were drawing on social psychological research on shared implicit automatic evaluation of attitude objects. Thus, the positive effect of a close, endogenous standard was only expected for implicit attitudes towards its endangered vernaculars. Social psychological attitude research did not provide clear-cut implications as to whether the influence of linguistic distance on a standard's positive effect in implicit attitudes would also show in explicit attitudes. Ultimately, this depends on the link between implicit attitudes and explicit attitudes, which varies depending on the attitude model (see section 2.1.1.) In addition, even within one attitude model, multiple factors influence this link, such as motivation and opportunity. More research is needed to test different types of social psychological attitude models, i.e. dual, single, interactive, to explore which models best describe the link between implicit and explicit attitudes. In addition, more attitudinal studies in the speech communities are needed to explore any unique factors of the specific cultural and socio-political context that might influence the link between

implicit and explicit attitudes, for example, speakers' motivations. Overall, only open research questions asked whether the nature of standardisation processes and linguistic distance would influence a standard variety's effect on explicit attitudes towards endangered vernaculars.

Section 6.3. discussed the findings of study 3 in relation to a potential influence of linguistic distance showing in explicit attitudes towards endangered vernaculars (see open research question 2a and 2b). Overall, I suggested that results could be interpreted as participants holding egalitarian or overcorrected explicit attitudes towards their endangered vernaculars. This is in line with common defining features of explicit attitudes, which all attitude models share. More specifically, since explicit attitudes are defined as based on deliberate processes, social psychological research shows that they are more likely to comprise socially desirable evaluations, such as egalitarian attitudes or the overcorrection of negative implicit biases (see section 2.1.1.). Consequently, I suggested that the influence of linguistic distance on a standard variety's positive effect might potentially not show in explicit attitudes towards endangered vernaculars, since social desirability and (over-) correction processes might counteract this influence. However, this suggestion is very tentative, since there were various confounding variables present when comparing study 3 on explicit attitudes with study 1 on implicit attitudes, including methodological issues.

To sum up, this thesis suggests that the positive effect of introducing a standard variety into an endangered vernacular speech community might depend on an interplay of three factors:

a) nature of standardisation processes, resulting in different linguistic distance between the standard and its vernacular
b) degrees of standardisation and thus the standard variety's prestige
c) types of attitudes towards endangered vernaculars

Overall, I suggest that only a close, endogenous, highly standardised variety will potentially have the maximum positive impact on implicit attitudes towards its endangered vernaculars.

7.2. Theoretical and methodological contributions of this thesis

The present work's contributions to the field of language maintenance research are four-fold. At least to my knowledge, this thesis is the first to apply the criterion of automaticity of process-focused attitude definitions and the respective methodology in this research field. Additionally, it is among only few comparative attitudinal studies in endangered speech communities distinguishing between the introduced standard and the original endangered vernacular (see section 3.4.). Furthermore, this thesis contributes to a better understanding of the speech communities of Belgium and Luxembourg. Most importantly, this thesis contributes to our understanding of the dynamics of standardisation as a tool of language maintenance.

7.2.1. Theoretical and methodological insights from social psychology

First, as sections 2.1.4. and 2.2.3. showed, language maintenance research has not yet started to include process-focused social psychological attitude theory and methodology, unlike sociolinguistic research in general. Thus, this thesis' major contribution is applying process-focused social psychological attitude definitions and measures in contexts of language endangerment. Following process-focused social psychological attitude theory, the present work re-defined implicit attitudes by including the notion of automaticity. Until now, language maintenance studies have mainly defined implicit attitudes only with the criterion of unawareness (see section 2.1.1.). Refining their definition is particularly important, since implicit attitudes are found to be the better predictors of language usage in the home domain, thus language vitality (see section 2.3.).

In addition, the present work introduced originally social psychological methods for measuring automatic implicit attitudes into the research field. More specifically, study 1 in this thesis applied an online version of an Auditory Implicit Association Test. Studies on language attitudes only recently started to use Implicit Association Tests to measure implicit attitudes (see section 2.2.2.). Studies using online versions and/or auditory stimuli are still scarce. At least to my knowledge, the Implicit Association Test in this thesis was the first of its kind to be used to measure implicit

automatic attitudes in language maintenance research. Furthermore, study 2 in this thesis used an Affective Priming experiment with auditory stimuli to elicit implicit automatic attitudes. Section 2.2.2. showed that there has been only one previous attitudinal study in sociolinguistics using the same experimental paradigm (Speelman et al., 2013). There are no previous Affective Priming studies in language maintenance research at all. Even though the Affective priming experiment in this thesis failed to elicit attitudes, it provided valuable lessons for future application of this attitude measure in linguistics, such as catch trials and stimulus onset asynchrony (see section 5.4.).

Overall, this thesis has contributed to theoretical and methodological advances in language maintenance research on implicit attitudes.

7.2.2. Necessity to distinguish between vernacular and standard variety

Secondly, this thesis is among only a few comparative attitudinal studies in endangered speech communities that distinguish between the original endangered vernacular and the standard variety introduced for its maintenance. Overall, section 3.4. demonstrated that attitudinal studies comparing endangered speech communities and their ways of introducing standard varieties are scarce. Furthermore, section 3.4. showed that numerous attitudinal studies in language maintenance assume the endangered language to be homogenous. However, this approach risks losing sight of the target of language maintenance efforts, that is to say, the endangered vernaculars.

Overall, this thesis has argued how important it is for language maintenance efforts to distinguish between endangered vernaculars, which need to be protected, and the standard variety, which is introduced to achieve protection. Most importantly, the results of study 1 and 3 corroborate the necessity for such a distinction, showing significant differences between explicit and implicit attitudes towards endangered vernaculars and their respective standard varieties. In addition, study 3 in this thesis showed that distinguishing between a standard variety and its endangered vernacular can reveal how additional standardised varieties might impede the use of standardisation as a tool for language maintenance. More specifically, the study demonstrated that Standard German was explicitly evaluated more favourably in Luxembourg compared to the “new” standard variety, i.e. Standard Luxembourgish, which was introduced to bolster its endangered Moselle Franconian vernaculars.

To sum up, the results of the thesis demonstrate that the homogeneity of an endangered language cannot be assumed and the interplay between a standard variety and its endangered vernaculars in relation to additional standardised contact varieties needs to be investigated.

7.2.3. New findings in the speech communities of Belgium and Luxembourg

Finally, this thesis contributes to a better understanding of the Moselle Franconian speech communities of Belgium and Luxembourg. At least to my knowledge, there is no previous quantitative study comparing attitudes between these related Moselle Franconian speech communities.

Regarding Belgium, there is very limited information on speakers' perception and evaluation of varieties in general and no study so far has explored implicit attitudes, which were the major focus of this thesis. A previous quantitative study found on the one hand egalitarian explicit attitudes towards Moselle Franconian and its respective standard, Standard German, and on the other hand a preference for Moselle Franconian over Standard German (Weber, 2009), see sections 5.2.1. and 6.2.1. Results of study 3 of this thesis corroborated these previous findings regarding speakers' preference for their vernacular over the standard variety. However, participants in study 1 of this thesis held predominantly negative implicit attitudes towards their Moselle Franconian vernacular. Consequently, the investigation of implicit attitudes paints a different picture of the vernaculars' status in this speech community. Implicit attitudes of speakers might better reflect the vitality of Moselle Franconian in Belgium compared explicit attitudinal studies, which show a mismatch of positive explicit attitudes and a limited usage of the vernacular, see chapter 4.

In Luxembourg, studies on speakers' perception and attitudes are also scarce, but one study explored implicit attitudes with social psychological theory and methodology in this speech community, see section 5.2.1 and 6.2.1. and for example, Lehnert et al. (2018b). However, this study did not distinguish between Standard Luxembourgish and vernacular Moselle Franconian, similarly to the approach of the overwhelming majority of attitudinal studies in Luxembourg (see sections 4.2.1 and 5.2.1.). While previous research found Luxembourgish mainly to be evaluated positively, the findings of this thesis show significantly more negative implicit and explicit attitudes towards Standard Luxembourgish compared to its Moselle Franconian vernaculars (see section

5.2.1 and 6.2.1.). These contrasting results are, on the one hand, due to investigation of implicit attitudes and on the other hand, reflect the distinction between Standard Luxembourgish and its Moselle Franconian vernaculars in this thesis.

Overall, the results of the present work present a different picture of Luxembourg and Belgium compared to previous research in these speech communities. These contrasting results are due to the methodological and theoretical advances of this thesis, which were discussed at the beginning of this section. This different picture that emerges with the application of the "new" criterion of automaticity from process-focused social psychological theory and methodology might be more informative for the evaluation of the vitality of Moselle Franconian. Based on social psychological research, I suggest that implicit automatic attitudes might be better predictors of language vitality (see section 2.3.).

7.2.4. Limitations of the positive effect of standardisation

The main contribution of this thesis is the exploration of the dynamics of standardisation as a language maintenance tool. As showed in section 3.4., language maintenance studies argue that the introduction of a standard variety will impact positively on an endangered language. This thesis showed that there are limitations for this positive effect (see end of previous section 7.1.). The nature of standardisation processes (resulting in varying linguistic distances), the degree of standardisation (resulting in varying prestige) and attitude type emerged in this thesis as factors that might influence the positive effect of a standard variety. The last two factors, i.e. degrees of standardisation and attitude type, emerged as tentative suggestions needing further investigation. The main theoretical and empirical contribution of the thesis is that it demonstrated that the linguistic distance between a standard variety and its endangered vernaculars influences the standard variety's positive effect on implicit attitudes towards these vernaculars.

Consequently, language planners need to consider linguistic distance when introducing a standard variety in an endangered speech community, otherwise the introduction of a standard variety might not have the intended effect of bolstering endangered vernaculars. Endangered speech communities usually have only limited resources to try to maintain their variety, since they constitute minority groups in a social-political context and majority support from outside the speech community tends

to be scarce (Fishman, 2001). Therefore, every language maintenance activity needs to count and make a positive impact on the vitality of the endangered language. However, efforts to revitalise endangered languages are frequently criticised as being ineffective (Fishman, 2001; Grenoble & Whaley, 2005). Language planners and activist often think of standardisation as the most obvious solution to maintaining and revitalising the endangered vernacular (Grenoble & Whaley, 2005). Until now, language activists and planners have known very little about the workings and consequences of standardising an endangered vernacular, despite the popularity of this component of the language maintenance effort. This thesis contributes to the improvement of standardisation as a tool of language maintenance in endangered speech communities, since it contributes to the further understanding of the process as well as the potential pitfalls associated with it. Language planners and activists are advised to consider potential factors which might limit the positive effect of standardising endangered vernaculars, such linguistic distance. Future debates about standardisation processes in endangered speech communities – as in post-1980s Galicia (see section 1.2) – will hopefully be able to draw on scientific insights such as those contained in this thesis.

To sum up, this thesis contributes to the research field of language maintenance by utilising theoretical and methodological insights from social psychology, by providing evidence for the necessity to distinguish between vernacular and standard variety of an endangered language, and by providing new results from the speech communities of Belgium and Luxembourg. Most importantly, it showed that the positive effect of standardisation, which is argued in language maintenance studies, does have limitations.

7.3. Caveats of this thesis and directions for future research

There are four main caveats to the present work: first, lack of findings on implicit attitudes towards additional standardised contact varieties; second, establishment of linguistic distance, third, lack of language attitude dimensions and finally, disregard of the context of language usage. All caveats call for future studies on the positive attitudinal effect of a standard variety. These future directions of research should include implicit attitudes towards additional standardised contact varieties, improve how linguistic distance is established and take into account language attitude dimensions

and the further context of language usage. Studies including the latter aspect could reach further and investigate the predictive value of implicit vs. explicit attitudes in specific cognitive and situational conditions.

7.3.1. Additional standardised contact varieties and degrees of standardisation

In section 7.1. I summarised potential factors emerging in this thesis that influence whether a standard variety impacts positively on attitudes towards endangered vernaculars. Degrees of standardisation were found to influence a standard variety's explicit prestige in study 3. Consequently, this work argued that the degrees of standardisation might mediate a close endogenous standard variety's positive impact on implicit attitudes towards its endangered vernaculars. This argument was based on automatic processes underlying implicit attitudes, such as the shared evaluation of a standard and its vernacular. However, no study in this thesis systematically explored this interplay between on the one hand, the degrees of standardisation and, on the other hand, the nature of standardisation processes, i.e. linguistic distance. Such a systematic investigation would need to include the variation of a variety's degrees of standardisation and its linguistic distance from its vernaculars. More specifically, additional standardised contact varieties in the speech communities and/or additional speech communities would need to be included in an investigation of this interplay of factors.

Study 1 of this thesis cannot contribute to the above argument since it did not include implicit attitudes towards additional standardised contact varieties. Study 2 aimed to explore these implicit attitudes, but the experimental paradigm failed. Findings from study 3 on explicit attitudes contributed only partially to this investigation since the argument is based on automatic implicit shared evaluation, which potentially might not show in explicit attitudes.

Consequently, future research needs to investigate the interaction between the degrees of standardisation of a variety and its linguistic distance to its endangered vernaculars when exploring the conditions of a standard variety's positive effect.

7.3.2. Linguistic distance

In addition, linguistic distance was not experimentally established in this thesis, despite its role as a key factor. The present work investigated the role of the nature of standardisation processes, resulting in different linguistic distance, for attitudes towards endangered vernaculars. This thesis established the nature of standardisation processes with theoretical concepts of exogenous and endogenous standardisation (see section 3.3.). Theoretical frameworks differentiate between exogenous and endogenous standardisation processes mainly by identifying origins of codices and model texts of a standard variety. Following these theoretical frameworks, an exogenous standard variety is based on codices and model texts from another speech community, which implies a greater linguistic distance between the exogenous standard and its vernaculars. Conversely, an endogenous standard is based on codices and model texts from inside the speech community, and its vernaculars and the endogenous standard variety are assumed to be close. Overall, these frameworks establish differences in linguistic distance only theoretically and not empirically (see section 3.3.). In section 3.6., I suggested applying these theoretical frameworks to describe linguistic distance in this thesis. In Chapter 4, I suggested that Standard German is an exogenous standard variety for its Moselle Franconian vernaculars in Belgium based on model texts and speakers. In contrast, Chapter 4 showed Standard Luxembourgish to be an endogenous standard variety for its Moselle Franconian vernaculars using the same criteria. Accordingly, Standard German was identified as more linguistically distant to its endangered vernaculars due to being an exogenous standard. Standard Luxembourgish was assumed to be linguistically closer to its vernaculars being an endogenous standard variety. However, this approach to linguistic distance disregarded the fact that linguistic distance between an endogenous standard variety and its vernaculars potentially varies depending on which vernacular was selected to be the base for the "new" endogenous standard (see section 3.3). Similarly, research on pluricentric language shows that different exogenous standard varieties can also vary in their distance to their vernaculars (see section 3.3.). I decided to operationalise linguistic distance in this thesis with the concepts of endogenous and exogenous standard variety, being aware that this approach was a simplified binary categorisation between linguistically distant and exogenous vs. linguistically close and endogenous.

Additionally, this thesis used traditional and perceptual dialectological studies to establish linguistic distance between Standard German and its Moselle Franconian vernaculars in Belgium, as well as between Standard Luxembourgish and Moselle Franconian in Luxembourg (see chapter 4 and sections 5.2.1. and 6.2.1.). However, traditional dialectological studies often establish isoglosses and the distance between varieties with sampling methods, which have been criticised for lacking transparency and systematicity (see section 3.1.). In addition, traditional dialectological studies frequently establish differences between language varieties, without exploring the linguistic distance between them (see for criticism and new approaches in dialectology Heeringa et al., 2006); Nerbonne and Heeringa, 2010); Nerbonne and Siedle, 2005); Osenova, Heeringa, and Nerbonne, 2009). Typically, phonetic and morphosyntactic differences between varieties are reported, without a methodology to establish systematically the degree of linguistic distance between these differences. Similarly, the traditional dialectological studies in this thesis show only that differences between Moselle Franconian and the respective standard variety exist, however they did not establish exactly how different they are. Furthermore, perceptual dialectological studies are scare in both speech communities and at least to my knowledge, no study so far has compared speakers' perception of the linguistic distance between the Moselle Franconian vernacular and its respective standard in Belgium (Standard German) and in Luxembourg (Standard Luxembourgish).

Overall, the problem of how to establish linguistic distance between varieties touches on major (socio-)linguistic debates about how to demarcate one language variety from another (Chambers, 1980; Haarmann, 2004; Kloss, 1978, 1993; Tamburelli, 2014; Tosco, 2008; Trudgill, 1992). Unfortunately, it was outside the scope of this thesis to engage with this issue further, but avenues for future research into a close standard variety's positive effect could include establishing linguistic distance empirically and experimentally, for example, with mutual intelligibility approaches or string distance algorithms, such as the Levenshtein's distance. See examples to establish linguistic distance Gooskens, Heuven, and Golubović (2017); Gooskens, Swarte, and Riionheimo (2017); Heeringa et al. (2006); Kürschner, Gooskens, and van Bezooijen (2008); Tamburelli (2014); Wieling et al. (2014). This way, future research could broaden the theoretical contribution of this thesis, which only established that linguistic distance as a result of exogenous vs. endogenous standardisation processes influences a standard variety's positive attitudinal impact. Future research into a standard variety's positive effect could refine an understanding of

the varying linguistic proximity between a standard and its vernaculars, without the binary distinction between exogenous and endogenous.

7.3.3. Language attitude dimensions

An additional caveat is that the focus of this thesis moved away from issues of language attitude dimensions. Sections 5.5. and 6.2.4. described how these dimensions of language attitudes, i.e. status and solidarity (see section 2.1.2.) might have contributed to explaining the unexpected preference of Luxembourgish participants for their Moselle Franconian vernacular over Standard Luxembourgish. These sections also elaborated on the reasons why attitude dimensions were not central to the investigation. In chapter 5, theoretical focus and methodological issues motivated the decision to not explore attitude dimensions in studies 1 and 2. This work's theoretical focus is underlying cognitive processes of attitudes and it is the first of its kind to introduce the criterion of automaticity for implicit attitudes in language maintenance research. Previously, studies on language attitudes outside the field of language maintenance research have applied such process-focused approaches including the criterion of automaticity (see section 2.1.1. and 2.1.2.). Their approaches to language attitudes are occasionally not only process-focused but additionally also content-focused. However, the focus of the thesis moved away from attitude content such as dimensions of language attitudes in studies 1 and 2. Including attitude content would have been a further theoretical leap which would have reached beyond the new process-focused approach to attitudes in language maintenance. Such an extension of the theoretical framework would have needed an investigation of automatic implicit attitudes as well as their attitude content which was outside of the scope of this work especially with scarce attitudinal studies of the speech communities reported in this thesis. Methodological issues were an additional reason as to why this thesis did not explore attitude dimensions. Studies 1 and 2 required that stimuli excluded written words. However, studies which investigate attitude content and especially dimensions of language attitudes, apply written words such as "intelligent" for speakers' traits on the status dimension (Kristiansen, 2015). To my knowledge, no study so far has used non-verbal visual stimuli – such as pictures – from which participants needed to infer speakers' traits. Therefore, the studies in chapter 5 could not use previously applied and validated non-verbal visual stimuli to measure

attitude dimensions. In addition, creating non-verbal visual stimuli indexing the solidarity and status dimension was outside of the scope of this work.

Finally, study 3 in chapter 6 also did not investigate attitude dimensions of solidarity and status in order to ensure the comparability of all studies in this thesis. Section 6.3 compared the studies in chapter 5 and 6 and asked whether attitude type, i.e. explicit vs. implicit, does play a role in how linguistic distance between standard variety and vernaculars impacts on attitudes towards the latter. This comparison was only possible because of the studies' structural theoretical and methodological fit. However, the comparability of the studies would have been impaired if study 3 had included an investigation of attitude dimensions.

Future research needs to include attitude dimensions and generally explore the theoretical and methodical links between content- and process-focused approaches to (language) attitudes. Even if social psychological studies occasionally identify a link between affective attitude content and implicit attitudes as well as cognitive attitude content and explicit attitudes, there is not sufficient evidence for such links (for an overview see Olson, 2008). Research on language attitudes has started to combine automatic implicit attitudes together with attitude content such as class and geographical origin of speaker (see Campbell-Kibler, 2012). Now, studies need to specifically investigate attitude dimensions of solidarity vs. status and automatic implicit attitudes together. Such investigations would potentially need to create non-verbal visual stimuli to represent attitude dimensions. This poses a methodological challenge, since attitude content in general and language attitude dimensions specifically encompass predominantly abstract notions such as "working class" or speakers' traits like "intelligent". These abstract notions might be difficult to prompt by non-verbal visual stimuli like pictures.

7.3.4. Language attitudes in context and their link to language usage

Finally, this thesis did not systematically investigate the standard variety's positive attitudinal effect in different contexts of language usage. Social psychological studies showed that attitudes depend on context, e.g. perception of black individuals in a lecture hall vs. on the street

(Wittenbrink et al., 2001). Sociolinguistic studies show that the use of a standard variety and its vernaculars is especially determined by the domain of language usage and register (Ammon, 1989; Biber & Finegan, 1994; Ferguson, 1994; Halliday, 2007 [1969]; Kloss, 1976, 1978). However, this thesis did not engage systematically with attitudes in context of language usage, neither in its theoretical background, nor in its methodology. Even though in section 2.3. I argued that especially implicit language attitudes will be better predictors of language usage in the home domain, the context of language attitudes was not explicitly stated in the hypotheses. In addition, the attitude measures of this thesis did not explicitly establish a context of language usage. However, the stimulus words (see appendix 9.) were mainly of neutral or low register, encompassing high frequency nouns denominating everyday objects, e.g. bucket. This was in line with the link between implicit attitudes and language usage in the home domain (see section 2.3.).

Methodological difficulties were the main reason for this thesis lacking a systematic approach to context. Studies showed that measuring attitudes in context involves major challenges for stimuli creation in experiments (Rosseel, 2017; Wittenbrink et al., 2001). More specifically, visual stimuli, such as pictures or videos, need to be very specific to the speech community under investigation, in order to establish a specific language domain or register. Studies found that generic visual stimuli can potentially fail to establish a specific domain of language usage, lacking the essential cultural references (Rosseel, 2017). Accordingly, the present work would have needed a norming study or previous research to establish unique visual stimuli to measure language attitudes in context in Belgium and Luxembourg. However, the norming study of this thesis could not extend its scope to visual stimuli of context, in addition to frequency and emotional valence of stimuli words (see section 5.2.5.). Furthermore, previous research on speakers' perception of language domains and register using visual stimuli was not available in either of the speech communities (see chapter 4 and section 5.2.1. and 6.2.1.). Thus, in study 1 of this thesis, implicit attitudes were measured without establishing a context systematically. For reasons of methodological consistency, measurements of explicit attitudes in study 3 did not include a context of language usage either.

Future research needs to explore what role language domains and register play in the positive attitudinal effect of standard varieties in endangered vernacular speech communities. However, this future research could reach beyond establishing language attitudes in the context of language usage. Ultimately, the link to context calls for experimental research exploring what type of language attitude best predicts what type of language behaviour. An abundance of social psychological

studies has shown that explicit attitudes are better predictors of deliberate and planned behaviour (see section 2.1.1.). On the contrary, implicit automatic attitudes were found to best predict habitual or spontaneous behaviour (see section 2.1.1.). Consequently, it was argued in section 2.3. of this thesis that social psychological research implies implicit language attitudes to better predict habitual and spontaneous language usage in the home domain. This was in line with language maintenance studies, arguing the importance of implicit attitudes for language usage in the home domain (see section 2.1.4.). However, at least to my knowledge, only one study has experimentally and statically linked attitudes with actual language behaviour in language maintenance research, see section 2.1.1. and Hawkey (2020). But no previous study has measured participants' explicit vs. implicit language attitudes using social psychological measures, and in addition measured the language behaviour of the same participants, e.g. choice of language variety under specific cognitive and situational conditions. This way, an experimental study could investigate whether implicit or explicit language attitudes are better predictors of participants' exhibited language behaviour. Overall, such research could contribute to a better understanding of the predictive value of attitudes in language endangerment.

7. References

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8. Appendix: list of auditory stimuli

English translation	BELG AP	BELG IAT	LUX AP	LUX IAT
basket	X		X	X
belt	X			
brush			X	
bucket			X	
coal			X	
duck	X		X	
ears	X		X	
eyes	X		X	X
glove	X			
hat	X	X		
head	X	X		
horse	X			
lamp	X			
milk	X	X		
navel				X
nine	X	X		
oven	X		X	
pages/leaves	X	X		
pepper	X			
people	X	X	X	X
pig	X			
sew			X	X
socks			X	X
twelve	X		X	
24 words	**18 words**	**6 words**	**12 words**	**6 words**

LUX: Luxembourg; BELG: Belgium

AP: Affective Priming; IAT: Implicit Association Test