



# A toolkit for the measurement of youth risk behavior

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# A TOOLKIT FOR THE MEASUREMENT OF YOUTH RISK BEHAVIOUR

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**November 2013**



**Cataloguing-in-Publication data provided by the Inter-American Development Bank**

**Felipe Herrera Library**

A Toolkit for the Measurement of Youth Risk Behavior / editors Sigrid Vivo y Drina Sarič

Authors: Sigrid Vivo, Drina Sarič, Rodrigo Muñoz, Sandra McCoy, Paula López-Peña and Sergio Bautista-Arredondo.

p. cm. — (IDB Monograph ; 597)

Includes bibliographical references.

1. Questionnaires. 2. Surveying. 3. Social surveys. 4. Risk-taking (Psychology)—Latin America. 5. Risk-taking (Psychology)—Caribbean Area. 6. Youth—Latin America. 7. Youth—Caribbean Area. I. Vivo, Sigrid. II. Sarič Yaksic, Drina Zdenka. III. Muñoz, Rodrigo. IV. McCoy, Sandra. V. López-Peña, Paula. VI. Bautista-Arredondo, Sergio. VII. Banco Interamericano de Desarrollo. División de Protección Social y Salud. VIII. Series.

IDB-MG-173

JEL Classification: D03, D83, I15, J13

Keywords: survey design, youth risk behavior, youth development, survey administration modes, social protection, behavior measurement.

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[www.iadb.org/proteccionsocial](http://www.iadb.org/proteccionsocial)

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## ACRONYMS

<b>ACASI</b>	Computer Assisted Audio Self Interview
<b>ASAQ</b>	Audio self-administered questionnaire
<b>FTFI</b>	Face-to-Face Interview
<b>CAFE</b>	Computer-Assisted Field Edits
<b>CAPI</b>	Computer-Assisted Personal Interview
<b>CASI</b>	Computer-assisted self-interview
<b>CATI</b>	Computer-Assisted Telephone Interview
<b>CDC</b>	Centers for Disease Control in USA
<b>EMS</b>	Electronic mail survey
<b>STD</b>	Sexually Transmitted Disease
<b>IAQ</b>	Interviewer-administered questionnaire
<b>RCI</b>	Response Consistency Index
<b>WHO</b>	World Health Organization
<b>PAPI</b>	Paper-and-pencil interview
<b>SAI</b>	Self-Administered (Pen-and-Paper) Interview
<b>SAQ</b>	Self-administered questionnaire
<b>T-ACASI</b>	Telephone audio computer-assisted self-interview
<b>TDE</b>	Touchtone data entry
<b>TI</b>	Telephone interview
<b>VCASI</b>	Video computer-assisted self-interview
<b>VRE</b>	Voice recognition entry

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## PREFACE AND ACKNOWLEDGEMENTS

More than 500 million people live in Latin America and the Caribbean (LAC). Of these, between 30 and 40 percent are under age 30. As they grow, most of these young people will be profoundly affected by social, economic, technological, and political changes. Because of the relative importance of the youth population, these changes have enormous implications for governments, economies, communities, and the environment.

The future of the region has never depended so much on a single generation. For that reason, 2010 and 2011 were designated the *International Year of Youth*. Recent presidential summits and high-level international meetings have included youth as a key topic of discussion and an essential link in the development of human capital.

Many international development agencies and civil society institutions have permanent programs dedicated to youth development. Each of these institutions is working on the basis of its own perspective and mission to facilitate the participation of young people in development. However, these efforts could be strengthened by strategic collaboration through exchanges of knowledge and information, as well as through shared practices, projects, and programs, thereby fostering a multisectoral approach toward more effective development.

In December 2008, the Youth program of the Inter-American Development Bank (IDB) and UNESCO's Youth Unit embarked on a project to identify successful youth programs and policies currently being implemented in Latin America and the Caribbean. With the support of more than ten international organizations and funding from the Korean Poverty Reduction Fund (administered by the IDB), an open call for proposals was announced to civil society, academic organizations, and government institutions. The initiative called for proposals from youth programs that had been successfully implemented in eight key areas: education, employment, violence prevention, health, volunteerism, leadership and participation, poverty reduction, and comprehensive development.

More than **300 programs** from **30 LAC countries** were presented at the conference, which was coordinated by *Fundación SES* of Argentina. A group of specialists in the areas of youth and development evaluated the different interventions and selected 31 projects that qualified as promising practices in youth programming (see <http://youthpractices.ucol.mx/documentos/foro%202009.pdf>).

During the plenary sessions and workshops of the conference, the participating organizations displayed diverse approaches, strategies, formats, and interventions for working effectively with and for youth. One of the most compelling **conclusions** of the entire process, and the most frequent request among participants, was the need to strengthen the technical capacity to monitor and evaluate organizations charged with implementing youth projects.

What has happened and why, what is working and what is not, what has changed and what has stayed the same—the capacity to answer these questions emerged as a central concern, as it is essential for making progress and better serving youth. Together with this need, participants described a lack of consolidated tools for the design of studies that generate relevant and reliable information.

In response to this demand, the IDB has recently taken a number of steps, including regional initiatives that promote dialogue on the subject of youth and development, support for the design and implementation of projects, and the production of technical documents that provide deeper analysis and improved methodological instruments. Furthermore, since 2011, the Bank has placed special emphasis on the prevention of risk behaviors. This challenge has been undertaken specifically by the Division of Social Protection and Health (SPH) through the development of new lines of action.

In this context, this document has been created to support and strengthen the monitoring and evaluation processes of programs aimed at youth. With an emphasis on **effective results measurement**, it is structured as a user-friendly operational guide for teams of specialists who work with this population group.

This publication is the third in a series of monographs prepared by the SPH division to support the measurement of youth at risk. The first two, “**Sexual and Reproductive Health for Youth: Review of Evidence for Prevention**” and “**How to Measure Risk Behavior in Youth: A Randomized Trial on the Cost-effectiveness of Survey Modes**,” are available on the Bank's publications web page [www.iadb.org/publications/](http://www.iadb.org/publications/).

We hope that our work contributes to the tremendous effort made by the thousands of LAC organizations that focus on youth as the most critical source of human capital for determining the future of the region. We believe that an investment in children, adolescents,

and youth is a sound investment in the medium and long term, and so we are committed to further improving youth programs and policies. Because reality dictates that resources are limited, we need to make an impact in the most efficient way possible, learning from the successes and failures of leading programs to ensure the healthy and productive development of new generations.

We would like to express our profound gratitude to the **Korean Poverty Reduction Fund** for making this project possible and for its continued support in the generation of knowledge in the area of youth, and to the **Finnish Technical Assistance Fund** for its support of initiatives that foster methodological rigor and the generation of knowledge. Both donors make the Paris Declaration a reality once again.

We would like to thank the IDB's Office of External Relations, especially to Isabel Álvarez-Rodríguez at the Youth Unit, which co-led this initiative; and to Patricia Jara from the Social Protection Division, for their support throughout this process. Our thanks go to Suzanne Duryea and Sebastián Martínez for their comments and revisions, which shaped and enriched the document.

We are grateful to Rosario Londoño and Juliana Arbeláez for their support in creating this initiative. We would also like to thank Nathaniel Barrett, Otilia Martin, Ignacio Camdessus, Cinthya Cuba and Kathryn Metz, for their dedication, effort, and creativity in the editing, graphic design, and production of this document.

Lastly, we would like to take this opportunity to acknowledge all the organizations that submitted youth practices, policies, and programs to be evaluated in the process of the regional call for proposals. They unselfishly devoted their time to complete the forms, submit additional documents, and answer questions from the evaluators. It is through your hard work and dedication that we have been able to learn from you, thank you very much.

This work was carried out under the auspices of Ferdinando Regalia, head of the IDB's Division of Health and Social Protection, and Elena Suarez, head of the Youth Unit in the IDB's Department of External Relations.

*Editors*

*Inter-American Development Bank*

*November 2013*

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## EXECUTIVE SUMMARY

The value of rigorous monitoring and evaluation of social programs is widely recognized. Indeed, there is a growing body of both academic and public-sector literature that aims to build the global capacity for conducting high-quality impact evaluations. These guidance documents typically focus on the most common issues for internal validity, such as defining the evaluable package and identifying a valid counterfactual group. The Toolkit presented here focuses on one of these critical areas: **measurement**.

Obtaining accurate and reliable measures is not only critical for the evaluation of youth-focused public policies and programs, it is important for tracking the prevalence of behaviors that are potentially hazardous to youth and society as a whole. This is not an easy task, however. Survey design and methods of obtaining information can have substantial effects on inferences about key relationships. Accordingly, it is important to consider not only what to measure but also **how to measure**. Indeed, the importance of good measurement cannot be overstated; data must be precisely defined and accurately measured with reliable tools and instruments. In addition, the use of standard definitions and methodologies facilitates comparability across studies, ensures completeness and accuracy of data, and builds confidence in the findings.

The need for an operational toolkit for researchers and service providers is warranted by the fact that such measurement issues are especially important for the evaluation of programs that are intended to improve the health and welfare of youth. The lack of a unique option or standard is a challenge for assessment in most impact evaluations (McKenzie and Rosenzweig 2012; Baird, McIntosh, and Ozler 2011<sup>1</sup>). Moreover, when it comes to measuring most outcomes, there is no such “gold standard,” making it more difficult to prescribe the best practice; the appropriate measure may vary depending on the research questions being studied.

This Toolkit is specifically intended to strengthen the knowledge and measurement of indicators related to youth risk behavior, which presents special challenges related to **data sensitivity, reliability, privacy, and confidentiality**. It should be used in parallel with other evaluation handbooks that address other important issues—such as study design, data collection, and analysis—not addressed specifically in the Toolkit.

1 For example, Baird, McIntosh, and Ozler (2011) are able to compare student and teacher reports to administrative data from school rosters, and conclude that administrative data is preferable when measuring attendance in Conditional Cash Transfer programs.

While the evaluation of programs for youth at risk can take many forms, the focus of the Toolkit is on **data collection through surveys**. It is important to note that there are other sources of data about youth risk behavior that do not rely on interview data. For example, routine surveillance data can be used to examine temporal trends in many health indicators, including sexually transmitted diseases. Adolescent pregnancy rates can be determined from health facility records, and criminal justice data can be used to aggregate the number of violent crimes or gang-associated crimes for different law enforcement jurisdictions. Indeed, such sources of data can be used to evaluate the impact of youth social programs, and may be particularly valuable in resource-constrained settings or when programs have already been widely implemented. However, as these approaches are beyond the scope of this Toolkit, we refer the reader to relevant references in each chapter.

Furthermore, this guide addresses one of the biggest challenges in measuring youth risk behaviors: measurement of sensitive behaviors, which requires the design of instruments that *safeguard the security, privacy, and confidentiality of the young person* while ensuring the *quality and validity* of the data. A key contribution of the Toolkit is a standard set of risk indicators that we hope will facilitate more meaningful discussions when comparing data across studies.

Similarly, young people exhibit characteristics that are not found in other study populations. For instance, they exhibit high mobility (frequent changes of residence, migration to other countries in search of work), they are especially susceptible to social influences (friends, family, gang, etc.), and they display significant cognitive differences within a narrow age range (adolescents and young adults display different levels of maturity). These unique characteristics affect the design, structure, and implementation of surveys and require special terms of privacy and confidentiality.

Additionally, youth development is characterized by biobehavioral changes throughout its cycle. These changes consist of several dimensions (cognitive, executive, and social-emotional), each of whose development contributes to long-term wellbeing. It is essential to measure these dimensions in various stages of development in order to define a critical roadmap for action and to provide feedback for public policy design. This is no easy task, as it requires measurement tools that can effectively capture each of these dimensions. For example, standardized tools for the

measurement of cognitive skills do not necessarily capture social skills, personality traits, goals, motivations, and preferences.

Deciding **what, why and how to measure**, as well as the potential limitations and restrictions of measuring youth risk behaviors, are important issues to consider in the design of social research. Every decision, however trivial, may affect the results; consequently, meticulous planning and design are required in order to address all possible variables and anticipate their effects.

Despite its importance, the challenge of accurate measurement in studies of highly sensitive matters—as is the case in the study of youth risk behaviors—has not yet been met. Evidence suggests that it is **possible to reduce various biases** and increase the accuracy of collected data with proper, detailed planning and careful preparation of the study and its implementation. For example, the appropriate choice of mode(s) of administration can help minimize biases. Nevertheless, evidence shows that the validity of the data obtained is still vulnerable to factors related to the context of the study.

Along these lines, additional measurement techniques have been developed to validate self-reported measurements—for instance, through biological tests. These techniques can eliminate some of the concerns that researchers have about the veracity of an adolescent’s or young adult’s responses.

## Reader’s Guide

This document presents a rigorous analysis of data collection instruments. It calls attention to the issues that affect the measurement of risk behaviors, and presents tools for survey design and discussion points concerning the methodology of design and administration, as well as recommendations and guidelines for the design and adaptation of surveys to the study context and population. Lastly, it presents recommendations for how to plan the effective implementation of these instruments.

One of the main contributions of this study is the systematization of support materials for the implementation of field research. The material supplied, which derives from extensive operational work and experience with youth in the LAC region and elsewhere, is structured in a manner that allows it to be easily adapted to the specific needs of research.

The content of this study is structured so as to focus on the causal network that is relevant to identifying and measuring **risk behavior**. It therefore seeks to provide conceptual tools for measuring not just end results but also their determinants.

Measuring risk behavior presents intrinsic methodological and conceptual challenges, which are addressed in the different sections of this document. Another challenge is the quantification of the determinants of risk behaviors, which is essential to explaining a youth behavior’s “levers of change”<sup>2</sup>. This allows for the establishment of a causal relationship between psychosocial and cultural determinants, on the one hand, and specific risk behaviors, on the other. Since risk factors are conditions that increase the likelihood of acquiring risk behaviors, their identification is important for defining the causal factors leading to a certain behavior.

The document is divided into **seven chapters** plus an annex with support tools for specialist in field work (see Figure 1). The different chapters are divided into three sections: **design of measurement instruments** (chapters 2-4), **operationalization and implementation** in the field (chapters 5 and 6), and **support materials** for measurements of youth behavior (Annex).

**Chapters 2 through 4** present the essential aspects of instrument design for measuring both risk behaviors and their determinants. **Chapter 5** provides recommendations on the implementation of measurement instruments. **Chapter 6** is configured as a case study, which enables us to turn the conceptual framework into the practical. Lastly, **Chapter 7** systematizes the main findings and conclusions of this work.

**Chapter 1** delves into the importance of effective measurement to obtain reliable results that can be used to generate public policies. It also addresses the reasons for the limitations and difficulties encountered when measuring youth risk behaviors, as well as the main barriers to and determinants of effective measurement, and it specifies the necessary conditions for obtaining quality information.

**Chapter 2** is a guide to instrument design. The selection of dimensions and indicators of interest for the measurement of risk behaviors stands out among critical design issues, which are organized in this section using a multidisciplinary approach. This chapter also discusses the selection of risk behavior indicators and offers some considerations for their measurement.

**Chapter 3** elaborates on the measurement of specific risk factors that, despite their wide recognition and their high priority in the field of public policy, still lack a solid standardized measurement methodology (non-cognitive skills, inter-temporal preferences). The chapter also presents a selection of indicators of commonly standardized risk factors that can support the analysis of risk behaviors.

<sup>2</sup> In the field of economics, refers to budget constraints (time and resources), time preferences, and unequal access to information.

**Chapter 4** focuses on the core elements that improve the reliability of data collected through surveys and reflects on the basic conditions of implementation, such as confidentiality, informed consent, and privacy when administering a survey, particularly as these relate to work with youth.

**Chapter 5** takes up an operational perspective to address the implementation and administration of measurement instruments in the field. Through an analysis of the modes of administration applicable to risk behavior surveys, a critical decision pathway is generated for selecting the most appropriate methodology. This chapter also explores key factors of good fieldwork, such as the hiring of a company, the selection and training of field staff, the design and implementation of a plan and timetable for sample coverage, and the design and implementation of a monitoring and data quality control plan.

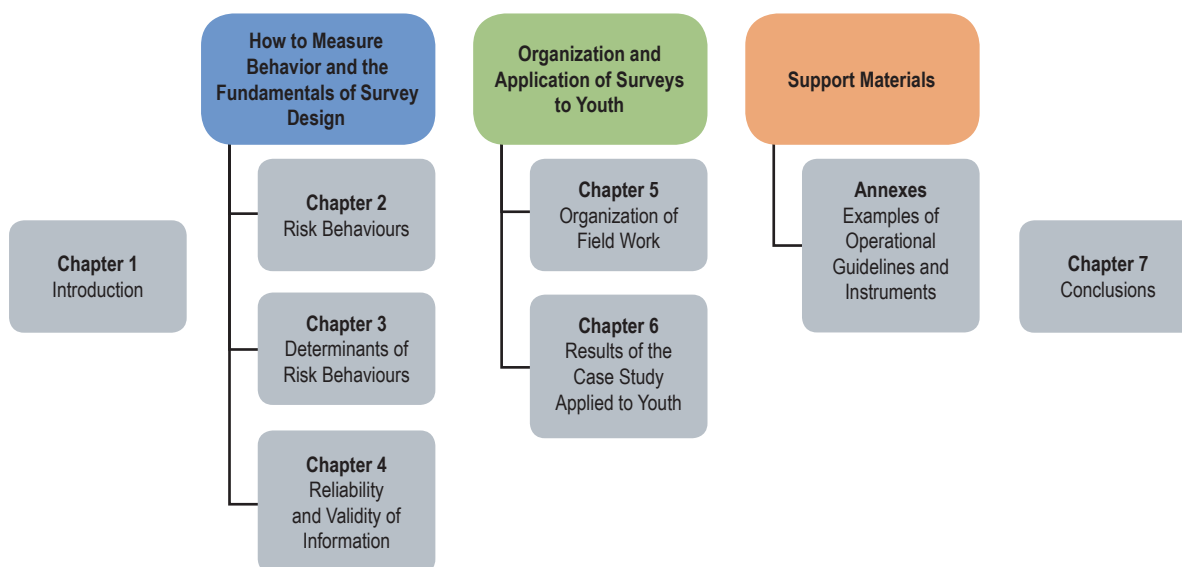
**Chapter 6** presents the lessons learned from a case study of a sample of 1,200 young people between the ages of 18 and 30,

enrolled in the Youth and Employment Program (PJE) of the Dominican Republic's Ministry of Labor. The case study had two specific objectives: compare the quality of the data obtained for each mode of administration and evaluate the influence of gender (interviewer-interviewee) on the response. One of the most significant contributions of this study is the construction of a decision tree that details the decision-making process of survey planning, including the selection of the best survey mode.

**Chapter 7** systematizes the main conclusions, lessons, and recommendations of this document.

**The Annex** refers specialists to key materials, models, and examples for operational support. Because these materials have been adapted from experience for the use of different users, their format has been standardized to facilitate their use in different contexts. The materials are included with the documents in both magnetic format and CD. The document is linked to the annex through specific symbols that help guide and refer the reader to materials of interest.

Figure 1. Reader's Guide



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# CHAPTER 1

## Aiming at Quality Information

Human development is at the core of economic development. Human capital accumulation at all stages—from the antenatal environment through early childhood and adolescence—helps facilitate the transition to a healthy and productive adulthood and break the intergenerational transmission of poverty (Lundberg and Wuerkli, 2012). As an obstacle to the development of human capital, risk behaviors among adolescents and youth have attracted the attention of public policy makers in recent decades. The global economic crisis and the exacerbation of poverty and inequality have taken a toll on this particularly vulnerable but also critical sector of the population. The region of Latin America and the Caribbean (LAC) is no exception in this regard. The problem of at-risk youth is gradually worsening, and the urgent need of countries in the region to prevent and address the effects of risk behaviors is growing. Frequent questions among decision makers include, Which interventions should we undertake? How and how much? What effects or returns can we expect? How valid is the information we have?

This chapter focuses on characterizing the problem of at-risk youth in the LAC region and outlining the importance, risks, and implications of effective measurement of the impact of programs and policies aimed at youth. After addressing the reasons for the limitations and difficulties of measuring youth risk behaviors, as well as the main barriers to and determinants of effective measurement, we examine how these factors determine the necessary conditions for obtaining quality information.



## 1. Context and its importance

### The vulnerability of young people in the region

Determining how to shield youth from the different risk situations to which they are exposed is no easy task. The global economic crisis, socio-demographic transitions and consequent uncertainty about the future are having a greater effect on the most vulnerable and critical populations. As a result, a collective concern has arisen within the international community about how to address the various challenges of youth and risk behavior without reducing the rates and conditions of growth, productivity, and employment. At the same time, there is a pressing need to protect the most vulnerable through public policies with increasingly limited budgets.

The LAC region is no exception. Approximately 157 million people in this region fall between the ages of 10 and 24, i.e., 27.3% of the total population. This percentage is lower than that recorded over 15 years ago (30.75% in 1995), and this decline is expected to continue in the coming decades (for 2020, estimates place the figure at around 23.1%). Still, this large group of young people presents an opportunity for accelerated development: the demographic window that occurs when a higher proportion of the population is at the working age (accompanied by a lower number of dependents) can have a significant impact on the region's socio-economic situation. Nonetheless, the incidence of poverty and extreme poverty among young people ages 15 to 29 in Latin America is 30.3% and 10.1%, respectively. Young people ages 15 to 19 and those under 15 are the two groups most vulnerable to poverty and extreme poverty in the region (UNFPA-ECLAC, 2011).

Achieving economic dividends depends on the success of the transition from youth to adulthood and on the economic context (national and international). In this respect, LAC youth are finding this transition increasingly difficult, with 32% of young people ages 12 to 24, or approximately 50 million youth, at risk (i.e., suffering the consequences of at least one type of risk behavior).

In recent decades, the prevalence of risk behaviors among LAC youth has risen dramatically, particularly in terms of violence, drug abuse and unprotected sex.

A wide variety of factors contributes to the prevalence of different risk behaviors among youth. Among the macro factors that can seriously hamper the healthy, productive development of a young person are poverty, youth unemployment, the global financial crisis, rural-urban migration, low-quality education systems, and ineffective judicial and health systems.

However, there are micro factors, such as individual characteristics (personality, behavior, beliefs, cognitive development, socioeconomic status), family, social or peer environment (personal relationships, academic performance, school environment), as well as other macro factors having to do with the surroundings or environment (availability of drugs, weapons, violence in the community, poverty, overcrowding, migration, inequality, racial composition, violence in the media) that are more controversial and difficult to measure<sup>3</sup>. Accordingly, though it presents a diverse set of methodological challenges, the measurement of risk behaviors is one of the pending tasks necessary for generating quality information about the healthy development of young people and the obstacles they face.

The high incidence of **violence** in the environment surrounding young people in their communities, schools, and homes has far-reaching implications. According to Soares and Naritomi (2010), the excessive rates of violence in Latin America reduce the GDP by an average of 13%, including direct costs for health care and mortality and for the business environment. Many countries present extreme cases in this regard, as indicated by high homicide rates among young people. For example, Brazil and Bulgaria have similar income levels, but the homicide rate in Brazil for males between the ages of 15 and 24 is 20 times greater than that of Bulgaria. In the LAC region, Jamaica and El Salvador have the highest homicide rates among youth (IDB, Social Strategy for Equity and Productivity 2011).

**Alcohol consumption**, in addition to being associated with violence and a major cause of death among young people (through car accidents), is linked to poor academic performance, a greater chance of contracting sexually transmitted diseases, depression, anxiety, personality disorders, and gang involvement. Its use, as well as the use of drugs (and the combined consumption of both substances), affects self-regulation and contributes directly and indirectly to HIV transmission and infant mortality and morbidity (Naimi et al. 2003). In spite of this, few LAC countries have information on national patterns of alcohol use. According to available information, the differences in consumption between countries in the region are significant, with the regional average showing that 60% of the population have consumed alcohol in the past year. As extremes, we have El Salvador, where, in general, consumption is low (30% of the population) and Venezuela, where the prevalence of alcohol use stands at 83% (Flacso 2012).

<sup>3</sup> Additionally, and closely related to the quality of information available on the prevalence of risk behaviors in youth in the region, it is important to emphasize the lack of systematic and standardized collection of indicators, which makes it difficult to understand the situation in a country and/or make a comparison between countries. Progress has been made by several governments which, driven by internal problems, have conducted specific surveys on risk behaviors and youth, but the practice is not widespread in the region.

A 2000 study of adolescent health in the Caribbean (Breinbauer and Maddaleno 2005) found that 40% of females and 54% of males between the ages of 12 and 18 consumed alcohol. This study also identified that one in 10 adolescents between the ages of 16 and 18 reported consuming four or more drinks in a row on the same day.

With regard to **illicit substance abuse**, the prevalence of cocaine use in South America, Central America, and the Caribbean remains high (0.7%, 0.5%, and 0.7%, respectively), with estimates of between 2.5 to 3 million cocaine users between the ages of 15 and 64. In addition, the annual prevalence rate of amphetamine-type stimulants in Central America is higher than the world average, while marijuana figures prominently as the most consumed drug in the region (although its use is no higher than the world average). The use of synthetic drugs such as ecstasy is a growing trend among young people. A specific study of patterns of illicit drug use by young people in countries such as Argentina, Chile, Colombia and Uruguay shows a high prevalence of stimulant use, including cocaine, amphetamines, and ecstasy (UNODC 2012).

In South America, the rate of drug-related deaths is estimated to be between 12.2 and 31.1 deaths per million people aged 15 to 64 (to date, still below the world average). In some countries, especially in Central America and the Caribbean, increased homicide rates have been linked in part to organized crime, youth gangs, and conflicts related to cocaine trafficking (UNODC 2012).

Another problem to highlight among the youth population of the region is the high **adolescent fertility rate**<sup>4</sup>, which reached 73 per one thousand births between 2005 and 2010<sup>5</sup>. This rate stands well above developed regions (25), and is very similar to that of South Asia (77), but well short of the rate in sub-Saharan Africa (115). The **prevalence of adolescent pregnancy and childbearing** presents far-reaching social and health care challenges for the region and has lifelong consequences for the teens themselves, their children, and their communities. One consequence is the high maternal mortality rate among births to teenage mothers as compared to women between the ages of 20 and 30. Early motherhood is associated with lower rates of academic success in mothers, dropping out of school and quitting work, and social exclusion, as well as adverse implications for the children, including high infant mortality, low birth weight, increased exposure to disease, and trauma. In the long term, there may be complications, such as increased exposure to infectious diseases or poor nutrition. Similarly, the children of teen parents, like their mothers and fathers, are more likely to drop out of

4 The adolescent fertility or birth rate is the number of births per 1000 women ages 15 to 19. It should also be noted that in some regions the birth rate is defined in terms of a different age range (e.g. under age 19).

5 United Nations, 2011.

school, be unemployed, and become trapped in the cycle of poverty (UNFPA and CEPAL 2011).

Furthermore, according to WHO, in 1999 approximately 260 million cases of **STDs** (sexually transmitted diseases) were diagnosed in the region, and have multiplied at a rate of about 38 million new infections per year. Of this amount, almost half are concentrated in young people between 15 and 24 years old. The epidemic spread of HIV/AIDS among young people is alarming. It is estimated that there are more than 2.1 million people living with **HIV/AIDS** in Latin America and the Caribbean. Among them, 250,000 are young people between 15 and 24 years old, of which 52% are men and 48% women.

Lastly, it should be noted that **suicide** is one of the leading causes of death globally among young people of both sexes, and the LAC region is no exception. The incidence of suicide mortality in adolescents and young adults is reflected by mental disorders generated by stress in response to the social environment.

These disorders can have a substantial impact on the health of individuals, as reflected by the high incidence of depression and abuse of alcohol and other substances, as well as other high-risk behaviors (Weaver et al. 1999). According to PAHO and WHO (2010), 287,920 deaths attributable to these causes have occurred in the region among young people ages 15 to 29.

In several epidemiological studies conducted in the region (Alarcón 2003 cites De Almeida Filho et al. 1995), 18 to 25% of **mental disorders** are diagnosed in communities, and up to 27 to 48% in clinical settings. Between 12 and 29% of the diseases or conditions diagnosed are detected in children and adolescents. The most common risks are depression and anxiety, psychosomatic disorders, and alcohol and drug abuse (the latter with an estimated prevalence above 20%), in addition to common psychiatric disorders. A survey of adolescents aged 12 to 17 in Mexico City indicated prevalence rates of serious, moderate, and mild mental disorders at 9%, 20%, and 10%, respectively (Benjet et al. 2009).

Faced with these challenges, governments and bilateral international institutions have made it a priority to identify and address factors that interfere with the optimal development of youth. Relevant efforts include initiatives promoted by the World Bank's World Development Report 2007, the Inter-American Development Bank's Social Strategy (GN-2241-1) and the operational strategy known as the Youth Action Plan, PAHO's adolescent reproductive health strategy, and the Inter-American Working Group on Youth Development, which has contributed to the inclusion of youth development as a government priority in most countries.

However, despite these efforts (which are often fragmented), there is little specific knowledge in the region about what works and what does not. Additionally, significant information gaps remain, and there is no systematic, coordinated, ongoing approach based on the results of different interventions to address or prevent these problems.

Closely related to the problems just stated, it is striking how little attention is paid to measurement methodology and to the question of whether these measurements adequately capture the reality of the young people at whom interventions are aimed. The possible collateral effects of treating the data obtained from a survey as unquestionable, i.e. without weighing potential biases, is a source of concern. Interpretation of this matter could significantly affect the design and implementation of public policies. Given its relevance, the measurement methodology of a study should be meticulously studied (starting with the design of the questionnaire and its use in the field and covering all stages of implementation), since a failure in its implementation is costly and, in many cases, impossible to resolve after the survey has already been conducted.

To minimize errors in the measurement of risk behaviors, many elements must be considered. This document seeks to systematize these elements in order to support the processes involved in generating quality information, accurately understanding the prevalence of risk behaviors, and facilitating high-quality measurements of the impact of programs and interventions aimed at young people.

## 2. Why Age Matters

The backbone of a survey directed at young people is the age of the interviewee. Inherent differences in the design and implementation of a survey are linked to the age group being studied.

The adaptation of survey **structure and content** (vocabulary, skip pattern, response mode and duration) to the reference age range is of utmost importance, as is the choice of the **mode(s) of administration and data collection strategy**.

Age is also an important determinant of **measurement bias**. Soubelet and Salthouse (2011) maintain that age difference is related to differences in the perception of what is socially desirable (or socially acceptable) and, as a result, these biases fluctuate depending on the stage of development that the young person is in, affecting the validity of his or her response (See more details in chapter 1, section 3). Similarly, Steinberg and Monahan (2007) suggest that the influence of what is deemed socially desirable reaches its peak between the ages of 10 and 14, after which greater social resistance is expressed during the period between the ages of 14 and 18.

**So whom do we consider to be young people?** This document refers to the experiences of working with young people between the ages of 10 and 24, considering **adolescents** to be between the ages of 10 and 14 and **young adults** between the ages of 15 and 24 (as defined by the United Nations<sup>6</sup>). Based on this definition and with the aim of facilitating the implementation and adaptability of measurement instruments (see annex), we designate the age ranges of 10 to 17 years and 18 to 24 years as reference groups<sup>7</sup>.

This criterion will allow users of this guide to separate subjects into two groups, thus meeting age of majority requirements. This variable connects the document in a practical way to other formal procedures, for example, the use of parental consent and minor assent forms.

Throughout this document, and particularly in chapters 4 and 5, we describe the differential conditions for the administration of surveys to adolescents and youth, as compared to research with adults. For example, chapter 4 explains the importance of considering Institutional Review Boards or Research Ethics Boards, which are responsible for approving research methodologies and/or protocols. These are normally tailored to the specific country context, with the aim of respecting ethical practices and the human rights of young people as research subjects. Additionally, fundamental aspects of this type of research are described, such as requirements for parental consent (if the subjects are minors) or other types of consent (in special cases such as abandoned teens or those housed in reformatories), and the methodological approaches most frequently used to ensure confidentiality and privacy during the design and administration of surveys for this age group. Lastly, other important considerations for the administration of surveys to children, adolescents, and youth are addressed, especially in chapter 5, including appropriate scheduling, the need to provide breaks, interviewers' attitudes about youth, and recognition of and procedures for dealing with fatigue, illness, cognitive disabilities, and other challenges.

## 3. Information Quality and Its Bias

The success and credibility of research on youth at risk is based largely on the **quality of the data** used. Below, we discuss **three sources of**

<sup>6</sup> IADB considers young people between 15 and 30 years old, because the transition between key ages: 15-18 years old (physical and emotional development, change of primary to secondary school and / or college), 18 to 24 years old (formal education or first job) and 24-30 years old (professional and family stability). However, the relevance of the effect of risk behaviors in younger populations (10-14 years old) and their specificity for tools and safeguards used in its measurement, this guide also includes this youngest age tranche.

<sup>7</sup> Note that this grouping facilitates the structure and classification of this document; even though age is a differentiating parameter within each age range considered (there are inherent differences, for example, between a 10-year-old boy and a 17-year-old adolescent).

**bias** typically found in surveys of youth risk behaviors, which threaten data quality. This is not intended to be an exhaustive list of all possible threats to quality that arise when conducting surveys; instead, we hope to draw attention to three key biases that are particular to this type of survey and whose effects must not be underestimated.

### The “socially desirable” answers

Socially desirable response bias occur when respondents **over-report** socially acceptable or permitted behaviors (such as voting in elections) and **under-report** behaviors considered unacceptable (such as illicit drug use or how often the interviewee engages in extramarital sex). This happens because respondents have the perception that others are privy to their responses (for example, their parents, their partner, or even the interviewer), and so they decide to provide false or inaccurate answers. It is worth noting that this type of bias may be motivated by different reasons, as a result of social norms and taboos (number of sexual partners, sexual orientation) or fear of punishment in the context of activities punishable by law (e.g., the use of illicit substances).

Traditionally, research on social measurement has given more validity to those results with higher prevalence figures. However, recent random experiments (e.g., Brener et al. 2006) suggest that by placing more confidence in higher prevalence figures we may be making a measurement error attributable to different causes. Considerations about what is “socially sensitive” or “acceptable” may vary by population and context (Gregson et al. 2002; Pienaar 2009), as well as gender (Mensch et al. 2003).

Data from a qualitative formative research study of young people ages 15 to 18 in the Dominican Republic reinforces this hypothesis (Bautista-Arredondo et al. 2011). Results of this study suggest that sexuality is understood by young people as a right and must be tolerated by adults and that alcohol use has no negative impact on health. These views may affect the propensity of the young person to answer in one way or another about his or her relationship with risk behaviors (e.g., increasing the reporting of sexual activity in women and alcohol consumption).

Methodological factors that reduce bias, such as the design and selection of an appropriate mode of survey administration and meticulous planning (e.g., selection and interaction of interviewers, privacy and confidentiality conditions), must be analyzed together with the social context in which they are applied (see further discussion in chapter 5).

### The influence of the administration modes

The mode of survey administration, described in detail in chapter 5, is largely responsible for the generation of measurement bias.

Most studies on the differences between surveys compare the main modes of self-administered interviews: the audio computer-assisted self-interview (ACASI), face-to-face interview (FTF), paper-and-pencil interview (PAPI), computer-assisted telephone interview (CATI), and informal confidential voting interview (low-cost method, an alternative to ACASI used in Africa). These studies show that different modes of administration produce different results for the same indicator.

These differences are the result of alterations in the responses generated by the mode of administration. In this manner, Brener and colleagues (2006) present the effect of various modes of administration on the measurement of 55 types of risk behaviors. Of these behaviors, seven showed significant differences according to the mode of administration used, after controlling for the context and characteristics of the study population. In addition, for these seven dimensions (smoking, sexual intercourse, current and lifetime alcohol consumption, school attendance, drive after drinking alcohol), young people interviewed with ACASI tended to report greater risk behaviors than those who received paper-and-pencil questionnaires. These results are consistent with studies showing that the more sensitive the risk behavior under study, the greater the role of the mode of administration (Turner et al. 1998; Wright, Aquilino, and Supple 1998). These results are also supported by Vereecken and Maes (2006), Beebe et al (1998), and Hallfors et al. (2000).

The ACASI mode has been used extensively to collect sensitive information. However, the data on the results of its application is contradictory. Some ACASI-based studies show high prevalence of risk behaviors (Langhaug et al. 2010; Ghanem et al. 2008; Rogers et al. 2005; Ghanem et al. 2005; Rathod et al. 2011<sup>8</sup>), while others present inconsistencies or are inconclusive about its effectiveness (Mensch et al. 2003; Jaya et al. 2008; Johnson et al. 2001; Jennings et al. 2002). Some even show comparatively lower prevalence (Testa et al. 2005; Hallfors et al. 2000; Mensch 2008).

Similarly, the choice of mode of administration may affect the **level of comprehension** or difficulty of the survey and therefore the quality of the collected information. Support from the field interviewer or computer allows for an increase in response rates and reduction of erroneous skips, inconsistencies, out-of-range responses, and blanks. Without the support of the interviewer, the quality of the responses is highly dependent on the respondent's level of comprehension, which, in turn, depends on his or her age and education level.

8 For some risks, therapeutic benefits result from reporting an event (e.g., domestic violence), and greater responses can be observed with FTF than with ACASI, since reporting the matter in front of an interviewer has value for the respondent (Rathod et al. 2011).

Lastly, the privacy and confidentiality conditions provided during the interview have considerable bearing on the validity of the results obtained, reducing the number of responses influenced by social desirability bias (Sedlak 2010; Lothen-Kline et al. 2003). To this end, the interview characteristics must be specifically designed to offer privacy and ensure interviewees that no relative or acquaintance—not even the interviewer—will be able to link their responses to their identity. Through the proper choice of mode of administration, the privacy of the interview can be protected. For example, self-administered questionnaires (filled out by the respondents themselves without the involvement of the interviewer) offer more privacy than when interviewers are present (Tourangeau and Smith 1998; Langhaug et al. 2010; Brener, Billy, and Grady 2003; Gribble et al. 2000). However, the great weakness of self-administered questionnaires is that, by forgoing the interviewers' assistance, the quality of the responses is highly dependent on the questions' degree of difficulty and on the cognitive level and motivation of the interviewee. Furthermore, empirical evidence suggests that risk behavior surveys conducted in schools produce higher response rates than those completed at home (Eaton et al. 2010), allowing interviewees to participate anonymously, without the risk of their parents seeing the responses.

### The power of the interviewer

The field interviewer's role in implementing a survey is not trivial. The interviewer is the person who ensures the proper conditions for an interview, implements data quality and validity protocols, is in direct contact with the interviewee, and collects the data of interest for the research study. Therefore, the interviewer's attributes<sup>9</sup> (ethnicity, age, and gender, among others) are very important because they can influence the direction (the sign) and intensity of the prevalence of risk behavior, by possibly inducing a response bias toward whatever is considered socially acceptable.

This is especially due to social stigma, present in all communities, which may be linked to certain behaviors—such as sex between men or anal sex practices—that are particularly sensitive in some contexts (Van der Elst et al. 2009), or where there exists a greater or lesser willingness on the part of the respondent to disclose sensitive information to the interviewer (see the work of López-Peña et al. 2011 and Ford et al. 1997). For example, the young person's perceptions of the interviewer's religion may impact the respondent's answer (Blaydes et al. 2011); similarly, race, age (Ford et al. 1997) and gender (López-Peña et al. 2011) can have an influence.

<sup>9</sup> Including observable and unobservable characteristics; in this section, we will consider only those observable characteristics that may induce changes in the interviewee's responses.

Several studies show that respondents provide more progressive and egalitarian responses about gender-sensitive issues when the interviewer is a woman (Lueptow, Moser, and Pendleton 1990; Kane and Macaulay 1993; Flores-Macías and Lawson 2006; Benstead 2010).

Both male and female respondents are more inclined to provide information and details on sensitive topics such as sexual activity if they find themselves with a female interviewer (Abramson and Handsschumacher 1978; Hansen and Schuldt 1982; Catania et al. 1996).

In this regard, some studies in the area of sexual and reproductive health show that men report two to four times more sexual partners than women (Johnson et al. 1992; Brown and Sinclair 1999; Smith 1992).

Lastly, remember that information quality depends on how intrinsic biases are minimized in the interview process, so that the best way to validate the information gathered is to triangulate it through biomarker tests (e.g., urine and hair analyses, etc.). These can eliminate some of the researchers' concerns about the veracity of an adolescent's or young adult's responses. Biological tests are accurate and objective (see more details in chapter 3). Another way to verify that the information is reliable is to perform a psychometric analysis on the instruments, allowing for the measurement of a variable or predefined psychological behavior<sup>10</sup>.

<sup>10</sup> For the reader's reference this guide includes key information for a cognitive module design (see Appendix).

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# CHAPTER 2

## Instrument Design

This chapter provides a methodological and conceptual framework for the measurement of risk behaviors. It includes proposed study dimensions and indicators, an interaction pathway between youth behaviors, and operational considerations for the design of outcome indicators. It introduces the conceptualization of risk dimensions through a multidisciplinary perspective, facilitating the pragmatic selection of outcome indicators and identifying relevant factors for the measurement of outcomes in youth. Lastly, it establishes the basis for the optimum measurement of risk behaviors, with a special focus on the synergistic effect of certain behaviors.

## 1. Laying the Foundation for the Study of Risk Behaviors

In recent decades the studies of youth risk behaviors and their measurement has attracted increased academic interest, especially from an epidemiological standpoint and with a special attention to their consequences for health (Brener et al., 2003). As a result, a large body of literature has emerged that is focused on estimating the prevalence of risk behaviors in different population groups and identifying the characteristics of those groups that are most frequently involved in these behaviors.

Driven by the need to create roadmaps for public policy, there is now a urgent concern to identify and understand risk behaviors, effectively measure their results, and establish guidelines for studies that can inform the enhancement of youth services.

### Risk behaviors: multifactorial and multidimensional

Risk behaviors are those that can have adverse effects on the overall development and well-being of youth, or that might prevent them from future development and success. This includes behaviors that cause immediate physical injury (e.g., fighting), as well as behaviors with cumulative negative effects (e.g., drug use). Risk behaviors also can affect youth by disrupting their normal development or preventing them from participating in 'typical' experiences for their age group. For example, teen pregnancy can preclude youth from experiencing typical adolescent events such as high school graduation or from developing close friendships with peers. Because high-risk behaviors can significantly impact the lives of youth and those around them, it is essential that researchers and policy makers become aware of the prevalence of these behaviors, the factors that increase their likelihood, and effective measures for their abatement or prevention.

The correct measurement of these behaviors is crucial for generating the kind of high-quality information through which it is possible to understand the nature of the problems involved and design impactful interventions that can inhibit risk determinants. However, in addition to the challenges inherent in the measurement of youth behavior, there is the added complexity of interaction effects between risk factors and behaviors that require different approaches.

With the aim of facilitating the optimal selection of measurement tools and clarifying the multiplicity of parametric relationships, this toolkit organizes dimensions and indicators of risk by means of a **multidisciplinary approach**. This approach will identify specific obstacles and challenges to measurement as well as risk factors that may help explain the causal origins of these behaviors.

## The study of risk behaviors

Why does this chapter focus on the specific measurement of risk behavior? What special challenge does the measurement of youth risk behaviors present as compared with the measurement of other variables?

In most areas of research, what you can study depends on what you can measure. The same is true for behavior. Who would start a diet or exercise plan without any way to measure its success (or failure)? Many behaviors are easy to measure in terms of the frequency of occurrence. For example, if I want to start calling my parents more often, I might decide to call every Wednesday and Sunday, and this is easy to monitor: either you make the call or you don't. However, if our goal is to change behavior—more specifically, risk behaviors—we really have to be specific in defining the target behavior and its possible methods of measurement.

In the case of **youth risk behaviors**, just to measure the frequency of occurrence is a huge challenge, especially if such behaviors are to be measured during a stage as volatile as adolescence/youth. For example, the measured frequency of tobacco use or sexual activity is determined not only by the number of times the event occurred, as answers to questions about such risk behaviors are sensitive to alteration and over- or under-reporting. It is in the measurement of **youth risk behaviors** where such aspects as age of respondent, social context, privacy, survey content, language, and structure, interviewer's gender, and mode of administration (e.g., in person or by telephone) all come into play.

### Which behaviors do we measure?

The main risk behaviors to monitor in adolescents and young adults are:

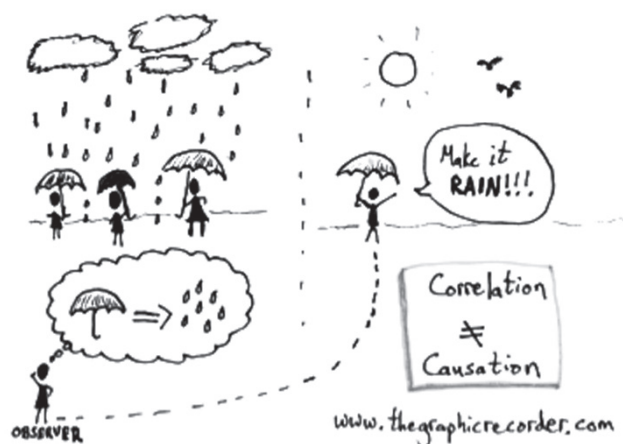
- Behaviors that contribute to unintentional injuries and violence;
- Sexual behaviors that lead to unintended pregnancies and sexually transmitted diseases, including HIV infection;
- Substance abuse (alcohol, tobacco and illicit drugs);
- Unhealthy eating behaviors;
- Sedentary lifestyle and inadequate physical activity.

This toolkit will focus on measuring risk behaviors 1 through 3. Behaviors related to eating habits and physical activities are not included. Their exclusion stems from the fact that they correspond

to different problems: their damaging consequences for health are of a different nature (non-chronic diseases) and present distinct challenges in terms of measurement.

### Understanding the causal network of risk behaviors

Figure 2. Correlation vs. Causation



A person can see that when it rains, people use umbrellas (correlation) but that does not mean that if I open an umbrella it starts to rain (causality).

Source: Authors.

If someone were to ask you where the greatest amount of violence takes place in your city or where it is estimated that the greatest number of young people is exposed to risk behaviors, you would likely respond with the name of the poorest neighborhood in your city. Surely this is true, which means that poverty causes violence, right? And therefore, poor people are violent. But is poverty the cause of the violence to which youth are exposed, stifling their potential, or is it the other way around? Perhaps wherever there is poverty, the exposure to risk behaviors is more prevalent, thus increasing the possibility of being involved in violent activities or being assaulted. Similar reasoning can be extrapolated to other variables, such as the influence of expectations about the future or academic success on youth risk behaviors.

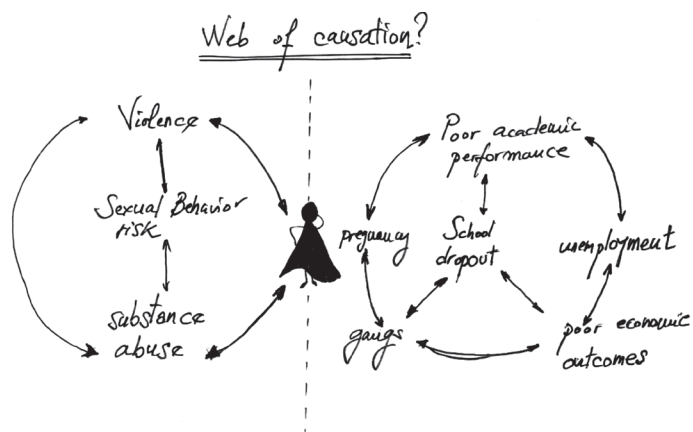
Nonetheless, risk behaviors persist because of multiple factors and in most cases they are interrelated (or correlated). For example, young substance abusers usually demonstrate poor academic performance and are involved in high-risk sexual behaviors.

The risk factors mentioned above are interrelated or share common causes among themselves and the risk behaviors they are supposed to explain. Thus in many cases it is not easy or even feasible to establish a direct causal link. However, if we are

able to supplement this information with measurements of risk determinants/factors, we can establish a mathematical function for the behavior in question and create reference points for different causal factors, bringing us closer to the origin of these behaviors and an explanation of their variability.

In this chapter, we delve into different research disciplines, seeking the causes of risk behaviors and translating these factors into dimensions and outcome indicators. Chapter 3 of this document will explore the measurement of risk factors (also known as risk determinants). The identification and subsequent measurement of these factors will allow for the creation of pathways of intervention, facilitating the identification and use of “levers of change or behavior modifiers” during youth development<sup>11</sup>, and thus moving beyond a mere analysis of the correlations among risk factors.

Figure 3. A Causal Network of Risk Behaviors and Factors



Interrelated risk behaviors (left) and risk determinants (right) constitute the network of causality. The network is multifactorial and reveals interrelations between different variables (behaviors and factors), making it difficult to identify the “levers” of change.

Source: Authors.

### From a multidisciplinary perspective

As a prelude to the study of the dimensions of measurement for risk behaviors, it is important to understand the origin and approach of the various disciplines that have sought to determine the **causes** of youth risk behaviors and the best means of mitigating their **effects**. The core ideas of these different risk behavior research areas and disciplines are reflected in the dimensions and measurement indicators proposed by this toolkit.

<sup>11</sup> According to traditional economics, levers of change may be understood in reference to budget constraints (time and resources), time preferences, and unequal access to information (Duryea and Vivo 2011).

One of the most important findings of recent research is that the factors that predict an increased likelihood of engaging in risky behavior are multiple and complex, and arise from different areas: *genetic, individual, family, and social*. Accordingly, understanding risk behaviors along with their determinants and effects requires the interaction of **different research disciplines** such as *neuroscience, economics and psychology*, as well as further study of the influence of social networks on individual or community behavior.

In the field of neuroscience, recent findings show that the brain reaches maturity during the second decade of life rather than at the age of 10 to 12, as was maintained by the scientific community until recently. The older view has been refuted by new research techniques that reveal brain plasticity until about the age of 25.

This discovery has led to a major public policy challenge, as it presents a new window of opportunity for ensuring the healthy development of youth. Up until now young people were seen as merely budding adults and public policies were concerned only with socio-economic development, but today scientific progress demonstrates that the process of biological development is incomplete, obliging public policies to mitigate any risk factors that may impact its progress.

Consequently, there is now a great deal of interest in the aspects of personality that reflect a young person's healthy biological development. Among these we can highlight **emotional skills, openness to new experiences, personal and social skills** (including self-regulation, decision-making, self-esteem, the ability to set long-term goals), **persistence**, and **non-aggressive, prosocial behavior**.

The field of **psychology** has also researched the causes of risk behaviors in adolescents and youth, particularly violence. From this perspective, risk behaviors are the result of an interaction between the individual and his or her social environment.

This approach highlights factors of immediate influence at multiple levels, including the individual (age, sex, personality, habits, beliefs, cognitive development, socioeconomic status), the family (parents' education style), the family environment (behaviors, socioeconomic status), the social or peer group (personal relationships, academic performance, and school environment), and the surroundings or environment (availability of drugs, weapons, violent community, poverty, overcrowding, migration, inequality, racial composition, violence in the media). It also addresses macro-level factors such as urbanization, poverty, migration, economic recession, and an inefficient justice system.

These aspects are systematized by the use of socioeconomic

indicators that allow for the measurement of individual psychosocial development (characterization of the subject, his or her immediate surroundings, and social networks).

In the field of psychology, special importance is attached to social networks and their influence on the formation of preferences and identity. Recent evidence supports the idea that **social networks** are a vehicle of "contagion" for certain behaviors. In this regard, Christakis and Fowler have published a series of studies (2007; 2008a; 2008b; 2008c; 2009) analyzing the effect of social networks on individual behavior, especially on health indicators such as weight gain or substance abuse (smoking, alcohol consumption). According to these studies, social networks are a key factor in the health of individuals. For example, they found that individuals do not become obese or smokers in isolation: rather these tend to occur as group phenomena. Other studies reinforce the results of Christakis and Fowler's research, finding that groups of friends and peers have significant effects on adolescent sexual behavior and the initiation of sexual activity or sexual debut (Sieving et al. 2002), as well as on non-emotional sexual relations.

Lastly, **behavioral economists** (including O'Donoghue and Rabin 2000) have questioned the classical framework of rational choice, arguing that adolescents make risky decisions in pursuit of instant gratification without considering future adverse effects. Furthermore, they repeat the same decisions that result in costly repercussions, because as long as young people do not experience the negative effects of their behavior, they do not seem to associate them with an opportunity cost. They argue that because of this systematic error, adolescents tend to focus on the present without tying a future discount to their behaviors.

This new approach suggests that we should study risk behaviors in a more systematic way, seeking to decipher the complex decision-making processes of young people through carefully designed studies that identify the most important factors that influence, inhibit, or reinforce risk behaviors. Banarjee and Duflo (2011) suggest that adolescents make carefully calculated (albeit inadequately informed) decisions about whom to have sex with and under what conditions. A significant contribution of these authors' work lies in the potential to design interventions that change behavior by focusing on the young person's inter-temporal preferences rather than just providing knowledge and information. With this approach, the understanding of time is crucial: future expectations, time use, and the assessment of the utility curve all become essential for understanding youth behavior.

### Dimensions of risk behavior analysis

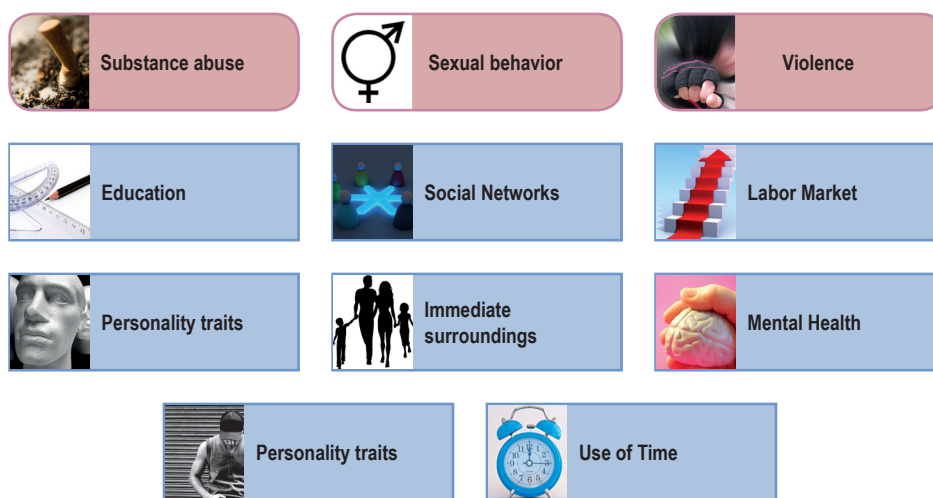
As a reflection of this multidisciplinary research approach, **11 study dimensions** are proposed for the measurement and monitoring of

youth risk behaviors. The first three allow for the conceptualization and measurement of risk behaviors: a) unintentional injuries and violence, b) substance abuse, and c) sexual behaviors that contribute to unintended pregnancies and sexually transmitted diseases. The eight remaining dimensions are risk factors that bring the researcher closer to the origin of these behaviors. The young person's expectations about the future, use of time, temporal and risk preferences, personality traits, social environment, and mental disorders are crucial determinants of behavior among youth and pose special challenges to measurement (different from those for behaviors). These factors will be discussed in more detail in Chapter 3.

young person and his or her psychosocial profile. **Intertemporal preferences** bring the researcher closer to the young person's perception and preference with respect to time and infer the young person's propensity for risk. In line with recent evidence on the "social contagion" of risk, the dimension of **social networks** makes it possible to determine those with whom young people spend their time and in what social activities they participate. The dimension of **immediate surroundings** gathers

information about the context in which the young person develops, such as whether the parents supervise the young person's activities; whether the parents, siblings, or friends are involved in risky activity (e.g. substance abuse); or the young

Figure 4. Dimensions of Risk Behaviors



Source: Authors.

The structure of the diagram allows **behaviors** to be differentiated from their risk factors. It encompasses the main dimensions for the study of **risk behaviors**, allowing us to measure risk prevalence in different areas: substance abuse (consumption habits [tobacco, alcohol, illicit substances], frequency and quantity, onset of use), risky sexual behavior (sexual debut, sexual partners, transactional sex, high-risk behaviors, STD/HIV results), and violence (gang membership/affiliation, fights, victimization, incarceration).

In terms of risk factors, the dimensions of **education** and the **labor market** generate socioeconomic information about the young person, which in turn determine the environment in which they make decisions and in which they are conditioned, for the large part. **Time use** allows the researcher to characterize the

person's perception of safety and situation of vulnerability. **Mental health** allows for the identification of self-aggressive tendencies and emotional disorders (see table at the end of the section), unintentional violence, symptoms of depression, and the young person's state of socio-emotional wellbeing. Personality traits include indicators inherent to the young person's character and reflect aspects of the personality subject to mutability, such as self-regulation, empathy, and creative thinking. This study dimension also includes and encourages non-cognitive development through the promotion of interpersonal relationships and life skills.

The following sections examine each of the areas of risk behavior covered in this toolkit: risky sexual behavior, violence and substance abuse. To aid in their study, we propose a selection of frequently used survey indicators for each dimension of study, as well as those combinations of behaviors that are most detrimental to health.

## 2. Measuring Risky Sexual Behavior

### Context

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Many young people engage in sexual risk behaviors that can result in unintended health outcomes. Unprotected sexual intercourse places youngsters at risk for human immunodeficiency virus (HIV) infection, other sexually transmitted diseases (STDs), and unintended pregnancy. Youth may or may not be ready for the social and emotional implications of sexual activity, and many sexually active youth do not use safe sexual practices. Unintended pregnancy is both a possible effect of risky behaviors as well as a risk factor in itself. Furthermore, adolescent pregnancy has been linked to higher rates of school dropout, as well as other socio-emotional risks.

### Indicators

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In table 1, a systematization of indicators for measuring outcomes related to risky sexual behavior in youth is proposed. While not exhaustive, this list includes the most relevant indicators, selected as a result of experience working with this type of population<sup>12</sup> and area of study. The table includes information about each study indicator, including reference timeframe and a sample question, as well as other comments (as deemed relevant by the authors).

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12 The Kaiser Family Foundation National Survey of Adolescents and Young Adults (U.S.); Monitoring the Future (U.S.); Add Health; Mission Teen Health Project (U.S.); Shaping the Health of Adolescents in Zimbabwe (Shazi, Zimbabwe); Programa Juventud y Empleo (PJE, Dominican Republic); Programa Solidaridad (Dominican Republic).

Table 1. Outcome Indicators: Risky Sexual Behavior

Indicator	Time frame	Sample Survey Question(s)	Comments	
<b>Sexual debut</b>				
1	Ever had sexual intercourse	Ever	Have you ever had sex? For this survey, we'll define sex as (insert definition)	Often defined as vaginal or anal sex. Separate questions about oral sex can also be included.
2	Age at first sexual intercourse	—	How old were you the first time you had sex?	—
<b>Sexual partners</b>				
3	# partners in the last X months	Variable	How many people have you had sex with in the last year?	Depends on the risk profile of the population. Last 12 months may be broadly applicable, or last 3 months for higher risk populations.
4	# lifetime sexual partners	Ever	How many different people have you had sex with in your life?	—
5	About the last 3 sexual partners (concurrency):	—	—	It is common to ask participants to recall the characteristics of recent sexual partners. To minimize the burden on the respondent, often this is done for the last 3 sexual partners only. In youth and very low risk populations, this may encompass their entire sexual history.
	a) Gender, age, ethnicity	Last 3 partners	Now I want you to think about the last three people you have had sex with (or fewer if less than 3 lifetime sex partners). I'm going to ask you some questions about each one. If it helps, I can write down nicknames or initials of the last three people to help you remember. Let's talk about the last person you had sex with (say name or initials if provided). Is this person a man or a woman?	Likewise include questions about their age (best guess) and ethnic group/race.
	b) Regular or casual partner		Is this person a regular sexual partner (like a boyfriend, girlfriend or spouse), or a casual partner that you only have sex with occasionally?	Response options include spouse, regular partner, or casual partner.
	c) Gang member		Is he/she currently in or affiliated with a gang?	—
	d) Frequency and type of sexual intercourse		Let's talk about when you have sex with this partner. During the past year, how often did you have sex with him/her? The last time you had sex with this person, what kind of sex did you have? (read options, check all that apply)	Response options can include categories of once, once a week, once a month, etc. Type of sex can include vaginal, oral, insertive anal, and receptive anal (the type of sex associated with the highest risk of HIV acquisition).
	e) Date of first and last sexual intercourse		When was the first time you had sex with this person? I only need to know the month and year.	These dates can be used to determine concurrency of sexual partnerships, a sexual network feature where partnerships overlap in time and that can greatly facilitate the spread of sexually transmitted diseases.
	f) Use of condom or female or male contraceptive method (if heterosexual) for each partner (regular/casual)		The last time you had sex with this person, did you or your partner use a male or female condom? The last time you had sex with this person, what did you or the other person use to avoid pregnancy? I'm going to read a list of options and you can tell me if you used any of them.	—
<b>Same-sex intercourse</b>				
6	Claimed to have had sex with someone of the same sex at one time	Ever	Have you ever had sex with a (man/woman - insert sex of respondent)?	—



Indicator	Time frame	Sample Survey Question(s)	Comments	
<b>Sexual Identity</b>				
7	Identifies as heterosexual, homosexual or bisexual	—	Which of these best describes your sexual identity?	Response options can include: heterosexual or straight, homosexual or gay, bisexual, or other. Include local terms whenever possible.
<b>Transactional Sex</b>				
8	Ever been paid, in cash or in kind (drugs, food, shelter), for sex (especially high-risk youth – e.g., homeless or drug-addicted youth)	Ever	Have you ever had sex with someone who paid you or gave you gifts, money, or drugs to do so? This can include school fees, transportation, or other kinds of help.	Modify to the local context.
9	Amount paid or received for having sex	Ever	Have you ever paid anyone to have sex?	Consider adding frequency of purchasing sex if common in the study population.
10	Used a condom during paid sex act	Last time	The last time you paid to have sex, did you use a condom?	—
11	Stay in relationship longer than desired due to compensation from partner (money, gifts, etc.)	Ever	Did you enter into a sexual relationship with this partner because he provided you with or you expected that he would provide you with gifts or other materials goods such as food, cosmetics, clothes, transportation, items for your family or household, somewhere to sleep, or cash?	—
<b>High risk behaviors</b>				
12	Sexual intercourse with simultaneous drug or alcohol use	Last time	The last time you had sex, had you been drinking alcohol or using drugs?	—
13	Sexual intercourse with intravenous drug users (have sex with drug-addicted individuals)	Ever	Have you ever had sex with someone who uses a needle to inject illegal drugs?	—
<b>HIV / Aids</b>				
14	Ever been tested for HIV/AIDS	Ever	Have you ever been tested for HIV infection or AIDS? If so, When you got tested for HIV infection or AIDS the last time, did you find out the results?	Consider reducing the recall period in higher risk populations that should be tested for HIV infection regularly.
15	Ever been diagnosed with HIV/AIDS	Ever	If yes, what were the results?	Will require an additional confidentiality statement before these questions to remind the participant about the confidentiality or anonymity of his/her responses.
16	Has knowledge or beliefs about HIV/ AIDS (e.g. has heard of HIV/AIDS, knows transmission methods, correctly names at least one sexually transmitted disease.	Current	—	—
<b>Sexually Transmitted Disease</b>				
17	Has ever been diagnosed with a sexually transmitted disease	Ever	Have you ever been told by a health care professional, like a doctor or nurse, that you have any of the following sexually transmitted diseases? I'm going to read a list and you can tell me if you've ever had one of them.	Among the options (list) of sexually transmitted diseases: a. Genital Herpes b. Gonorrhea c. Chlamydia d. Syphilis e. Vaginal infection or vulvovaginitis f. Trichomoniasis g. Hepatitis B h. Pediculosis (or lice) i. Condyloma (Warts, HPV) j. Disease pelvic inflammatory k. HIV / AIDS l. No, none of the above.

Indicator		Time frame	Sample Survey Question(s)	Comments
18	In the last 12 months, has had any of the following symptoms (from a closed list of common STDs)	Last 12 months	In the last 12 months, have you had any of the following symptoms?	Response options commonly include: 1) Painful or frequent urination; 2) sores / blisters on genitals; 3) warts on your genitals; 4) (if male) dripping or oozing from penis; 5) (if female) itching in the vagina or genital area. This indicator is useful in surveys that do not include diagnostic testing of sexually transmitted infections.
19	Consistent contraceptive use (last 3 months and undefined)	1,3,6 or 12 months	In the last 3 months, have you used any method to avoid getting pregnant?	Timeframe will depend on the goal of the research and the population under study. In the case of adolescents, if asking "consistent use" during a large period of reference, you can lose a lot of information. "Consistent use" for the last three months and "at least once" in the past 12, can provide useful information to the research.
20	Frequency of sex without contraception	—	In the last three months, how often did you have unprotected sex?	Same as #19
<b>Reproductive health, fertility and pregnancy intention</b>				
21	Pregnancy or responsible for pregnancy (last year, last 3 years, at the age of 21)	—	Have you ever been pregnant? Even if you've had an abortion or miscarriage in the past. Followed by: Have you ever given birth?	—
22	Contraceptive method currently used (specify type from a given list)	Current	In the past 12 months, which of the following methods of birth control have you used?	Response options should include: condoms (male or female), oral contraceptives/pills, devices including IUD or copper T, shot or injections, ovules, jelly or mousse, rhythm/calendar method, withdrawal, implants, and surgery/sterilization.
23	Expectation of getting pregnant in the next year	Next year	Think about the next 6 months. In the next six months, do you want to get pregnant?	Response options may include: definitely no, probably no, probably yes, and definitely yes.
24	Ever used contraception (specify type from a given list)	Ever	Have you ever used a method of birth control to avoid or delay getting pregnant?	If yes, read list of options to determine types (see 22).
25	If currently pregnant (or in the past), was the pregnancy unintended? This is measured by asking about the timing of the pregnancy (you wanted it at the time, it was sooner than you wanted, or later than you wanted, or you didn't want the pregnancy at all)	—	In terms of the timing of your pregnancy, do you feel like you: (Read all responses and ask respondent to select one).	Response options include: 1) wanted the pregnancy at this time; 2) wanted the pregnancy sooner; 3) wanted the pregnancy later; and 4) did not want to be pregnant at all.
26	Ever had an abortion	Ever	Have you ever had an abortion?	—

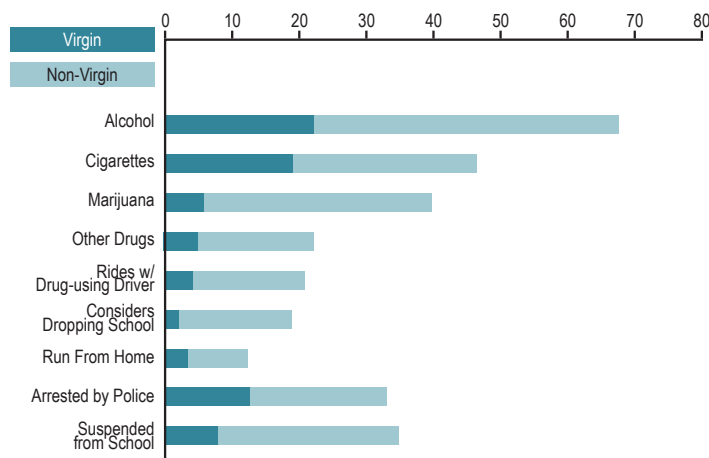
Note: not applicable is symbolized as "—".

Source: Authors.

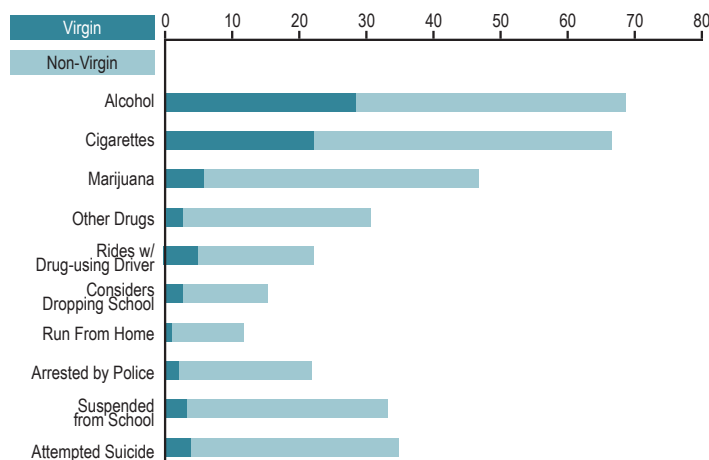
## Interaction among risk behaviors

In addition to their participation in a causal network, when some risk factors and behaviors occur simultaneously they can **synergistically increase** harmful effects in youth. However, although the presence of one risk behavior does not necessarily expose a young person to another, it may increase the likelihood of participating in that risk behavior (see figures 5 and 6 in reference to *premature sexual activity as an indicator of psychosocial risk*).

**Figure 5. Association of risk behaviors with virginity/non-virginity in young men ages 12-16**



**Figure 6 - Association of risk behaviors with virginity/non-virginity in young women ages 12-16**



Source: *Pediatrics*, Vol. 87, No. 2. In *ITY (International Youth)*.

The following section presents a likely pathway of the **most frequently observed interactions** between risk behaviors with consequences for sexual and reproductive health. Sections 3

and 4 of this chapter will focus on those behaviors that increase the likelihood of risk for violent behavior and substance abuse, respectively.

## Behaviors that increase risks to sexual and reproductive health

**Concurrency**, or sexual activity with multiple partners during the same time period, can greatly increase the possibility of spreading sexually transmitted diseases, including HIV/AIDS (see Watts and May 1992; Chick et al. 2000). The role of concurrency in the rate of expansion of the HIV epidemic has recently been the focus of debate (Lurie and Rosenthal 2010; Mah and Halperins 2010). This pattern of sexual network formation may be an important behavior to measure in surveys of sexual behavior, especially in women. For example, concurrent sexual partners may occur frequently in societies with high levels of poverty, where transactional sex is commonplace. In such a scenario, economic instability limits women, negatively affecting their education (as indicated by absenteeism, dropouts, and academic performance), and encouraging them to seek relationships with multiple partners with sexual partners who represent greater risk. For these reasons, women may be more vulnerable to acquiring STDs, including HIV/AIDS (Jackson and Tanfer 2008).

**Sexual orientation** (which includes both sexual identity and sexual behavior) is another factor that can lead to high-risk sexual behavior and STDs (especially unprotected sex with partners of the same sex, which is associated with higher rates of HIV/AIDS among men. Blake et al. (2001) and Goodenow et al. (2008) suggest that sexually active young women who self-identify as lesbian or bisexual are part of a high-risk group, with a greater probability of: (1) contracting STDs while under the influence of drugs; (2) experiencing early sexual debut; (3) having multiple sex partners; (4) experiencing adolescent pregnancy; (5) being diagnosed with STDs; and (6) suffering gender-based violence. Similarly, those studies suggest that increased risk is associated with problems generated by a different sexual identity (violent encounters with other youth and lower rates of condom use or other forms of contraception during last sexual activity).

HIV risk behaviors are shaped by a context that includes various demographic factors such as gender, ethnicity, and age. By influencing social networks, these factors also make it more or less likely that individuals who engage in risky sexual or IV drug-using behavior will come into contact with persons who themselves have HIV. In the United States, the group with the highest rate of HIV infection is men who have sex with men (CDC 2005). This group has the highest rate of unprotected anal sex, which is a behavioral risk factor for HIV transmission. In most other regions of the

world, however, the group with the highest rate of HIV is people who have heterosexual intercourse. Age is also a very important determinant for HIV. About half of all new HIV infections worldwide, or approximately 6,000 per day, occur among young people aged 15–24, the majority of them young women (UNFPA 2003). In the United States, for men who have sex with men, younger age is strongly correlated with increased high-risk sexual behaviors such as unprotected anal sex (Kalichman 1998). Despite high levels of sexual activity, young people often do not know the basic HIV/AIDS statistics and facts, which puts them at greater risk (Feinstein and Prentice 2001). In the LAC region, the HIV epidemic is concentrated in urban populations of men who have sex with men (MSM) (HIV prevalence 5-20%). Incidence rates (1.5-3.3 in Brazil and Peru) are still moderately high. Transmission from bisexual men to women is increasingly observed, demonstrating that lack of intervention can fuel co-existent epidemics. MSM in the region are culturally diverse, mediating social class, sex (in the case of bisexual men), and ethnicity.

**Substance abuse** may also encourage risky sexual behavior, and in some contexts, it is considered a social inhibitor/disinhibitor. The use of alcohol and illicit drugs before sexual intercourse may interfere with a young person's decision-making (use of condoms and/or another form of contraception), restrict a woman's bargaining power when it comes to condom use, and—even when the couple chooses to use condoms—can lead to improper use. Moreover, sexual partners who share drug and alcohol habits tend to amplify the risks of contracting HIV/AIDS and other STDs (increasing the probability of finding partners with STDs).

Adolescent use of substances like alcohol, drugs, or tobacco increases the risk of engaging in sexual activity and violence or of abusing more than one substance. For example, adolescent tobacco use is associated with a range of health-compromising behaviors, including being involved in fights, carrying weapons, engaging in higher risk sexual behavior, and using alcohol and other drugs (USDH 1994).

Research shows the **misuse of alcohol** often results in an earlier onset of sexual activity (Fergusson and Lynskey 1996; OMS 2005) and high probability of adolescent pregnancy. However, in contrast to the relatively consistent results linking alcohol use to increased participation in risky sexual behaviors (especially casual sex), studies examining the link between drinking proximate to intercourse and decreased protective behaviors (i.e., condom and contraception use) reveal a weaker link. Indeed, the overwhelming majority of studies, whether examining global or situation-specific associations, found no effect whatsoever (Cooper 2005).

**Beliefs** about the effects of alcohol on risky sexual behavior also appear to play an important role. Indeed, overwhelming evidence

indicates that people believe that alcohol promotes risky sexual behaviors. These beliefs, in turn, have been shown to promote drinking in sexual or potentially sexual situations (Dermen and Cooper 1994; Leigh 1990) and (even in the absence of actual alcohol) to elicit disinhibited sexual behavior consistent with individually held expectations (George et al. 2000).

The heterogeneity of alcohol effects on risky behaviors underscores the need to assess multiple risk behaviors as well as to develop differentiated hypotheses regarding links between drinking and individual risk behaviors. Indeed, the fact that risk behaviors themselves (in addition to their determinants) are related suggests the need to move toward multivariate models in which alcohol use is embedded within a network of interrelated risk behaviors (Cooper and Orcutt 2000).

Lastly, young women who are romantically linked with gang members have greater odds of getting pregnant (Minnis et al. 2008), especially when the young man connects his status in the gang to a relationship of power and the need for offspring is linked to the power he believes he holds.

### 3. Measuring Violence

#### Context

Opinion polls systematically show that violence and crime involving youth (as victims or perpetrators) are among the top welfare concerns of Latin American residents and that these concerns have become more pressing over time (OVE 2010). These opinions seem to be consistent with current problems of the region, as crime levels are higher in Latin America than in most of the world. According to data from the United Nation's Office on Drugs and Crime, for example, in 2004 there were almost 30 intentional homicides per 100,000 people in Latin America (excluding Mexico and the Caribbean).

Interpersonal violence can be defined as “the intentional use of physical force or power, threatened or actual, against another person or against a group or community that results in or has a high likelihood of resulting in injury, death, psychological harm, mal development, or deprivation” (Dahlberg and Krug 2002). Research and programs addressing youth violence typically include persons between the ages of 10 and 24, although patterns of youth violence can begin in early childhood. This definition associates intent with committing the act—no matter the outcome. In other words, intent to use force does not necessarily mean intent to cause damage. Indeed, there may be a considerable disparity between intended behavior and intended consequence. According to the Centers for

Disease Control (CDC), a consistent definition of youth violence is necessary to monitor youth violence incidences, examine behaviors over time, measure the scope of youth violence and compare youth violence in different jurisdictions.

## Indicators

Table 2 contains a proposal for the systematization of indicators for the measurement of behaviors related to violent attitudes and behavior. While not exhaustive, the list of indicators includes those considered to be the most relevant, chosen as the result of experience working with this type of population and area of study.

**Table 2. Outcome Indicators: Violence**

Indicator	Time Frame	Sample Survey Question(s)	Comments	
<b>Gang membership/affiliation</b>				
1	Ever belonged to or been affiliated with a gang	Ever	Have you ever belonged to a gang? Have you ever been affiliated with a gang, but not actually in a gang?	Consider disaggregating gang membership from gang affiliation
2	Current gang member	Currently	Are you currently a member of a gang?	—
3	Romantic partner belongs to a gang <sup>13</sup>	Currently	Is your boy/girlfriend currently in a gang or affiliated with a gang?	Previous research has demonstrated the influence of a partner's gang membership on risk behavior, particularly among girls and young women
<b>Fighting</b>				
4	Has been in a fight with other youth in the past 12 months	Past 12 months	In the past 12 months, have you been in a physical fight?	—
5	Has carried a weapon at some point in the past 30 days	Past 30 days	During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club?	—
6	Has ever been in a physical fight while carrying a weapon	Ever	—	—
7	Has ever been in a physical fight at school	Ever	Have you ever been in a fight at school?	—
<b>Victimization</b>				
8	Subject's partner hit or physically hurt him/her in the past 12 months	Past 12 months	During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?	Measures intimate partner violence. In some settings, it may be desirable to understand whether youth know where to receive supportive services: "Do you know where you could go to get help if you were hurt or felt unsafe around your boyfriend or girlfriend?"
9	Ever been a victim of assault, robbery, rape, purse snatching, or pickpocketing	—	—	—
10	Forced to have sexual intercourse	Ever	Have you ever been forced to have sexual intercourse when you didn't want to?	—
11	Forced to have sexual intercourse during childhood or adolescence	Ever	(If yes to above question): How old were you when this happened?	If multiple times, consider asking about age at most recent occurrence or at first occurrence.

<sup>13</sup> Minnis et al., (2008).

Incarceration (jail, prison, correctional facility, juvenile detention center)				
12	Ever been incarcerated	Ever	Have you ever been held in a juvenile detention center, jail, or prison? If yes, which one?	In populations where incarceration is common, consider adding additional indicators about the age at first incarceration, time incarcerated, and risk behavior while incarcerated.
13	Last date of incarceration	Last incarceration	When were you most recently released from [juvenile detention center, jail, or prison]?	—

Note: not applicable is symbolized as “—”.

Source: Authors.

### Behaviors that foster violent activities

Spergel (1995) and Thornberry (1998) establish a synergistic relationship between substance abuse and violence. They suggest that young people who belong to a gang are more prone to substance abuse and making threats of physical harm to people and private property. Bjerregaard and Lizotte (1995) and Esbensen and Huizinga (1993) show that gang members are twice as likely to carry a weapon and engage in violent crime, tripling their chances of being involved in the trafficking of illegal substances.

Battin and colleagues (1998) and Howell (1997) indicate a strong relationship between gang membership and criminal activities (a hypothesis supported by most studies of gangs in the United States, regardless of the period, methodology and sample design). Recently, the U.S. Youth Risk Behavior Surveillance System (YRBSS) showed that gang members start drinking at an earlier age; they have a high prevalence of alcohol and drug use, drug selling, and peer drug selling; and they are more frequently engaged in violent activities related to alcohol abuse (Swahn et al. 2010). These results are consistent with other longitudinal studies such as those conducted by Gatti and colleagues (2005).

Similarly, **rates of drug and alcohol use** appear to be the main causes of a gang member’s increased risk of violent victimization and exposure to criminal activities (Taylor et al. 2008). Along these lines, Willard and colleagues (1995) maintain that early **smoking** initiation is an indicator of violent behavior, with a higher probability of carrying weapons and engaging in physical fights<sup>14</sup>. According to Snyder and colleagues, students who report easy access to controlled substances like **alcohol and illegal drugs** are more likely to report violent acts at school such as physical attack, robbery, and bullying, than students who report little access to controlled substances. The Commonwealth Fund also finds that being a victim of abuse and violence increases the likelihood of involvement in unhealthy behaviors such as smoking, drinking, or using drugs.

<sup>14</sup> One in four current smokers had carried a weapon in the last 30 days compared to one in 10 nonsmokers who had reported carrying a weapon.

Lastly, it is worth noting that if youth are immersed in a negative “social context,” they are more likely to engage in multiple risk behaviors. Snyder and colleagues (1996) showed that interrelations in violent behaviors could be found in a number of underlying factors including: “family background, family structure, peer associations, peer influences, school history, psychosocial attributes, interpersonal traits, unemployment and social class.” The Add Health study, The National (USA) Longitudinal Study of Adolescent Health, found that a recent history of family suicide attempts was a risk factor for violent behavior, cigarette and alcohol use, and early onset of sexual activity.

## 4. Measuring Substance Abuse

### Context

Substance abuse is another group of behaviors that contributes to immediate as well as long-term damage. Drinking and drug abuse have been linked to motor vehicle accidents, fighting/violence, problematic relationships and social interactions, and various diseases. **Drinking and cigarette smoking** are among the most common in this group of behaviors. Illicit drug use is both a health and public concern because of the obvious negative physical effects it has on users. Effects of illicit drug use include but are not limited to brain damage and damage to major physical organs. It also has been linked to a host of other health-compromising behaviors such as risky driving, engagement in high-risk sexual behaviors, and violence.

### Indicators

Table 3 introduced below is systematized proposal for indicators of interest when measuring substance abuse among youth. While not exhaustive, it includes those indicators considered key for this type of population and area of study.

Table 3. Outcome Indicators: Substance Abuse

Indicator	Time Frame	Sample Survey Question(s)	Comments	
<b>Tobacco</b>				
1	Ever smoked at all	Ever	Have you ever smoked a cigarette, even if you haven't finished it or you only took a drag?	These three questions permit categorization of youth into those who have never smoked, those who were former smokers but not current smokers, and those who are current smokers.
2	Ever smoked regularly	Ever	Have you ever smoked cigarettes regularly, that is, at least one cigarette every day for 30 days?	—
3	Current smoker	Current	During the past 30 days, on how many days did you smoke cigarettes?	—
4	Age when started smoking	—	How old were you the first time you smoked a cigarette?	—
5	Frequency of cigarettes smoked (past 30 days)	Past 30 days	During the past 30 days, on the days you smoked, about how many cigarettes did you smoke per day?	Question permits assessment of frequency of smoking. This can be used to classify the level of tobacco exposure (e.g., 20 cigarettes a day for 30 days)
6	Ever smoked at school	Ever	Have you ever smoked cigarettes on school grounds?	Describes overlap of risk behavior with educational activities.
<b>Alcohol</b>				
7	Ever consumed alcohol	Ever	Have you ever, even once, had an alcoholic drink? Alcoholic drinks include beer, wine, and drinks made with liquors like rum, vodka, gin, or whiskey.	Important to define "alcoholic drink", including in the definition the names of local beers/spirits which are common in areas where the survey will be conducted.
8	Frequency of drinking	Past 30 days	During the last 30 days, on how many days did you have at least one drink of alcohol?	—
9	Binge drinking (5 or more drinks in a row in one day in the past 30 days)	Past 30 days	During the past 30 days, on how many days did you have (Females: 4 or Males: 5) or more drinks in a row?	According to the U.S. National Institute on Alcohol Abuse and Alcoholism, binge drinking is defined as a pattern of alcohol consumption that brings the blood alcohol concentration (BAC) level to 0.08% or more. This pattern of drinking usually corresponds to 5 or more drinks on a single occasion for men or 4 or more drinks on a single occasion for women, generally within about 2 hours <sup>15</sup>
10	Ever been drunk	Ever	Have you ever drunk enough to feel drunk?	—
11	Ever consumed alcohol at school	Ever	—	Describes overlap of risk behavior with educational activities.
<b>Illicit Substances</b>				
12	Ever used drugs (marijuana, cocaine, inhalants, heroin, methamphetamines, ecstasy, hallucinogens, steroids, prescription drugs)	Ever	I'm going to read the names of some drugs. Can you tell me if you have ever, even once, tried.....? (read names) a. Marijuana or pot b. Cocaine (powder, crack or freebase) c. Sniffing glue, aerosol cans, or inhaled paints or sprays d. Heroin (smack, junk, or China White) e. Methamphetamines (speed, crystal, crank, or ice) f. Ecstasy (MDMA or X) g. Hallucinogens (LSD, acid, PCP, angel dust, mushrooms) h. Steroid pills or shots without a doctor's prescription i. Other drugs (like painkillers)	Typically use of each class of drugs is asked about separately. At the very least, marijuana use should be surveyed separately from other drug categories. Also, it is critical to use the correct local street term for the drugs (e.g., speed, crystal, crank, ice).

15 National Institute of Alcohol Abuse and Alcoholism. NIAAA council approves definition of binge drinking [PDF-1.6MB].[http://pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter\\_Number3.pdf](http://pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter_Number3.pdf) NIAAA Newsletter 2004;3:3.

13	Used drugs in the past 12 months (marijuana, cocaine, inhalants, heroin, methamphetamines, ecstasy, hallucinogens, steroids, prescription drugs)	Past 12 months	(If yes to any drug): How many times have you used it in the last year?	—
14	Ever injected drugs	Ever	Have you ever used a needle to inject an illegal drug?	May require additional clarification about the term "illegal drug."
15	Injected drugs in the last XX months (for high-risk populations)	Depends on risk population	Have you used a need to inject an illegal drug in the last XX months?	Depends on the risk population. For higher risk populations, injecting behavior in the last 30 days to 6 months may be desirable. For low risk populations, ever injected drugs and/or injected in the last 12 months may be sufficient.
16	Ever used illicit drugs at school	Ever	—	Describes overlap of risk behavior with educational activities.
17	Gifted, sold or exchanged illicit substances at school in the last 12 months.	Past 12 months	—	Describes overlap of risk behavior with educational activities.

Note: not applicable is symbolized as "—".

Source: Authors.

## Factors that encourage substance abuse

Research developed in the USA provides empirical support for the idea that sexual activity is often an indicator of substance abuse. Adolescents who have three or more sexual partners in one year are more likely to engage in illicit drug use (Shrier et al. 1997). In the USA, among students who are currently sexually active, one-fourth reported they had used alcohol or drugs at the time of the last sexual intercourse.

Despite a large number of individual differences with regard to the propensity for developing addictive behaviors, studies such as Harrison (1997) present evidence concerning **environmental factors** that appear to be associated with increased consumption and abuse of illegal substances among adolescents:

Adolescents whose parents or siblings are alcoholics or drug addicts demonstrate higher rates and frequency of consumption.

A family history of criminal and anti-social behaviors has been associated with higher consumption of drugs and alcohol.

Unclear or inconsistent parental rules and negative reactions to children's behavior, such as excessive permissiveness, limited supervision, excessive and severe discipline, constant criticism and/or the absence of guidance or parental support, are associated with higher rates of drug and alcohol use in children.

Parental drug use or attitudes of approval about drug use predispose adolescents to substance abuse. Since, in many cases, parents are considered models of behavior for their children, it is no surprise that the children of heavy smokers, frequent drinkers or

users of illegal drugs are more likely to repeat these behaviors as compared with adolescents whose parents do not use.

Adolescents whose peers (and/or siblings) smoke, drink or use drugs are much more likely to imitate them. The initiation of these activities often occurs through friends. The person who prompts the use and abuse of substances is generally someone close to the young person, who wants to share the experience or promote it to support his or her own consumption, rather than some stranger near school or on the street.

Children and adolescents with poor academic performance are more likely to initiate early drug use and to become regular smokers, drinkers and drug users, more so than peers with better performance.

Adolescents who demonstrate apathy toward schoolwork and a lack of interest in academic achievement are more likely to get involved with drugs as compared to those who are more academically oriented. Cocaine use, for example, is less common in adolescents with college plans than in those without higher academic aspirations.

Children/adolescents who feel out of place express their discontent in various ways. Usually, they rebel against adult authority, distance themselves from the social norms and values generally accepted by their community, and are more likely to consume alcohol and drugs than those with strong family, ethical and religious ties.

Early antisocial behavior is a sign of low social responsibility, where fighting and other aggressive behaviors are predictors for subsequent drug and alcohol use.



The earlier a young person begins smoking, drinking and using drugs, the more likely he or she is to use harder drugs and to abuse alcohol and tobacco in the future.

## 5. Practical Considerations

Here are some practical considerations to take into account when selecting indicators of interest. These guidelines help to **optimize resources** and the quality of information.

» Beyond the ability to systematize and replicate the most frequently used indicators in other programs, when choosing indicators we must limit ourselves to the **special characteristics** of the program, the target population, and the ultimate goal of the research.

» Defining the field of inquiry, relevance, and number of indicators to consider is a task of crucial importance. In this way, we can carry out optimal monitoring and evaluation (M and E) tasks without wasting resources. It is important to design **SMART**<sup>16</sup> (specific, measurable, achievable, realistic and time-targeted) indicators.

» The logical framework of a program is crucial to determining which indicators should be collected in order to bring us closer to the **causal relationship** we are trying to measure.

» The **size** of a survey matters, both in terms of resources (time, staff and budget) and data quality. The greater the number of indicators, the greater the cost of data collection, respondent fatigue, with probable effects on data quality. The definition and limits of the number of indicators—and therefore the impact and outcome indicators as well—will be given by the program’s logical framework.

» **Definition of Periodicity:** Some indicators may have longer periodicity than others;

» For example, for tobacco and alcohol use the appropriate period is often the past 30 days (with the exception of questions such as “was ever a regular smoker” or “has ever used intravenous drugs”).

» In contrast, the period of recall for the **number of sexual partners** (which depends on the respondent’s memory) can be longer if we are working with a low-risk population (e.g., “never had sexual intercourse” or “number of partners in the past 12 months”). For high-risk populations, in the “past 3 months” may be a more appropriate period.

» The quality and value of questions about recent behaviors in low-risk populations may be difficult (e.g., intravenous drug use, imprisonment); therefore, it may be preferable to ask about the occurrence of the event over the course of the individual’s lifetime (“**ever**”).

» A combination of short and long periods is often used. For example, an individual’s number of **lifetime sexual partners** and the **number** of partners within the past 3 months/1 year. This captures the variability throughout the young person’s sexual history.

» In terms of **condom use**, the most reliable estimate with minimal recall bias is condom use at last sexual intercourse. However, the question must be answered about sex with each partner, since many people use condoms only occasionally (and/or only with certain partners).

» Similarly, only asking about condom use at last sexual intercourse fails to capture information about their use on a routine and regular basis; therefore, this question can be complemented by an additional question: “How often do you tend to use condoms: always, almost always, sometimes, rarely or never.”

» **Content and Vocabulary:** Avoiding subjectivity and free interpretation of a questionnaire’s content is no trivial task. It is essential to think carefully about what information we need, how to limit free interpretation, facilitate understanding of the question, and the appropriate use of vocabulary, all without inhibiting participation or promoting biases in the data.

- Adapting the survey language to local slang is crucial, as well as testing the questions on the study’s specific target audience and context. For example, Wellings and colleagues (1994) suggest that survey participants prefer the interviewer to use scientific language (e.g., sexual act) when asking questions about **sexual intercourse**, as opposed to more colloquial (e.g. have sex) or romantic terms (e.g. make love).

This work also suggests that it is common to think only about vaginal sex when asked specifically about sexual activities. Thus, most studies use the following definition: “**sexual intercourse or having sex:** this includes vaginal, oral and anal sexual intercourse” (Erens et al. 2001). It is crucial for the terms to be presented in an unambiguous manner, and their translation or adaptation to another language must not change their meaning (Bhopal et al. 2004).

- Another example of an arbitrary definition that should be clarified is “**sexual partner.**” The number of sexual partners a person has had is one of the best measures of sexual risk and a valid estimator of adverse sexual health outcomes

<sup>16</sup> Specific, measurable, attainable, relevant, time-bound.

(see Fenton et al. 2001; Fenton et al. 2005; Aral and Holmes, 2006).

Now, what do we mean by “sexual partner”? Erens and colleagues (2001) define sexual partners as: “*People who have had sex together - whether just once, or a few times, or as regular partners, or as married partners*” regardless of the type or nature of the relationship. Mercer and colleagues (2009) suggest that it may be helpful to consider the type or nature of sexual partners that a person has had; however, this can be difficult to do because it requires an objective measure of the partnerships’ status (e.g., cohabiting partners versus married partners). While a partnership may be regular at the time of the survey, the status of the partnership may change over time. Lastly, it is worth noting that the choice of timeframe/periodicity for the question about the number of sexual partners depends on the study context and population.

- A study on sexual behavior should include questions about whether or not sexual behavior was protected from the risk of STDs and unplanned pregnancies (typically, by the use of condoms). Questions about condom use can be linked either to a partner or to a specific period of time, as each formulation elicits different information. For example, asking, “Did you always/sometimes/never use condoms in the past

four weeks?” gives no indication of condom use with specific partners. Asking participants about condom use with their most recent partner is not particularly informative about condom use during a specific time period, or indeed, about condom use in general with a particular partner. It is important to remember that non-use of condoms does not always constitute sexual risk behavior. Therefore, it is necessary to include questions that establish the **reasons** why the individual does not use condoms and/or other methods of contraception.

- A further warning: asking about the use of condoms does not capture whether or not condoms were used correctly. In order to understand STD/HIV risk exposure, epidemiological studies need to capture additional information about the timing of condom application and whether or not the condom slipped or broke during intercourse.

- Lastly, it worth highlighting the **lack of standardization** among indicator definitions. An **illustrative example** is the study of sexuality and sexual identity (see table below), where the lack of systematization has generated a wide variety of approaches to the same study indicator.

Taylor (2008) contains a comprehensive review of international studies that explore sexual identity, most of which adopted a single-question format followed by a list of answer categories.

**Table 4. Example of Lack of Standardization - Measuring Sexual Identity**

Survey	Question	Answer categories ( <i>Bold typeface indicates that the option is always read out loud or visually presented to respondents</i> )
North Dakota Behavioral Risk Factor Survey, 2004, 2005 <a href="http://www.health.state.nd.us/brfss/">http://www.health.state.nd.us/brfss/</a>	Do you consider yourself to be heterosexual or straight, homosexual or gay (lesbian), bisexual or other?	<b>1 Heterosexual or straight</b> <b>2 Homosexual or gay [if male] lesbian [if female]</b> <b>3 Bisexual, or</b> <b>4 Other</b> 7 Don't know/not sure 9 Refused
North Dakota Behavioral Risk Factor Survey, 2006 <a href="http://www.health.state.nd.us/brfss/">http://www.health.state.nd.us/brfss/</a>	Now I will read you a list of terms people sometimes use to describe themselves: Heterosexual or straight, Homosexual orgay/ lesbian, Bisexual. As I read the list again, please stop me when I get to the term that best describes how you think of yourself.	<b>1 Heterosexual or straight</b> <b>2 Homosexual or gay [if male] lesbian [if female]</b> <b>3 Bisexual</b> <b>4 Other</b> 7 Don't know/not sure 9 Refused
Oregon Behavioral Risk Factor Survey 2002, 2003, 2005, 2006 <a href="http://public.health.oregon.gov/BirthDeathCertificates/Surveys/AdultBehaviorRisk/Pages/index.aspx">http://public.health.oregon.gov/BirthDeathCertificates/Surveys/AdultBehaviorRisk/Pages/index.aspx</a>	Now I'm going to ask you about your sexual orientation. Do you consider yourself to be: ("other" not an option in 2002)	<b>1 Heterosexual or straight</b> <b>2 Homosexual or gay [if male] lesbian [if female]</b> <b>3 Bisexual</b> <b>4 Other</b> 7 Don't know/not sure 9 Refused

Survey	Question	Answer categories <i>(Bold typeface indicates that the option is always read out loud or visually presented to respondents)</i>
Vermont Behavioral Risk Factor Survey 2000, 2001, 2002 <a href="http://www.healthvermont.gov/research/brfss/brfss.aspx">http://www.healthvermont.gov/research/brfss/brfss.aspx</a>	Do you consider yourself to be heterosexual, homosexual, bisexual or other? Interviewers are given these definitions: "Heterosexual: A person who has sex with and/or is strongly attracted to people of the opposite sex"; "Homosexual: A person who has sex with and/or is strongly attracted to people of the same sex"; "Bisexual: A person who has sex with and/or is strongly attracted to people of either sex"	<b>1 Heterosexual</b> <b>2 Homosexual</b> <b>3 Bisexual, or</b> <b>4 Other</b> 7 Don't know/not sure
CCHS 2003, 2005 <a href="http://www5.statcan.gc.ca/subject-sujet/theme-theme.action?pid=29666&amp;lang=eng&amp;more=0&amp;MM">http://www5.statcan.gc.ca/subject-sujet/theme-theme.action?pid=29666&amp;lang=eng&amp;more=0&amp;MM</a>	Do you consider yourself to be: Heterosexual (sexual relations with people of the opposite sex), Homosexual, that is lesbian or gay (sexual relations with people of your own sex), Bisexual (sexual relations with both sexes)?	<b>1 Heterosexual</b> <b>2 Homosexual, that is lesbian or gay</b> <b>3 Bisexual</b> 4 Don't know 5 Refusal
California Health Interview Survey 2001 <a href="http://www.chis.ucla.edu">www.chis.ucla.edu</a>	Are you gay {, lesbian,} or bisexual?	<b>1 Yes</b> <b>2 No</b> 3 Refused 4 Don't know
	(If yes) Is that {gay/lesbian} or bisexual?	<b>1 Gay</b> <b>2 Lesbian</b> <b>3 Bisexual</b> <b>4 Other</b> 5 Refused 6 Don't know
California Health Interview Survey 2003, 2005 <a href="http://www.chis.ucla.edu">www.chis.ucla.edu</a>	Do you think of yourself as straight or heterosexual, as gay {lesbian} or homosexual, or bisexual? [IF NEEDED, SAY: "Straight or heterosexual people have sex with, or are primarily attracted to people of the opposite sex, gay {and lesbian} people have sex with or are primarily attracted to people of the same sex, and bisexuals have sex with or are attracted to people of both sexes".]	<b>1 Heterosexual</b> <b>2 Gay, lesbian or homosexual</b> <b>3 Bisexual</b> 4 Non-sexual celibate/none 5 Other (specify) 7 Refused 8 Don't know
NHANES 2001-2002 / 2003-2004 <a href="http://www.cdc.gov/nchs/nhanes.htm">http://www.cdc.gov/nchs/nhanes.htm</a>	Do you think of yourself as: heterosexual or straight (that is, sexually attracted only to women/men); homosexual or gay (that is, sexually attracted only to men/women); bisexual (that is, sexually attracted to men and women); something else; or you're not sure?	<b>1 Heterosexual or straight</b> <b>2 Homosexual or gay (lesbian)</b> <b>3 Bisexual</b> <b>4 Something else</b> <b>5 Not sure</b> 6 Refused 7 Don't know
NSFG 2002 <a href="http://www.cdc.gov/nchs/nsfg.htm">http://www.cdc.gov/nchs/nsfg.htm</a>	Do you think of yourself as heterosexual, homosexual, bisexual or something else?	<b>1 Heterosexual</b> <b>2 Homosexual</b> <b>3 Bisexual</b> <b>4 Other</b> 99 Missing
NHLS 1992 <a href="http://www.icpsr.umich.edu/index.html">www.icpsr.umich.edu/index.html</a> (see study #6647)	Do you think of yourself as heterosexual, homosexual, bisexual or something else?	<b>1 Heterosexual</b> <b>2 Homosexual</b> <b>3 Bisexual</b> <b>4 Something else (specify)</b> 97 Refusal 98 DK 99 Missing

Source: Taylor, 2008.

### Box 1: How to Measure Sexual Identity

Below, we present content structures widely used in FTFI interviews and telephone surveys, which have proven to maximize response rates. As noted by Haseldon and Joloza (2009), small variations in the wording, order of questions, or answer categories can substantially affect survey results and response rates.

A) In a FTFI or telephone interview: Which of the following options best describes you?

1. Heterosexual or Straight
2. Gay or Lesbian
3. Bisexual
4. Other
5. (Don't know/refusal)

B) On paper questionnaires or self-administered web surveys: Which of the following options best describes how you think of yourself?

1. Heterosexual or Straight
2. Gay or Lesbian
3. Bisexual
4. Other
5. Prefer not to say

With respect to **language**, it is important to avoid survey question(s) about sexual attraction that filter out participants according to their sexual identity. The language used should be non-critical, sensible, and widely acceptable. To maximize reliability, validity, and comparability, it is prudent to pilot these highly sensitive questions in the field, particularly to ensure that understanding and adaptation of the language/slang is appropriate.

If you would like to learn more about these topics, see:

Topic	Reference
Intertemporal preferences	Kirby et al. (1999) F. Chabris C. et al. (2008).
Social-emotional wellbeing*	Behavioral and Emotional Rating Scale: Second Edition (BERS-2) The Big Five Personality Traits ASEBA: Child Behavior Checklist (CBCL), Teacher Report Form (TRF), and Youth Self- Report (YSR) Communities That Care (CTC) Survey The Comprehensive School Climate Inventory (CSCI) Developmental Assets Profile (DAP) Devereux Student Strengths Assessment (DESSA) School Social Behaviors Scale, Second Edition (SSBS-2) Social Skills Improvement System Rating Scales (SSIS-Rating Scale) Strengths and Difficulties Questionnaire (SDQ) Washington State Healthy Youth Survey (HYS)

Note: The selected scales have been successfully applied in academic environments in the US and are not specific projects.

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# CHAPTER 3

## Risk Factors

### Relevance and Problems for Measurement

This chapter discusses the measurement of specific risk factors that, despite being widely known in the field of public policy, still lack a solid standardized measurement methodology. Specifically, this chapter focuses on the state of the art in the measurement of important non-cognitive skills that are imperfectly captured (and usually misjudged) by standard IQ measures and achievement tests, despite the fact that these skills have been demonstrated to be important for cognitive development and life in general. Such measurement problems are not isolated to non-cognitive skills, however; they also extend to other personality dimensions that are highly relevant to the study of youth, such as intertemporal preferences. Accordingly, this chapter also addresses the measurement of youth intertemporal preferences, the most commonly used measurement tools for this dimension, and how the concept of youth risk can be an essential factor for the development of risk behaviors prevention policies.



## 1. What do the risk factors tell us?

Risk factors may not be the direct cause of risky behaviors but they do **increase the likelihood that a young person will engage in risk behaviors** (Mercy et al. 2002; DHHS 2001). Hence, even if they are not the triggers of specific risky behaviors, knowledge of these factors can help us to design more effective strategies for the positive modification of youth behavior. Research on at risk youth has increased our understanding of factors that make some populations more vulnerable to various behavioral risks.

Beyond their explanatory power, identifying key risk factors is essential to determining which high-risk behaviors should be prioritized in the design of preventative interventions. For example, information about risk factors can be used by school staff members to identify the most urgent students' needs and assess the school's ability to respond.

In chapter 2 we identified several factors that predispose youth to risk behaviors. Interactions between factors are common and also play a role in explaining risky behaviors. For example, youth who have low self-esteem, negative peer groups, and low school engagement or future life expectations are more likely to engage in risky behaviors.

The local environment has long been known as a key risk factor. At the family level, poor parent-child communication, low parental monitoring (e.g., parents who are unaware of their children's whereabouts), and lack of family support contribute to risk behaviors. In addition, harsh or erratic parental discipline as well as cold or rejecting parental attitudes, have been associated with the lack of internal inhibitions underlying several risky behaviors. Physical abuse by parents has been associated with an increased risk of becoming a violent offender later in life.

School climate, poor neighborhood quality, low socioeconomic status, and poor (or no) relationships with non-parental adults, also put youth at more risk for negative behaviors. A landmark study on school academic practices and climate (or institutional cultures) carried out in the United Kingdom indicated that frequent disciplinary interventions by school teachers were linked with more disruptive behavior and that pupil behavior improved when teachers used ample praise. In addition, teachers who spotted disruptive behavior at an early stage and dealt with it appropriately and firmly with the minimum of interference obtained better results and increased students' attention (Rutter 1979).

The risks of becoming criminally involved are higher for young people raised in disorganized inner city areas characterized by physical deterioration, overcrowded households, publicly subsidized housing and high residential mobility. It is not clear,

however, whether this is due to a direct influence on children, or whether environmental stress causes family adversities which in turn cause delinquency.

The prevalence of offending by pupils (i.e. bullying) varies widely among secondary schools. But it is not clear how far schools themselves have an effect on delinquency (for example, by paying insufficient attention to bullying or providing too much punishment and too little praise), or whether it is simply that troublesome children tend to go to high delinquency-rate schools.

It is not clear whether membership in a delinquent peer group leads to criminal offenses or whether delinquents simply gravitate towards each other's company (or both). However, breaking up with delinquent friends often coincides with desisting from crime.

Personality traits such as impulsiveness, hyperactivity, restlessness and limited ability to concentrate have long been associated with academic underperformance and a poor ability to foresee the consequences of engaging in antisocial behaviors and delinquency.

All these factors influence aspects of youth development such as personality development, learning ability, concentration, self-regulation, persistence, motivation, and risk aversion—factors that, in turn, determine the educational and professional success of the individual. Therefore, youth surveys should include sections that measure these factors of risk exposure.

More recently, a growing number of studies have emphasized the importance of inter-temporal preferences on youth behavior and decision-making. However there is little evidence that indicates which data collection methods and instruments would provide an accurate measure of this dimension. In this chapter we provide some basic guidelines for adapting survey instruments in order to collect information on these preferences and other risk factors that have proven essential for the prediction and prevention risky behaviors.

## 2. Dimensions and indicators of interest for measuring risk factors

As with risk behaviors, the measurement of risk factors presents methodological challenges, although of a different nature. Also, depending on the factors in question, the complexity of measurement varies considerably. For example, while experts generally agree about how to measure academic success and performance (cognitive development) through international standardized tests, there is significant disagreement about how to measure life skills (non-cognitive development), personality traits, and intertemporal preferences of youth.

Accordingly, just as Chapter 2 provided tools for measuring youth risk behaviors, in this chapter we address risk factors, whose measurement is more problematic. Specifically, we address risk dimensions that have a standardized measurement methodology and indicators that are commonly used in youth work: (i) education; (ii) labor market; (iii) social networks; (iv) microenvironment; (v) mental health; and (vi) use of time. Table 5 presents a systematization of these main dimensions. The recommendations and considerations relevant to the design and collection of data for these indicators are the same as those mentioned in the previous chapter, which addressed the study of risk behaviors.

In the following sections, we focus on the special challenges of measuring non-cognitive skills and temporal preferences, which, despite significant progress, still lack a standardized methodology.

**Table 5. Dimensions and Indicators for the Study of Youth Risk Factors<sup>17</sup>**

Dimension – Indicator	
<b>A. Education</b>	
1	School dropout
2	Grade repetition
3	Scores on standardized test of general knowledge and cognitive development <sup>3</sup>
4	Age-grade distortion
<b>B. Labor market/job training</b>	
5	Has re-entered the education system or labor force
6	Is unemployed
7	# days work absenteeism
8	# days of paid work in the last month
9	# days of volunteer work in the last month
10	# days of job training
11	# days without work (unemployed) in the last month
12	# days spent caring for family (children/seniors) during the last month
13	Post-training employment history: retention and job loss

Source: Authors.

<sup>17</sup> The Comprehensive Test of Basic Skills.

Dimension – Indicator	
14	Quality of employment (social security benefits, health insurance, etc.)
15	Time devoted to job search
16	Income from employment
17	Household consumption
<b>C. Personality traits<sup>17</sup></b>	
18	Personal perception of his/her conscientiousness
19	Personal perception of his/her openness
20	Personal perception of his/her agreeableness
21	Personal perception of his/her extroversion
22	Personal perception of his/her neuroticism (instability and insecurity)
<b>D. Time preferences</b>	
23	Preference for immediate vs. future compensation (object A vs. B) <sup>18</sup>
24	Risk perception
25	Perception of control over the future
<b>E. Social networks</b>	
26	Composition of the young person's social networks and his or her interaction with them
27	Level of participation in social activities
<b>F. Micro- or family environment</b>	
28	Education level of the parents or guardians—completed elementary school (or less)
29	Currently lives with both parents or guardians
30	Confirms spending time with parents
31	Feels like he/she can talk about his/her problems with parents or guardians

<sup>18</sup> Indicators based on the Big Five personality traits, which establish five dimensions for measuring personality: conscientiousness, openness, agreeableness, extroversion, and neuroticism of the individual. Each personality trait is measured by responses to a battery of questions for each trait (see Costa and McCrae 1992). It includes (a) capacity for decision-making, (b) respect for others, (c) capacity for critical thinking, (d) capacity for creative thinking, (e) responsibility, (f) management of emotions, (g) communication, (h) capacity for conflict resolution and management, (i) self-esteem, (j) cooperation, (k) empathy (relationships with others, sense of happiness, wellbeing), (l) respect.

<sup>19</sup> For example, based on values and ranges predefined by Kirby et al. (1999), "Would you prefer 54 dollars today or 55 dollars in 117 days?" Compensation can range from 11 to 85 dollars. The time horizon can also vary between 7 and 186 days.

Dimension – Indicator	
32	Feels like there is a relationship of trust (or security) in the family
33	Perception of being discriminated against in the community (or school or work environment)
34	Has experienced violent reactions or abuse from parents or guardians
35	Feels like he/she has positive relationships with adults other than parents/guardians
36	Substance abuse (drugs or excessive consumption of alcohol) in the home
37	Considers his/her (or the family's) access to health care to be limited (insurance, no access to health centers, distance, cannot get care without parental permission, etc.)
38	Perceived level of violence in the community
39	Perception of safety in the school environment
40	Percentage of youth who report confidence in institutions (police, justice system, community networks)
<b>G. Mental health</b>	
41	Experiences symptoms of depression (interfering with the ability to work, study, sleep, eat and enjoy activities)
42	Experiences feelings of isolation
	Use of time
43	Perceptions about the possibility of relocation (change of address, country of residence)
44	Activities most frequently performed

Source: Authors.

### 3. The importance of non-cognitive skills as risk factors

Non-cognitive development has become a highly relevant area of research. There is evidence that high cognitive test scores are likely to result not only from high cognitive skills, but also from high motivation and adequate personality traits. Cognitive skills are therefore related to and partially explained by non-cognitive skills, and there is emerging evidence in empirical economic literature on the relative importance of non-cognitive skills for school and labor market outcomes. But have researchers identified anything that that policy makers are likely to be able to use in the next few years? Or are we going to be defeated by the measurement problem? The first problem we face is the lack of standardized terminology. A term like “self-regulation” is used in different senses: the ability to maintain attention in the face of distraction,

the inhibition of learned or automatic responses, or the quenching of emotional responses. The relation among these senses is not clear, and each might be measured differently by self-ratings, teacher ratings, or various behavioral tasks. However, different measures do correlate with one another, indicating a common core (Sitzman and Ely 2011). Angela Duckworth (Duckworth and Quinn 2009) has made headway in developing a standard measure of “grit” (distinguished from self-control by its emphasis on the pursuit of a long-term goal). So while the measurement problems for non-cognitive factors are significant, they shouldn't be overstated.

Performance on most tasks depends on effort, personality traits, cognitive ability, and incentives, although the importance of each varies according to the task (Heckman 2012). Recent work in the area of cognitive development suggests that both cognitive and non-cognitive skills (also called “soft skills” or “personality traits”) can be altered over the course of the life cycle, although the specific age-appropriate interventions and mechanisms differ substantially.

### 4. Measuring predictors of success on different tasks and finding causal links

There are countless measures of cognitive and non-cognitive abilities, and even the most widely accepted proxies seem to be insufficient to determine their impact on later outcomes in life. Recent developments have led to further investigations of the effects on youth risk behaviors of inter-temporal preferences and other personality traits. The guiding intuition for these investigations, as well as the most common measurement tools, will be addressed in the next sections.

Identifying the importance of different personality traits (both cognitive and non-cognitive) and their effects on one another and on outcomes (e.g. high-risk behaviors or socioeconomic status) is extremely challenging. The main difficulties stem from the presence of unobservable variables correlated with the explanatory factors (unobserved variable bias), measurement error, and reverse causality or simultaneity (e.g., cognitive and non-cognitive skills might be simultaneously determined).

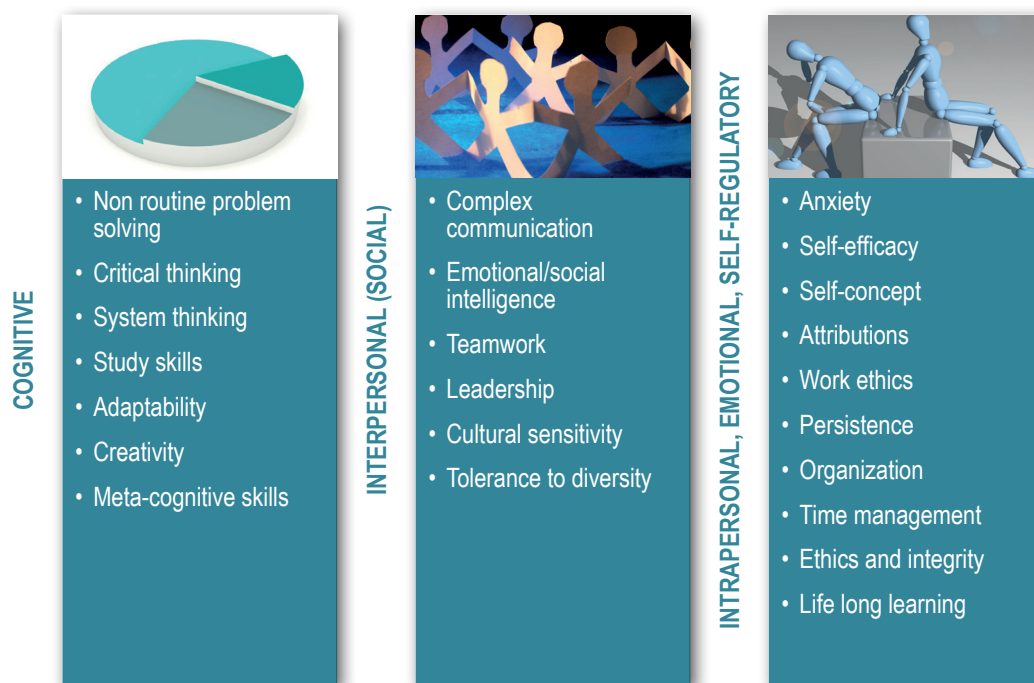
Many of the risk factors mentioned above are interrelated or share common causes with the risk behavior they supposed to explain.

The challenges presented by their measurement notwithstanding, evidence points to the importance of non-cognitive skills in learning and cognitive skills. Persistence, dependability and other under-studied personally traits play as important a role in work and school success as do more easily measured skills, such as those recorded on achievement tests (Heckman 2012).

Despite the difficulty of demonstrating causal links with performance on different tasks, there is evidence that: (i) incentives can affect performance on IQ tests; (ii) multiple traits affect performance on cognitive tasks; and (iii) measures of personality traits predict meaningful life outcomes. For instance, conscientiousness (the tendency to be organized, responsible, and hardworking) predicts educational attainment, health, and labor market outcomes as strongly as measures of cognitive ability (Heckman, 2012).

Today, there are two problems inherent in measuring non-cognitive skills or personality traits: i) the lack of consensus about their definition and categorization, and ii) the **measurement bias** to which they are subject.

Figure 7. 21st Century Skills



Source: Center for Enrollment Research, Policy and Practice.

## 5. Can we measure success in life?

Heckman (2012) argues that success in life goes beyond the cognitive and learning abilities of the individual. Emphasizing the development of non-cognitive skills, he considers personality traits such as persistence, attention, motivation, and self-confidence to be essential for personal and professional success. Heckman also believes that it is essential for appropriate public policies to be implemented from early childhood in order to ensure the proper development of the individual and his or her human capital.

While public attention tends to focus on the measurement of the cognitive skills measured by intelligence tests (IQ), achievement tests, and PISA tests (Program for International Student Assessment), there is no such unanimity in the measurement methodology of non-cognitive skills.

### Definition

The classification of personality characteristics is still being developed and refined. Notable contributions include Filer's (1981) traits of vitality, efficiency, speed of organization, responsiveness, and enthusiasm vs. fatigue, and the work of Bowles et al. (2001), which emphasizes vitality, reliability, and credibility. The efforts of Goldberg (1971) and Barrick and Mount (1991) also stand out as the basis for many studies (Costa and McCrae 1992; Goldberg 1993; Duckworth and Heckman 2008). This line of research has led to the proposal of the **Big Five Dimensions** or simply "**Big Five**" as a system of categorization.

This model conceptualizes personality at its highest level of abstraction:

1. extroversion,
2. conscientiousness;
3. emotional stability;
4. agreeableness;
5. openness to experience.

In this model, each factor encompasses a number of more specific subfactors, which generates intra-correlations between groups (Heckman 2011).

Other classifications of personality or non-cognitive skills (see next table) make reference to **personal and social skills** (dimensions of self-control, decision-making, social skills, resilience, and good appearance); **non-cognitive factors or beliefs** (personal mastery, self-efficacy, self-esteem, long-term vision or grit); and **behavior patterns** (initiative and leadership, long-term vision or persistence, pro-social behavior, non-aggression) (Guerra 2010).

## Measurement

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In the field of psychology, the traditional instruments for measuring personality are self-administered tests (most are intended to describe and infer individual differences), while studies with an economic emphasis on tend to work with instruments that measure preference parameters. However, in both cases, the majority of instruments used are self-administered (usually a closed battery of questions or scenarios) or based on the subjective opinion of a third party (a psychologist or teacher).

Also, keeping pace with developments in classification, a variety of instruments and measurement scales have emerged. For example, the **scales** used to measure the Big Five dimensions

vary in their level of detail. The most comprehensive study is the 240-item NEO Personality Inventory of Costa and McCrae (1992), which was later revised as the NEO-PI-R. More user-friendly, abbreviated scales include those of Benet-Martínez and John (1998); John and Srivastava (1999), whose version uses 100 characteristics; the trait descriptive adjectives (TDA) of Goldberg (1992); and the most recent proposal by Gosling et al. (2003).

Among the scales used for other classifications, the International Personality Item Pool (IPIP) and Duckworth and Quinn's (2009) scale for measuring persistence are noteworthy examples.

Lastly, considering that the ultimate goal of public policies or programs aimed at youth is to have a favorable impact on their development, it is worthwhile to analyze the basis for possible modifications of youth risk behaviors.

Such changes can be measured in various ways; Heckman et al. (2008) suggest two classifications:

(a) The observation of *mean-level* change (acquisition or significant development of some specific skill) vs. *rank-order* change (prioritization or ordinal ranking of skills, for example, curiosity in adolescence is more "intense" than emotional stability, while the priority is reversed in adulthood);

(b) *Normative changes* ("expected" changes that occur in a normal context, for example, in line with a "typical" adolescent skills) vs. *non-normative* changes (those induced or caused deliberately, for example, through the intervention of the parents or a specific program, or those caused by trauma).

### Box 2: Non-cognitive skills

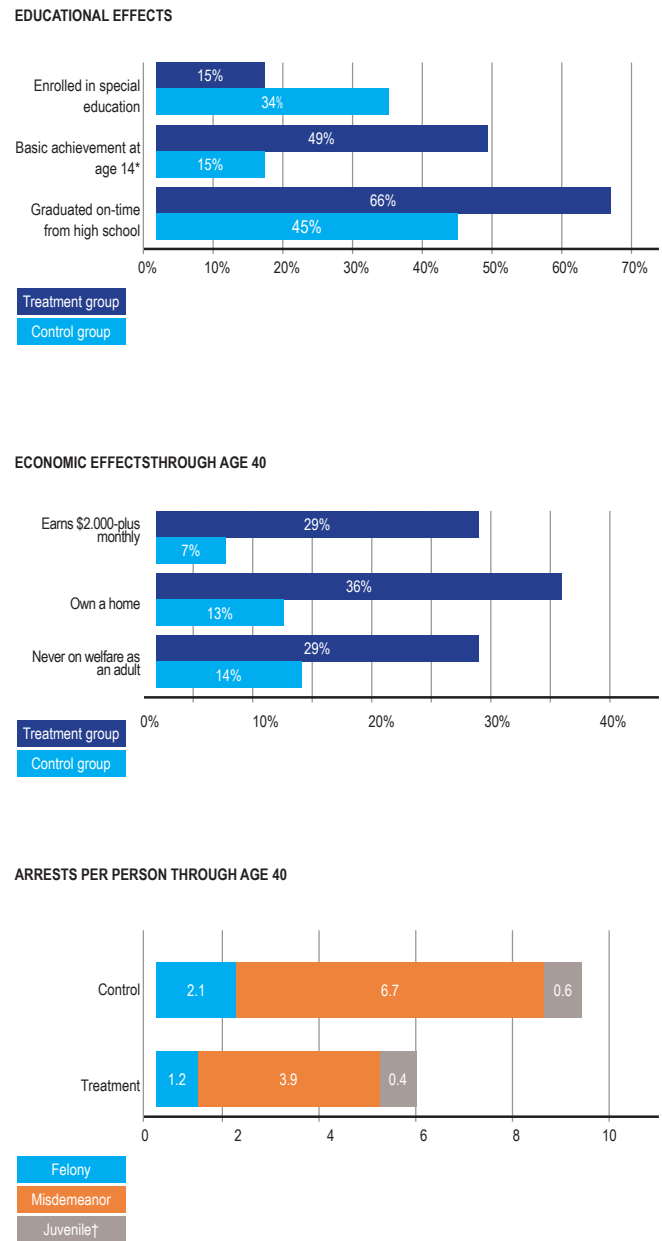
Heckman et al. (2008) and Heckman (2011) define cognition as abstract problem-solving skills, while other aspects of personality—the non-cognitive traits—such as shyness, sociability, time preferences, impulsivity, agreeableness, extroversion, empathy, and sense of humor, are categorized separately regardless of their role in cognitive processes.

The influence of non-cognitive skills on the success of interpersonal relationships, at both school and work, has been studied for quite some time (beginning with the studies of Dreeben (1967), Parsons (1959), Jencks et al. (1972)). The first empirical studies of Jencks et al. (1979) provide evidence that leadership, study habits, and persistence, among others, are positively correlated with employment and wages in successive years (when corrected for socioeconomic context). More recent studies also highlight the effects of leadership (Rosenbaum 2001), personality determination, risk aversion, and time use preferences (Borghans et al. 2008), all of which have effects on future earnings, while conscientiousness is an important predictor of job performance (Barrick and Mount 1998). From another perspective, studies such as Holzer (1996) show that when employers choose staff, particularly for jobs with low educational requirements, they tend to base their hiring decisions on characteristics such as the applicants' motivation, verbal skills, and good manners.

One of the most studied programs that have provided evidence for the effects of non-cognitive skills is the renowned American preschool program known as the Perry Preschool Project, which focuses on the development of preschool children from disadvantaged economic backgrounds. The longitudinal study of Cunha et al. (2010) shows that the program's interventions delivered a high return on cognitive skills in the short term, but that this return dissipated over time. However, improvements in personal skills or changes in personality and behavior persisted over the long term, resulting in better work outcomes and social interactions in adulthood. This evidence strengthens the previous results of Heckman et al. (2007 and 2008).

Thus we can confirm that non-cognitive skills are developed over time through a variety of processes, including self-learning, life experiences, or external interventions that can have long-term effects (Cunha and Heckman 2007; Cunha, Heckman and Schennach 2010). Furthermore, these skills tend to stabilize in adulthood (Almlund et al. 2011), with skills such as empathy, agreeableness, and conscientiousness increasing over the years (maturation effect) and behaviors related to extroversion and openness to new experiences decreasing over time (group effect).

Figure 8. Effects of the Perry Preschool Project



Source: Fuente: Schweinhart, L. J., et al. (1993).

Table 6. Personality Dimensions and Examples of Measurement Scales

CLASSIFICATIONS OF PERSONALITY DIMENSIONS		EXAMPLES OF SCALES		
BIG FIVE DIMENSIONS (Almlund et al. 2011)	PERSONAL AND SOCIAL SKILLS (Guerra 2010)	Revised NEO Personality Inventory (NEO-PI-R) (Big Five Dimensions)	Ten-Item Personality Inventory 7-point scale (Gosling et al. 2003) (Big Five Dimensions)	8-item Grit Scale (short version) <i>(Duckworth and Quinn 2009)</i>
<b>CONSCIENTIOUSNESS</b> Tendency to be organized, responsible, and hardworking	<b>SELF-CONTROL</b> Control over emotions, desires, actions; ability to inhibit a desired response	<ul style="list-style-type: none"> <li>Competence</li> <li>Dutifulness</li> <li>Achievement-striving</li> <li>Self-discipline</li> <li>Deliberation</li> </ul>	<ol style="list-style-type: none"> <li>Dependable, self-disciplined</li> <li>Disorganized, careless</li> </ol>	<ol style="list-style-type: none"> <li>New ideas and projects sometimes distract me from previous ones.</li> <li>Setbacks don't discourage me.</li> <li>I have been obsessed with a certain idea or project for a short time but then lost interest.</li> </ol>
<b>OPENNESS TO EXPERIENCE</b> Tendency to be open to new aesthetic, cultural and intellectual experiences	<b>DECISION-MAKING</b> Search for relevant clues, evaluate response options, consider consequences	<ul style="list-style-type: none"> <li>Fantasy</li> <li>Aesthetics</li> <li>Feelings</li> <li>Actions</li> <li>Ideas</li> <li>Values</li> </ul>	<ol style="list-style-type: none"> <li>Open to new experiences, complex</li> <li>Conventional, uncreative</li> </ol>	<ol style="list-style-type: none"> <li>I am a hard worker.</li> <li>I often set a goal but later choose to pursue a different one.</li> <li>I have difficulty maintaining my focus on projects that take more than a few months to complete.</li> </ol>
<b>EXTROVERSION</b> Orientation of one's interests and energies toward the outer world of people and things	<b>SOCIAL SKILLS</b> Emotional intelligence, effective communication, social interaction, ease of self-regulation	<ul style="list-style-type: none"> <li>Warmth</li> <li>Gregariousness</li> <li>Assertiveness</li> <li>Activity</li> <li>Excitement-seeking</li> <li>Positive emotions</li> </ul>	<ol style="list-style-type: none"> <li>Extroverted, enthusiastic</li> <li>Reserved, quiet</li> </ol>	<ol style="list-style-type: none"> <li>I finish whatever I begin.</li> <li>I am diligent.</li> </ol>
<b>AGREEABLENESS</b> Tendency to act in a cooperative and unselfish manner	<b>ABILITY TO RECOVER/ BOUNCE BACK</b> Ability to handle stress, bounce back from adversity (resilience)	<ul style="list-style-type: none"> <li>Trust</li> <li>Straightforwardness</li> <li>Altruism</li> <li>Compliance</li> <li>Modesty</li> <li>Tender-mindedness</li> </ul>	<ol style="list-style-type: none"> <li>Sympathetic, warm</li> <li>Critical, quarrelsome</li> </ol>	
<b>NEUROTICISM/EMOTIONAL STABILITY</b> Neuroticism is a chronic level of emotional instability / Emotional stability defined as predictable and consistent emotional reactions, absence of mood swings	<b>GOOD APPEARANCE</b> Maintains a clean, neat appearance	<ul style="list-style-type: none"> <li>Anxiety</li> <li>Angry hostility</li> <li>Depression</li> <li>Self-consciousness</li> <li>Impulsiveness</li> <li>Vulnerability</li> </ul>	<ol style="list-style-type: none"> <li>Calm, emotionally stable</li> <li>Anxious, easily upset</li> </ol>	

Note\*: definitions from the American Psychological Association Dictionary of Psychology.

Source: Developed by the authors from Almlund et al. (2011), Gosling et al. (2003) and Duckworth and Quinn (2009).

## 6. How to measure temporal preferences

Temporal preferences refer to the value that an individual assigns to a choice or decision (consumption, investment, etc.) based on the point in time when the benefits or costs are realized. In chapter 2, some of the most relevant developments concerning these preferences in youth populations were presented from an economic standpoint.

These preferences have been attributed to individual characteristics such as impulsivity, differences in cognitive representation of the near and distant future, future discounting (hyperbolic discounting, future myopia), or differences in time horizons, among others.

But how do we measure temporal preferences and tastes, or the level of risk that a young person is able to assume in order to obtain immediate gratification (e.g., safe sex versus the possibility of acquiring an STD)? Psychologists (Edgeworth 1981; de Quervain et al. 2004), economists (Samuelson 1938), and social scientists (Gabaix and Laibson 2005; Gabaix et al. 2006) have dedicated themselves to studying this dimension of personality as inherent to individual **mechanisms of self-regulation**.

More recently, measurements have taken the form of social experiments. The best-known experiment is the “Stanford marshmallow” study of delayed gratification, conducted in 1972 by psychologist Walter Mischel (1972). In this study, each child was offered a marshmallow, and a second marshmallow was promised as a reward on the condition that the child waited to eat the first marshmallow until the experimenter gave permission to do so. The scientists measured how long the child was able to resist the temptation to eat the marshmallow and whether this was or was not correlated with the individual’s future success. A recent publication that tracks this experiment 40 years later revisited some of the same children, now adults. The study reveals that these differences still exist: those children who showed a greater willingness to delay gratification still demonstrated those skills in adulthood, while those who immediately ate their marshmallow were more likely to seek instant gratification. Moreover, brain imaging showed significant differences between the two groups in two areas: the prefrontal cortex and ventral striatum (see figure below).

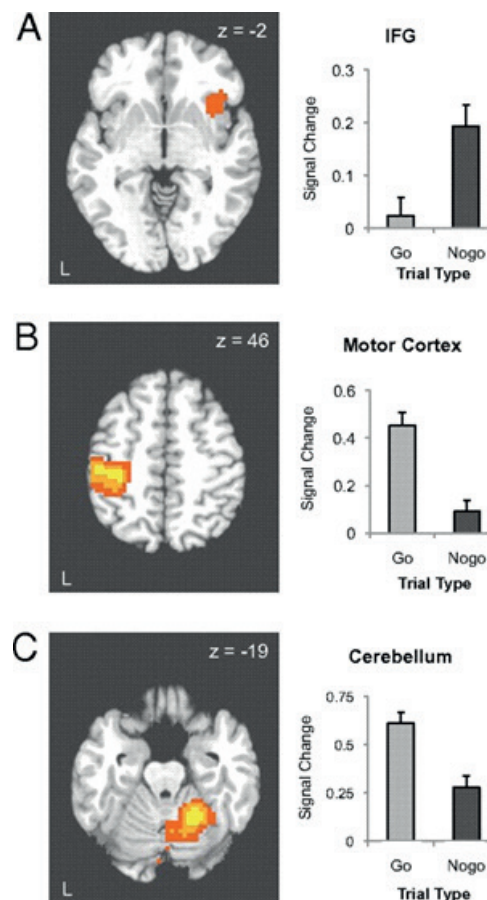
Similarly, Chabris et al. (2008) use two different methods to measure intertemporal preferences. First, they use the classic method of inferring preferences from a series of options (subjects choose between \$X now or \$Y in D days). Second, a new approach uses only the response time data for these options (the time it takes subjects to choose between \$X now or \$Y in D days). Both methods yield nearly identical results. However, the researchers argue that measuring response time sheds light on how skills and cognitive processes interact in the process of making the decision.

### Box 3: The brain and the perception of gratification

The various images show activation of different parts of the brain when faced with “go” (immediate gratification) versus “no go” (delayed gratification) tasks. These images were made possible through new brain measurement techniques, and they correspond to individuals who were studied 40 years after the initial preschool experiment.

Source: Casey B. J. et al. (2011).

**Figure 9. Brain: differences between the prefrontal cortex and ventral striatum**



Source: Casey B. J. et al. (2011).

Hyperbolic discounting relates to the tendency to prefer smaller though immediate rewards to larger but further delayed rewards.



Hence, these preferences can be tested by offering large rewards at the price of waiting a set amount of time and observing if individuals behave less impatiently (i.e. if they choose to wait).

A recent experiment that tested for the presence of hyperbolic discounting was carried out among students at Rutgers University and New York University in 2002 and 2003 (Shopher and Sheth 2006).

The questionnaire included forty questions, and for each question the students had to choose between an earlier and a later monetary payment (determined by applying a constant compounding rate to a base amount). Students were told that at the end of the experiment one of the forty options would be randomly chosen and that would be their actual payment. Payments ranged from \$8 to \$40 and some of them included a time delay (of at most 8 weeks). In those cases, students were required to return to the same room to collect it on the appointed day.

The questions were designed to vary the base amount (8000 or 20,000 francs), the compounding rate (low, medium, or high), the initial time (today or in 2 weeks) and the time delay between choices (2, 4, or 6 weeks). In addition, individuals were randomized to take either a low-rate questionnaire (with compounding rates of 0.1, 0.5, and 1% per week) or the high-rate questionnaire (with compounding rates of 1, 5, and 10% per week).

#### Box 4: Sample Questions from Shopher and Sheth (2006)

##### Higher-Rates Questionnaire

1. Which do you prefer, 8000 francs in 0 weeks, or 8161 francs in 2 weeks?
2. Which do you prefer, 8000 francs in 0 weeks, or 8325 francs in 4 weeks?
3. Which do you prefer, 8000 francs in 0 weeks, or 8492 francs in 6 weeks?
4. Which do you prefer, 8161 francs in 2 weeks, or 8325 francs in 4 weeks?
5. Which do you prefer, 8161 francs in 2 weeks, or 8492 francs in 6 weeks?

##### Lower-Rates Questionnaire

1. Which do you prefer, 8000 francs in 0 weeks, or 8016 francs in 2 weeks?
2. Which do you prefer, 8000 francs in 0 weeks, or 8032 francs in 4 weeks?
3. Which do you prefer, 8000 francs in 0 weeks, or 8048 francs in 6 weeks?
4. Which do you prefer, 8016 francs in 2 weeks, or 8032 francs in 4 weeks?
5. Which do you prefer, 8016 francs in 2 weeks, or 8048 francs in 6 weeks?

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# CHAPTER 4

## Enhancing the Data Reliability

### Validity, Confidentiality, Privacy, and Consent

This chapter addresses the core elements that pertain to the reliability of survey data, as well as the basic conditions of survey administration, such as confidentiality, informed consent, and privacy, particularly as these relate to work with youth. A fundamental aspect of survey preparation is to ensure the validity and reliability of the data. Accordingly, the first part of this chapter explains various techniques—including the use of biological tests—that can enhance the conditions related to reliability, seeking where possible to reduce bias and increase the accuracy of data collection instruments. This matter is especially delicate in the case of complex issues of youth risk behaviors, such as the measurement of substance abuse and/or risky sexual behaviors. The second part of the chapter discusses conditions necessary for the administration of youth surveys, such as the importance of being familiar with the relevant ethics committees and the kinds of approval required to conduct studies with youth. It also discusses essential aspects of confidentiality and privacy that should be considered during the design and administration of youth surveys. The chapter ends with a detailed description of the characteristics of parental consent and informed consent, and special cases such as studies with groups of youth in reformatories or without identifiable guardians.

## 1. How Can We Trust the Data?

Is administering a survey on sexual activity to a young person in the presence of his or her parents the same as doing so in private? Does it make a difference if the survey is self-administered by the young person or conducted by an interviewer? Does it matter if the interviewer is the same age or opposite gender? How do these factors influence the data and its quality? Ultimately, how do we know when the information provided is accurate or not?

The design and implementation of surveys is neither easy nor cheap, and the effect of public policies whose design is based on skewed data and arbitrary conclusions is anything but trivial. Therefore, it is crucial to have high-quality, accurate data that reflects the reality of youth and supports the design of effective interventions for “appropriate issues.”

Researchers often draw an imaginary line between the design and implementation of a study. It is not unusual for research studies to be designed without consideration for their administration, or for the risks and biases that could affect the collection of data. This dualistic mentality with regards to survey design and implementation impacts all aspects of research and creates uncertainty about the **validity** of data.

The mode of survey administration is not a separate aspect of research design methodology; it must be conceptualized and integrated in the early stages. Administration methodology is vital to ensuring the success of research, as this depends on minimizing any factors that may affect the validity of data (age, socially acceptable behavior, privacy, gender of the interviewer and respondent, etc.).

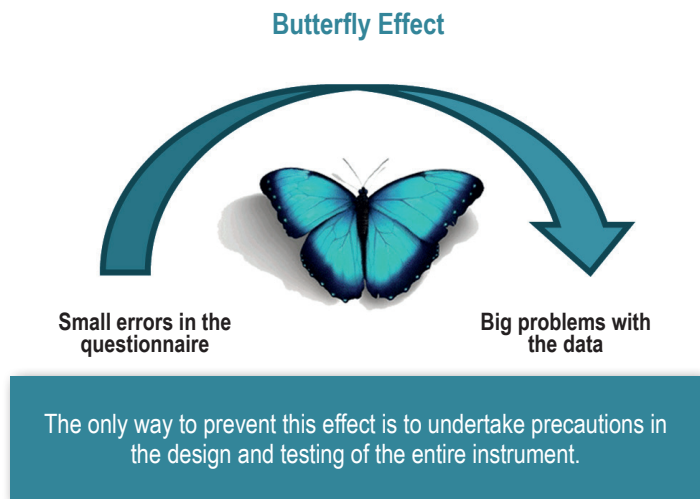
**Cognitive** aspects (the subject’s understanding of the survey) and **situational** aspects (the context in which the interview takes place) stand out from among those that influence the validity of research results. The consideration of both perspectives—cognitive and situational—during the design phase is essential to maximizing the quality of research data. Likewise both aspects are crucial to the implementation and administration of a survey as well.

On the one hand, it is important to consider how cognitive processes of respondents can influence responses to a research study. The respondents’ understanding and assimilation of questions, the memory encoding and retrieval of relevant information, and the search for and generation of an appropriate response are all key steps of the response process that should be anticipated by survey design and administration. Any deficiency or alteration in cognition can affect the final response and lead to an “estimated”, “creative”, or “convenient” response.

On the other hand, the situational perspective focuses on problems of validity that arise because of external factors related to the context in which the interview occurs. Among the most influential factors, we emphasize the presence of third parties during the administration of the survey, respondents’ perceptions of the level of privacy, and the confidentiality conditions of the study.

The perception of what is **socially desirable**, reflected in the concern to make a favorable impression (or to say what you think someone wants to hear), can be used to explain prejudices and reactions linked to the situational perspective. Questions that are most likely to be influenced by the perception of social acceptance are those that contain response options involving attributes that the respondent considers to be convenient.

One of the ways to counteract social desirability bias is to use self-administered instruments. However, although these instruments afford greater privacy and can thereby help to reduce the direction of social bias, they are very difficult to administer properly, thus dramatically influencing the quality, validity, and reliability of the results. Seemingly minor errors in the order or format of questions can lead to the failure of the entire research study.



These limitations must be taken into account when designing the survey instrument to avoid compromising the quality of the data obtained. Chapter 6 explores the advantages and disadvantages of using different modes of administration in one study context.

Obtaining an accurate measurement in studies with high response sensitivity—as is the case in the study of risk behaviors—is a challenge that has not yet been adequately addressed. The evidence suggests that it is possible to **reduce bias and increase the accuracy** of data collected through:

- ✓ proper planning and careful preparation of the study, focusing on the design of the questionnaire;
- ✓ selection (considering gender, age, and ethnicity) and training of interviewers;
- ✓ appropriate monitoring and feedback from the pilot test;
- ✓ tailoring of the mode of administration to the study's characteristics and target population;
- ✓ consideration of the premises to ensure confidentiality and privacy.

### Box 5: Reliability versus Validity

Measurement instruments require scientific studies to determine whether they generate valid inferences and whether their results demonstrate an acceptable level of stability. In other words, they require reliability and validity studies to prove their effectiveness. However, reliability and validity concern distinct issues of measurement that should be differentiated.

Reliability concerns the consistency of the instrument, in other words, whether its measurements are reliably stable. For example, imagine that I measure my body temperature using a thermometer and it reads 39 degrees Celsius, and then a minute later I take my temperature again and the thermometer reads 36. Three minutes later I check the thermometer and now it reads 42. This thermometer would not be considered reliable (as its repeated application produces different results).

In contrast, validity concerns the degree to which an instrument actually measures the variables targeted for measurement. For example, a valid instrument for measuring intelligence should measure intelligence and not memory. Validity is a more complex issue that must be addressed for every measurement instrument that is administered. Kerlinger (1979) raises the following question with respect to validity: *Are you measuring what you think you are measuring?*



Nevertheless, even if all these aspects are taken into account, the evidence points to **biological testing** as an important indication of the reliability and validity of collected data. These tests offer the great advantage of being objective, reliable, and irrefutable.

However, these tests have been frequently criticized for their high cost, the technical and logistical difficulties they involve, the complexity of defining benchmarks for comparison purposes, as well as for ethical issues related to their application. However, recent developments have mitigated these difficulties, so that today there exist low-cost, easy-to-administer tests that do not need to be analyzed in a laboratory—in some cases, the results are immediately available. These tests have been used not only to validate prevalence and incidence data in youth research but also to identify potentially vulnerable youth. For example, cortisol tests (blood, saliva) have been used to measure mental stress while hemoglobin tests have been employed to measure anemia.

- ✓ A few notes of caution about the implementation of this type of testing:
  - ✓ Use biomarkers for which there is enough variation. It may be useful to conduct a small prevalence study before going to scale,
  - ✓ The use of biomarkers is not neutral and may be considered an intervention in and of itself (especially if the results are provided to the young person or if consequent treatment is provided).
  - ✓ Testing must be approved by an ethics committee.
  - ✓ If young people refuse to participate, and if that refusal is not random (which is quite likely), there is a potential for bias, especially if refusal rates are high (likely underestimation).

Below are listed the most innovative and commonly used biomarkers to validate the measurement of specific risk behaviors.

### Illicit Substance Abuse

How accurate can the measurement of substance abuse be in youth? Numerous researchers have expressed concern about decision-making based on self-reported data from teenagers or young adults, especially in the area of substance abuse (Bailey, Flewelling, and Rachal 1992; Baker and Brandon 1990; Harrison, Haaga, and Richards 1993; Stone et al. 1999; Turner, Lessler, and Gfroerer 1992).

The perception of social rules (what is socially acceptable and what is stigmatized) definitely influences responses and limits the validity of data that is supposed to measure the incidence and prevalence of illicit substance use. It is also important to know and understand the social context of the individual, and to differentiate the type of substance that is being studied and the social perception that each type evokes. Therefore, heroin consumption is not the same as the use of marijuana or alcohol by minors (which is socially accepted and tolerated in many countries). Issues such as confidentiality, privacy, coercive instruments, and social context reduce problems of under-reporting of substance use by youth (or over-reporting in specific cases such as marijuana or alcohol use) (Dembo et al. 1999).

Although police data and clinical data can be very helpful, they are of little use in measuring the prevalence and incidence of consumption. The use of primary data is therefore unavoidable subject to the validity restrictions mentioned above. As a result, it is necessary to validate this data externally and through biological testing.

Urine tests are frequently used as validators, although evidence of drug use has also been detected in samples of blood, hair, semen, saliva, meconium, and sweat (Smith and Liu 1986). Each test provides specific, unique information regarding the use of substances and has its own advantages and limitations. Some of these tests are described further below:

**Urine analysis.** According to Jaffe (1998), a negative urine screen does not necessarily indicate an absence of drug use. First, most drugs can only be identified in the urine within 24 to 36 hours after use (with the exception of marijuana, traces of which may be identified two to three weeks after use). Second, a negative finding may be the result of using drugs in combination with excessive fluid intake.

**Hair analysis.** This analysis provides a longer-term retrospective assessment. The use of substances one to three months earlier can be detected through the scalp. The relative ease of administration of this test (non-invasive, fast and low-cost) makes it an optimal candidate, the only disadvantage being that it is unable to detect drug use that occurred the previous week.

However, in spite of the relative ease of taking a hair sample, it is not always possible to perform this test. Length of hair, for instance, can limit the possibility of analysis. For example, evidence (Dembo et al. 1999) from comparisons of tests based on hair and urine analyses indicates that urine analysis is more sensitive to substance use for individuals with short or shaved hair.

## Box 6: How to arrive at truthful answers

### A. The bogus pipeline and lying to get the truth

This procedure was developed by Edward Jones and Harold Sigall (1971) in order to reduce distortions in the responses of young people. The bogus pipeline leads respondents to believe that their answers are subject to validation through a fake polygraph. As part of field protocol, the interviewers inform the respondents that they have instruments that can record the respondents' muscle contractions. Thus this measurement is supposed to provide an accurate assessment of their true attitudes and beliefs.

### B. Randomized response

Warner (1964) introduced this technique to preserve the confidentiality of the respondent in high-sensitivity studies (especially substance abuse and criminal activity). In this case, confidentiality comes from the ability to randomize the answers, so that the interviewer does not know the answer and the respondent is aware of this fact. For example, let us imagine that we flip a coin, and we tell the respondent that whenever it lands on tails, he or she should answer 'yes,' but if it lands on heads, he or she should give a truthful response. We can then deduce the true answer from the distribution of responses.

### C. Unmatched count

Raghavarao and Federer (1979) introduced a technique that allows us to deduce the correct answer through a mathematical model. A group of respondents is randomly divided into two groups. The same questions are asked of both groups, with the exception of an extra question that is given to just one of the groups (the question of interest). The interview subjects only reveal the number of positive responses ('yes') they have given. Since the interviewer does not know how they arrived at that number, this set-up provides the confidentiality necessary to respond honestly.

**Analysis of saliva.** Currently, the analysis of saliva is frequently used to validate self-reports of tobacco use more than other substances. Many study participants, especially women, feel uncomfortable with the test and cannot or will not provide a sufficient amount of saliva for measurement. The use of saliva testing can be practical when, as in urine analysis, a relatively limited window of detection does not exist.

**Analysis of cotinine levels** to determine nicotine use. Patrick and colleagues (1994) note a number of limitations in this method. For example, higher levels of cotinine may be present in users of snuff or chewing tobacco. Furthermore, inconsistent results have been detected in the iterative application of the test.

### Box 7: Recent approaches to measuring biological substance abuse

Recent research suggests to complement measurement with techniques based on self-reported social psychology for “sensitive attitudes” (Bargh and Chartrand, 1999). The premise underlying such methods is that self-report measures tend to elicit conscious thoughts and often an intentionally biased response.

These techniques measure the automatic activation of the response (Eagly and Chaiken, 1993) and attitude toward a particular subject.

Whereas the response is observed as a function of time to make a judgment (on a positive or negative response to a question) Fazio, Sanbonmatsu, Powell, and Kardes (1986) argue that validity is inversely proportional to the time a response is taken once the image is shown.

Given the apparent divergence between actual substance use and self-report, biological evaluation may seem to be the gold standard. However, in the case of measuring this type of behavior, the biological tests available today are far from being a panacea for measurement problems. There is still a great deal to learn about the analyses of hair and saliva, including the appropriate concentrations, conditions that influence sensitivity and specificity of the measurement, dose-test ratio and interpretation of quantitative results, and, for hair analysis, the effects of external contamination, interaction with sweat deposits, cosmetic treatments, and hair pigmentation (Magura, Laudet, and Goldberger 1999).

### Sexual risk behaviors

Currently, the scientific community seems to lean toward biomarkers as the best measurement of risky sexual behavior. For various reasons, for a time ACASI was considered an accurate and valid method that ensured privacy and confidentiality conditions. However, evidence suggests significant variability in the perception of what is or is not private and reliable, and so ACASI is far from perfect (Langhaug et al. 2010).

Generally, study participants are willing to provide biological samples such as urine and saliva, which do not involve invasive measures. The use of blood samples, however, is received less enthusiastically and has the added disadvantage of requiring skilled personnel (nurses) and materials for analysis (and in some cases transport to a laboratory) (Craig and Mindell 2008).

However, technological advances have facilitated the use of biological samples obtained through discrete collection methods, expanding the range of biomarkers that can be integrated and used as survey validators.

Nonetheless, even though these tests can be very effective for estimating the prevalence of sexually transmitted diseases, they do not achieve the level of diagnostic accuracy that can be obtained in a laboratory. These considerations of accuracy are specially important when designing study protocols that provide feedback (test results) to respondents.

It is increasingly common to integrate biological measurement with field interviews. For example, in England, the second National Survey of Sexual Attitudes and Lifestyles (Natsal) incorporated the collection of urine samples (after the interview) to test for STDs—specifically, *Chlamydia trachomatis* (Fenton et al. 2001). This was also the case in a study of homosexuality in London, which incorporated saliva samples into its methodology in order to measure HIV/AIDS.

In Zimbabwe (Minnis et al. 2009), a validation study was conducted using samples of prostate specific antigen (PSA). This biomarker has high predictive value and can be used as evidence of recent sexual activity. It can be detected in vaginal secretion samples collected after exposure to semen. However, it is rapidly eliminated from the body, and it begins to disappear from vaginal fluid immediately after sexual activity (for example, PSA is only detectable in an estimated 29% of women 24 hours after known exposure) and is rarely present more than 48 hours after exposure to semen. The validation results of this study show that of 196 young people who tested positive in the study, half reported that they had not had sex or that they had used protection.

## 2. Confidentiality and Privacy in a Youth Survey

### Confidentiality

The importance of establishing confidentiality and privacy parameters or protocols for survey administration procedures should not be underestimated, as it is key to ensuring the timely development of research and maximizing data quality.

Many of the questions asked in studies of young people are sensitive, thus strict procedures to maintain anonymity are required (Sedlak 2010). Accordingly, the research process must guarantee the anonymity and confidentiality of the data as well as its future use.



There are several techniques to ensure anonymity, including:

- » Requesting that names or other identifying information NOT be included on the answer pages (Reininger et al. 2003).
- » Situational factors. For example, distributing and seating students with space between them in the classroom. In some cases, participants are asked to cover their answer sheets while filling out the questionnaire and/or asked to seal the envelope with the answer sheet inside before handing it in (CDC 2004).
- » Multiple rounds of surveys. In Langhaug et al. (2010), during the first round and after obtaining written consent, each participant randomly selected an envelope with a questionnaire from one of the four modes of administration (SAQ, ASAQ, informal confidential voting interview [ICVI], and ACASI), and a portion of the sample was chosen for the application of the same questionnaire in a second round with the same mode of administration.
- » Numerical codes (instead of names) are frequently used, so that responses are stored in electronic files that are difficult to decrypt without the base model program, preventing someone from connecting the respondent with the institution where he or she can be found (Sedlak 2010; CDC 2009; among others)

Lothen-Kline et al. (2003) examine the effects on participation and response rates for questions about suicide that result from changes to the conditions or confidentiality agreements for data collection in a study of young people between the ages of 12 and 17. In this case, a conditional confidentiality protocol was used: if there were any signs of suicidal thoughts, the information would be released to professionals and the participant's parents. The result shows that young people under the conditional confidentiality protocol were less likely to provide personal information about suicidal thoughts, knowing that this information could be disclosed.

## Privacy

Once the young person has agreed to participate in the study, the interview must be performed in complete privacy. During the process, no one with the potential to inhibit the informant's full participation should be present. Parents or guardians must not be present either, as they can interfere and affect the willingness of the respondent to answer some questions. Also the interviewers and supervisors should not question the respondent outside the interview process.

It is important for the interviewer to be trained to provide a private setting and to record the degree of the interview's privacy on the questionnaire.

### Example:

**Who else was present during the interview (besides the young person)?**

Only include those who were present for 50% or more of the interview.  
*Mark all that apply*

- No one
- A child age 5 or younger
- A child between the ages of 5 and 14
- Spouse or partner
- Another person age 15 years or older

## 3. Parental Consent, Self-consent and Special Cases

### Ethics committees and study approval

Developing studies specific to adolescents and young adults ages 12 to 24 has practical implications for design and implementation. The demand to ensure confidentiality and consent, particularly in the case of minors, adds complexity to the entire process.

To achieve high-quality and valid studies, researchers who work with young people must understand the methodological, legal, and ethical issues related to parental/informed consent. Relevant evidence (such as CDC 2004, among others) indicates that clearly establishing procedures for the administration of surveys protects student privacy while supporting voluntary, anonymous participation.

In social research, **informed consent** generally aims to ensure the rights of individual participants—for example, the right of the respondent to withdraw from the study at any time he or she wishes without having to explain why. The research process must guarantee the anonymity and confidentiality of the data as well as its future use. In some countries, in order to survey minors under 14 one must have the express permission of the parents, although this age may vary depending on the country.

#### Box 8: Strategies to promote an ethical approach to working with vulnerable children or youth

a) Adopt a participatory research approach that involves the whole community and not just the group of young people; b) make certain that the protocols and procedures for obtaining consent are youth-friendly and accepted by the young people; c) provide adequate training for guides or head researchers; d) partner with local institutions or agencies experienced in working with youth; e) clearly describe issues of confidentiality and anonymity; and f) value the subjects' participation in the research.

#### Practical Recommendations

During this process, one must consult the mother or father and the **child to see if he or she wishes to participate** in the survey. Some researchers suggest explaining to children, in simple terms, the research objectives, how long the survey takes, the methodology, etc.

At this point, a **consent letter** is usually provided, which must be signed by a parent or guardian and the respondent. The respondent must be given a copy. This document should be written in clear and simple language, avoiding the use of technical words. The letter documents the young person's willingness to participate in the survey, and it usually includes the name of the organization responsible for the study and a telephone number and address for contact purposes.

This process must be overseen by the **ethics committee** that provides guidance for the investigation. Prior to the survey's implementation, the consent form must be read by a person outside the study in order to assess its clarity and accessibility.

The World Health Organization (WHO) defines adolescents between the ages of 10 and 19 as able to independently provide consent if their capacity for understanding is sufficiently developed (Dickens and Cook 2005).

For its part, the United Nations Convention on the Rights of the Child, which is almost universally ratified, determines children to be all human beings under the age of 18 and defines the obligations for adolescents who have developed the required capacities for self-determination, thereby limiting parental powers in these cases. This convention is framed, in turn, by the International Ethical Guidelines for Biomedical Research Involving Human Subjects, ratified in 1993.

Furthermore, all research must conform to existing regulatory frameworks in each country. Generally, countries do not have specific regulations concerning studies of adolescents and young people; the most common regulations involve the existence of **Institutional Review Boards** or **Research Ethics Boards**, which are responsible for approving research methodologies and/or protocols, particularly in the social sciences.

The procedures that follow are normally tailored to the context of the country, respecting ethical practices for research, safeguarding the health and welfare of the population and the universal rights of human subjects.

In the US, data collection protocols for surveys are similar at the national, state, and local levels. However, depending on the country, there may be variations in local procedures to obtain consent from parents and schools.

In Latin America, there are certain legal frameworks prohibiting non-therapeutic research in children. However, some studies suggest that many clinical investigations still do not make provisions for a strict mechanism of informed consent, leaving children/young people uninformed about the research that is going to take place and showing little regard for their views, thus dispensing with their fundamental rights: see Salgado (2002) for Costa Rica, and Gutiérrez et al. (1996) for Mexico. Escobar (2009) discusses the creation of Colombia's Intersectoral Commission on Bioethics and the complexity of bioethics and research in that field. In Cuba, papers like that of Viada et al. (2001) present guidelines and precautions for research involving human subjects, particularly when working with special populations such as children, the elderly, and pregnant or nursing women, as well as cancer patients, psychiatric patients, the mentally retarded, comatose patients, etc.

#### Types of Consent

The application of surveys and other data collection instruments for research involving children or youth can be performed in homes

or schools. The latter case requires that two levels of permission are obtained—from the schools and from the parents.

Normally, schools grant permission to conduct surveys; the greatest difficulty lies in obtaining permission or consent from the parents.

The procedures for obtaining parental consent can affect study participation rates and costs and lead to selection problems.

### Active Consent

Active consent requires parents to provide written approval for the child's participation in the study. This type of consent usually requires more time and resources, and can reduce the number of participating students. This may be due to the difficulty of getting permission or problems in the delivery/shipment of consent forms to schools (Moberg and Piper 1990; others).

There is evidence showing that the requirement of active parental consent can lead to counterproductive results. In studies on sexual health, parental consent may be particularly harmful and inconsistent with the principles of fairness and confidentiality, as it can be confusing for the respondent and can lead to the silencing of young people who need more support (Flicker and Guta 2008). There is also evidence that active permission may result in the exclusion of minority groups, students with problems at school, and youth who are already engaged in risky behaviors (Baldwin 2003). However, in a 2004 study, the CDC presents evidence that the types of permission or parental consent *do not affect prevalence estimates when students' response rates are high*.

The use of active consent may reduce response rates by 50% unless complementary follow-up and make-up data collection methods are implemented. Baldwin (2003) notes that by seeking active consent a response is generally obtained from only 30% to 60% of students, compared with 93% to 100% using passive consent. Follow-up to obtain written consent could translate into an increase of 55% to 100% of parents giving permission but at a high cost (\$20 to \$25 per student).

### Passive Consent

With passive consent, parents must return the consent letter only if they decline to allow the child to participate in the survey or research. Reiningger et al. (2003) present a study in which all of the students received passive consent forms, and they completed questionnaires administered by trained technicians in

the presence of teachers. These procedures were considered appropriate with respect to the *rights of human subjects in research* by the institutional review board at the university of reference.

To facilitate the development and implementation of protocols for consent, there are guidelines that provide assistance for conducting youth surveys, including examples of parental consent forms, such as the CDC (2004).

### Complementary methods for parental consent

Many committees still question the use of passive consent, so some authors suggest intermediate solutions in order to maximize active consent:

- Sending and receiving consent forms to parents via email.
- Emphasizing the importance of the survey to teachers and asking them to remind students to return consent forms.
- Making telephone calls to parents if forms are not returned. After sending written forms, a tracking method can also be implemented.

There is also the possibility of inferring **implied consent** from a **non-response to a request for active consent**. In tobacco research conducted by Unger et al. (2004), selected students were asked to obtain active consent. Of the 4,427 students selected, only 76% provided written consent, while 9% refused consent and 15% gave no response; this last group was included under the precept of implied consent.

The inclusion of the implied consent group may be significant for studies. In Unger et al. (2004), it proved to be a group composed mostly of males, African Americans, students with poor grades, and smokers. This dual procedure for obtaining consent is useful for acquiring data on students who gave neither positive consent nor a refusal.

### Absence

The CDC (2004) describes an option in the event of a selected young person's absence on the day of the survey. In order to include his or her answers, the questionnaire can be administered on another date, maintaining the confidentiality and privacy protocols of the first group. In the 2003 national survey, 5% of the surveys (664 students) were completed using this complementary method of make-up data collection.

## Informed Consent and the Mature Minor

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Some legal systems may recognize the mature minor doctrine, which allows adolescents themselves to give informed consent. The basic conditions for the acceptable use of this consent are that the adolescent a) must know exactly what is being asked of him or her, b) must be informed of the risks and possible consequences of his or her participation in the research, c) must not have been subject to coercion or manipulation, and e) must give his or her explicit agreement.

A minor is able to give informed consent if he or she has sufficient understanding and intelligence to understand the purpose of the research. Thus the mature minor doctrine depends on the level of maturity and is not related to a defined age limit, although psychological studies indicate that adolescents **have decision-making capacity beginning at the age of 14** (Lena et al. 2004). In this regard, the evidence presented by Bruzzese and Fisher (2003) suggests that children/adolescents under 15 still have trouble fully understanding their rights concerning research participation, parental consent, and self-consent. However, the type of information understood by adolescents is also relevant when evaluating whether they have the capacity for self-consent. There is evidence (Susman et al. 1992) that chronological age is NOT related to the understanding of the issues of informed consent; in general, better answers were obtained about specific elements of information (freedom to ask questions, the length of the research study, and the benefits of participation) and less understanding was demonstrated with regard to abstract elements of consent (therapeutic vs. scientific purpose of an investigation, alternative treatments, etc.).

The Research Code of Ethics of the United States and the United Kingdom recognizes this mature minor doctrine. In the US, the National Commission for the Protection of Human Subjects in Research recognizes situations where parental consent for the participation of young people under 18 in low-risk studies can be obviated. In the UK, young people age 16 and older are considered capable of giving informed consent. In turn, those under 16 may participate in low-risk studies if doing so is considered to be in their best interests; such cases are categorized under the mature minor doctrine and as such do not require parental involvement (Lena et al. 2004).

These changes not only respond to society's evolving views about youth, but they also suggest that, based on existing evidence, adolescent participation may be adversely affected if we accept only formal parental consent for research. Lena et al. (2004) states that surveys conducted in schools that required active consent recorded a decline in overall response rates between 40% and 67%, with reduced participation among vulnerable groups.

One consequence of the mature minor doctrine is the confidentiality requirement. One of the biggest obstacles to treatment and information on sensitive topics such as sexual health is the fear of parental involvement. However, one must also consider the type of treatment (or research) before applying the mature minor doctrine in complex cases or studies involving permanent physical alterations (sex change, organ removals, etc.), where even parental consent is insufficient (Lena et al. 2004).

The ethical issues of youth participation in low-risk research are the same as those for adults; however, the involvement of youth introduces the potential added benefits of helping them to understand their behavior and receive support for improved decision-making. "Informed consent can improve adolescents' self-esteem and decision-making ability and teens also value the opportunity to contribute" (Lena et al. 2004).

## Special cases

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Special cases exist where the opportunity to obtain parental consent is quite unlikely: for example, young people who are abandoned or living on the streets, and minors held in detention/reformatory/penitentiary institutions.

### *Research with Homeless Youth*

Rew et al. (2000) study the implications of conducting research with homeless teens, for which it is not possible to gain parental consent. In these cases, the authors argue that the same principles that apply to the ability to give informed consent and the risks and conditions of confidentiality used with minors in general can be extended to these cases. The concept of low-risk research can also be applied, but as this group tends to be more vulnerable to *harmful risks*, it is recommended that adolescents participate in the formulation of study priorities, objectives, and protocols.

It is also recommended that adults and other parents in the community get involved in the development of confidentiality and privacy strategies, thereby helping adolescents to achieve autonomy in informed consent, particularly as it relates to health issues.

### *Research with Youth in Detention*

Another important case, examined by Sedlak (2010), is the study of youth in detention centers (penitentiaries or reformatories). The Survey of Youth in Residential Placement (SYRP) focused on young people between the ages of 10 and 20, and it required them to have the consent of an adult. To ensure confidentiality and anonymity, the SYRP did not directly obtain parental consent but

rather each institution was given materials (letters, brochures, or messages) in advance for cases requiring such consent.

In these cases, state and local regulations regarding parental consent vary from the minimum established age for self-consent

(without the need for parental consent) to *in loco parentis*, where the authority of the detention facility substitutes for parental consent.

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# CHAPTER 5

## Organizing Field Work

From the Selection of Mode of Administration to the Verification of Data

This chapter begins by describing in depth the main modes of survey administration for measuring youth risk behaviors and the differences between self-administered vs. assisted and verbal vs. written surveys. The second section explains the criteria for selecting the most appropriate mode of survey administration and presents a tool designed to facilitate this selection process. The third section focuses on the operational aspects of survey administration, including considerations for contracting a firm, selection and training of field staff, the sample coverage plan, sampling strategies and study participation, as well as the core ingredients for the creation of a data quality control and verification plan, particularly as they apply to work with youth.



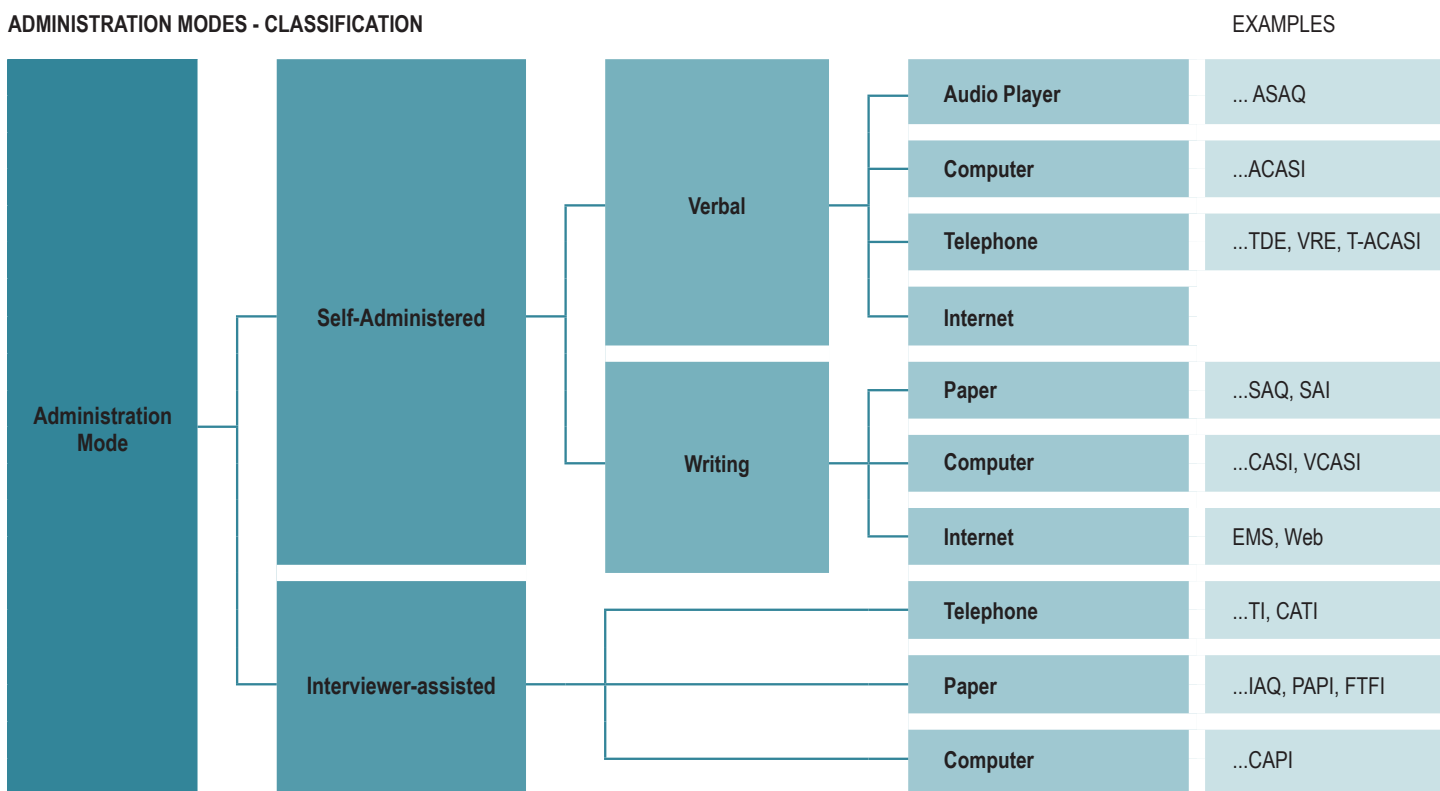
## 1. Modes of Survey Administration

Historically, youth risk behavior surveys have been conducted using various modes of administration, and there is no consensus on which is best for this particular type of survey.

Figure 9 categorizes modes of administration according to basic distinguishing characteristics. The diverse modes are found under different names and acronyms in the literature, but virtually all of them fit into one of these categories.

The **mode of administration** should not be confused with the interview **setting**, such as a school or home. Setting and mode are distinct features of a survey, and each of the modes described in Figure 9 can be implemented in different settings. However, the appropriate mode cannot be selected without considering the setting, as the effects and costs of the former depend on the latter.

Figure 10. Modes of Administration Applicable to Risk Behavior Surveys



ASAQ (Audio self-administered questionnaire)  
 ACASI (Audio computer-assisted self-interview)  
 TDE (Touchtone data entry)  
 VRE (Voice recognition entry)  
 T-ACASI (Telephone audio computer-assisted self-interview)  
 SAQ (Self-administered questionnaire)  
 SAI (Self-administered interview)  
 CASI (Computer-assisted self-interview)

VCASI (Video computer-assisted self-interview)  
 EMS (Electronic mail survey)  
 Web (Web survey)  
 TI (Telephone interview)  
 CATI (Computer-assisted telephone interview)  
 IAQ (Interviewer-administered questionnaire)  
 PAPI (Paper-and-pencil interview)  
 FTFI (Face-to-face interview)  
 CAPI (Computer-assisted personal interview)

Source: Authors

## Self-administered vs. assisted surveys

Modes of survey administration are divided into two large families: self-administered modes and interviewer-assisted modes. In assisted modes, an interviewer reads the questions to the respondent, and the interviewer records the responses given by the respondent. In self-administered modes, the respondent reads the questions (or listens to them on an audio recording), and the respondent records his or her answers. The participation of the interviewer during the interview is minimal, limited to delivering instructions before the start of the interview and providing assistance in the event that the respondent has questions.

A determining factor in the choice between self-administered and assisted modes is the setting of the interview. In an aggregate environment, such as a school, or when interviews are conducted remotely, by telephone or Internet, a self-administered mode may mean considerable savings in field staff costs.

For example, consider a risk behavior survey to be conducted in schools. With a self-administered mode, the interviewer can collect information from several students at a time, whereas with an assisted mode each student's information has to be collected individually. When interviews are carried out in homes, however, the cost differences for field staff between self-administered and assisted modes narrow considerably, since group interviews cannot be conducted.

The sensitivity of the questions on the questionnaire is another determining factor in the choice between self-administered and assisted modes. Self-administered modes have a reputation for providing greater privacy than assisted modes and for reducing the potential bias toward socially desirable responses (however, as mentioned in chapters 1 and 4, the evidence regarding the effectiveness of self-administered modes in reducing this bias is still inconclusive). In principle, the self-administered mode offers more privacy because the questions and responses are not spoken aloud but instead read by the respondent (or listened to through headphones) and recorded directly on the questionnaire. In this way, it is easier to ensure that the questions and responses will not be heard by others. This is especially important in interviews with children and young people, who may feel strong pressure to provide socially desirable responses when in the presence of their parents, classmates, etc.

The question's sensitivity level, and thus the corresponding benefit of self-administered mode, also depends on various contextual factors. Specifically, the questions' sensitivity level depends on the *cultural, religious, socio-economic, age and gender characteristics* of the population surveyed. The

perception of questions about sensitive topics such as sex or drugs varies from country to country and among population groups within the same country. For example, some conservative or religious groups may be more sensitive to the bias toward socially desirable responses. The age of the respondent also exerts influence and can even determine the direction of bias. For example, alcohol consumption may be considered socially undesirable by pre-teens, but it can become socially desirable beginning in adolescence. The same tendency can appear with the age of first sexual activity: young people who have had sex at an early age may feel social pressure not to report it, while young adults who have never had sex may feel social pressure to report it. Due to all of these factors, it is difficult to predict the sensitivity of the questions. Accordingly, pilot testing of the questionnaire is recommended in both self-administered and assisted modes and, if possible, in different settings.

Another determining factor in the choice between self-administered and assisted modes is the difficulty of the questionnaire. With an assisted mode, the interviewer can provide quality control for the collected data and reduce errors due to fatigue or lack of understanding on the part of the respondent. In self-administered modes, quality control must be achieved through extra-careful design of the questionnaire. The longer and more complex the questionnaire, the harder it will be to design a self-administered questionnaire as opposed to the same questionnaire using assisted mode.

The ability to correctly fill out a self-administered questionnaire depends not only on its difficulty but also on the age and cognitive level of the respondent. Younger people and those with a lower cognitive level tend to provide lower quality self-administered interviews. An interviewer can equalize the cognitive differences between respondents, ensuring more homogeneous data quality. This equalization can also be achieved through computerized self-administered modes, where the interviewer is replaced by software that detects errors and inconsistencies and attempts to correct them.

Finally, assisted modes are vulnerable to the **interviewer effect**. Remember that interviewers (even well-trained ones) generate 5 to 10% of response variance, although this value may be as high as 40% for very sensitive questions (Tourangeau and Smith 1998; Bocci et al. 2006). Self-administered modes offer the advantage of eliminating the interviewer effect.

## Verbal vs. written surveys

Self-administered survey modes are divided between those in which the questions are asked orally (the respondent listens to the questions) and those given in writing (the respondent reads the

questions)<sup>20</sup>. This characteristic can affect the perceived level of privacy and therefore the quality of information.

Assisted modes are almost always conducted verbally and out loud and thus offer less privacy than self-administered, written modes. Self-administered verbal modes can be completed with headphones and thus offer even more privacy than self-administered written modes (Turner et al. 1998). In general, as they are conducted out loud, assisted modes require a private, one-on-one setting for the interviewer and the respondent, which involves additional costs and logistical difficulties. In contrast, it is more feasible to conduct self-administered modes in group settings. Verbal modes are suitable for small children or those with reading difficulties. They can also help equalize the level of comprehension of the questions in populations with heterogeneous education levels.

However, verbal modes are more vulnerable than written modes to the *recency effect*, whereby a respondent tends to choose from among the options presented at the end of a list of possible responses over those presented at the beginning.

Modes can be implemented through different media (audio player, computer, paper, telephone, or internet). The medium has an effect on the following dimensions of survey quality:

1. **Unit non-response rate** (individual cannot be located or refuses to be interviewed). In general, internet modes have the highest non-response rate, followed by telephone modes and direct modes (audio player, computer, and paper).
2. **Item non-response rate**. In general, higher non-response rates correspond to modes that are recorded on paper (audio player and paper), followed by self-administered modes with automatic checks (computer, telephone, and Internet), assisted modes without automatic checks (TI and paper), and lastly, assisted modes with automatic checks (CATI and CAPI).
3. **Individual and item non-response rates** vary greatly depending on the population and the setting where the surveys are conducted, as well as the length and complexity of the questionnaire.
4. **Sampling error**. In general, internet modes allow for coverage of larger samples, followed by telephone modes, and then direct contact modes (basically the inverse of the unit non-response rate).

<sup>20</sup> Interviewer-assisted modes are always verbal, except when the interviewer asks the respondent to read a card with the response options. Also, combined modes can be implemented that simultaneously present the questions in written and verbal forms.

## 2. Choosing a Mode of Administration

Modes of administration can be classified according to the following characteristics: i) the presence (or absence) of an interviewer; ii) the presence (or absence) of computer-assisted checks; iii) the location of the interview; and iv) the interview medium (next table). These are key features that determine the **cost-effectiveness** of the modes.

The place where data entry occurs also influences the cost and effectiveness of the mode. Centralized data entry has the disadvantage of rarely allowing the computer to help prevent errors of data entry, flow, and consistency. In contrast, field data entry allows the computer to be used to detect errors, which can be corrected through a second home visit<sup>21</sup>.

Another dimension that should be considered is the location of the interview. A recognized advantage of the CATI mode is that it costs substantially less than the in-home FTFI mode, since it does not require interviewer transportation and logistics (Tourangeau and Smith 1998). This mode allows for larger samples to be covered at a lower cost. However, a major disadvantage is that increasingly fewer households have landlines, forcing us to rely on respondents with mobile or cell phones whose phone numbers must be obtained in advance. Another consideration lies in finding mechanisms that maintain respondent motivation, thereby avoiding non-responses during the interview.

The presence of computerized consistency checks is a factor in quality control, cost, and effectiveness. For example, another advantage of CATI as compared to AAC is the use of the computer for data entry, which helps the interviewer to prevent errors related to data entry, flow, and consistency. One of the main advantages of PAPI mode as compared to assisted modes (FTFI and CATI) is that it grants the respondent more privacy. The disadvantage is that it may be difficult for respondents to fill out relatively complex forms. This can generate a high number of errors, which is correlated with the respondent's level of comprehension. In contrast, assisted modes reduce the number of errors in complex questionnaires, and they equalize the differences between people with varied levels of comprehension.

Lastly, in addition to the considerations just mentioned, ACASI offers the following important comparative advantages:

<sup>21</sup> Computer-assisted field entry (CAFE) should not be confused with the computer-assisted personal interview (CAPI). CAFE mode uses paper questionnaires, but the data is entered on laptops before the team leaves the field (which allows for errors detected by the computer to be corrected through a second visit to the respondent's home). CAPI mode replaces the paper questionnaire with a laptop, in a form that enables the interviewer to conduct the interview and enter the data simultaneously.

- i) Privacy and confidentiality: it is considered relatively “private”: many respondents feel that it is the best way to capture highly sensitive information, as the interviewer is not present in the same room.
- ii) Standardization: the questions are formulated in the same way for all respondents.
- iii) Language flexibility: ACASI can be used with both educated and uneducated persons, and it can be adapted to different languages and dialects or through color codes to indicate responses on short questionnaires.
- iv) Security: interview data is automatically stored in the database.
- v) Quality control: The computer can recognize skipped questions or automatically identify errors made when completing the questionnaire, so many of the quality factors that were previously assigned to the interviewers and data-entry operators are now the ACASI designer’s responsibility.

Table 7. Summary of Characteristic Differences between Modes of Administration

Characteristics	Self-administered						Interviewer-assisted			
	Verbal			Written			Telephone	Paper	Computer	Keyboards
	Audio player	Computer	Telephone	Internet	Paper	Computer				
Examples	ASAQ	ACASI	TDE, VRE, T-ACASI		SAQ, SAI	CASI, VCASI	TI, CATI	IAQ, PAPI, FTFI	CAPI	Computer
May be administered in the home	Yes	Yes	Yes	(3)	Yes	Yes	Yes	Yes	Yes	Yes
Cost of survey in the home	++++	++++	+	+	++++	++++	+	+	+	++++
May be administered at school (or another point of care), private session	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cost of survey at school, private session	+++	+++	+	+	+++	+++	+	+	+	+++
May be administered at school (or another point of care), group session	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No
Cost of survey, group session	++	++	+++	+	++	++	+	+	+	++
Level of difficulty in questionnaire design	++	+++	+++	+++	++	+++	+++	++	+	++
Requires audio recording of the questions	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Medium for recording responses	Paper	Computer keyboard	(1)	Computer keyboard	Paper	Computer keyboard	(4)	Paper	Computer keyboard	Computer keyboard
Privacy level	+++	+++	+++	+++	++	++	+	+	+	+
Interviewer effect	No	No	No	No	No	No	TI(++), CATI(+)	++	+	+
Recency effect *	+++	+++	+++	+++	+	+	No (6)	No (6)	No (6)	No (6)
May be administered to a population with low levels of education	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Unit non-response rate	+	+	++	+++	+	+	+++	++	+	+
Item non-response rate	++++	+++	+++	+++	++++	+++	+++	+++	+++	+
Allows automatic checks at the time of the interview	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes

Characteristics	Self-administered										Interviewer-assisted			
	Verbal					Written					Telephone	Paper	Computer	
	Audio player	Computer	Telephone	Internet	Paper	Computer	Internet	Computer	Internet					
Allows for a questionnaire with skips	No	Yes	Yes	Yes	(2)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Navigability level **	Very low	Medium	Low	Medium	High	Medium	Medium	Medium	N/A	N/A	N/A	N/A	N/A	N/A
Vulnerable to theft ***	No	Yes	No	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes

\* Recency effect is the tendency of respondents to choose the latest options from a list of responses to the first.

\*\* Navigability is defined as the ability to return to previous questions and to know how much of the interview remains.

\*\*\* In some settings, the use of computers may present a security issue for field staff.

Sign + refers to the scale associated with each case: + = rare / low + + + + = very frequent / high.

- (1) Telephone keypad or voice recognition
- (2) Not recommended
- (3) Only in homes with internet access
- (4) Paper (TI) or computer keyboard (CATI)
- (5) Only in CATI
- (6) Normally, assisted modes will not produce the recency effect, because the interviewer does not read the response choices but instead waits for the respondent to answer and then records the appropriate choice from the list. For those questions where the interviewer has explicit instructions to read the response choices, there may be a recency effect (if the interviewer reads the full list) or the opposite effect (if the interviewer does not read the full list because the respondent chooses an option before listening to all of them). To reduce the recency effect, it is sometimes advisable to use a response card that is read by the respondent.

Source: Authors

### 3. Tool for selecting the most appropriate mode of administration - Mathematical model

Below, we present a **model** that helps in selecting the best mode of administration in various applications. The model compares the effectiveness of 10 different modes of administration and seeks to answer the **question**:

Given a fixed budget, which mode ensures the least amount of error in an indicator of prevalence?

#### How to use the model

The model can be downloaded from the website <http://idbdocs.iadb.org/WSDocs/getdocument.aspx?DOCNUM=38237424>

This model has *three general input parameters and six parameters specific* to each mode of administration.

The three general parameters are:

1. **Available budget.** This is the budget available for implementing the survey. Based on this budget, the proposed model calculates the sample size that can be surveyed with each mode and the corresponding sampling error (third and fourth column of the table Modes of Administration, ordered from least to greatest error, respectively).
2. **Prevalence.** This is the true value of the prevalence of the indicator to be measured. Errors for each mode vary depending on the prevalence, so the relative effectiveness of the modes can change depending on whether the prevalence to be measured is low, medium, or high.
3. **Ratio of importance, non-sampling error to sampling error:** When calculating the total error, the model can apply different weights to each component of the error. With a value of 50:50, the model gives equal weight to each component. With a value of 0:100, the model only considers the sampling error. With a value of 100:0, the model only considers non-sampling error.

The six parameters specific to each mode of administration are:

1. **Non-response rate.** This is the percentage of sample units who do not respond to the question. Default values are based on the results of an experiment carried out by the authors in the Dominican Republic on the cost-effectiveness of modes of administration (see case study, chapter 6).

2. **Under-reporting rate (respondents).** This is the percentage of respondents who answer 'no' when the real answer is 'yes.' The default values reflect different levels of privacy, depending on whether the mode is self-administered verbal, self-administered written, or assisted.
3. **Under-reporting rate (interviewers).** This is the percentage of interviews in which the interviewers answer 'no' when the real answer is 'yes,' for a reference sample of 1,000 units. The under-reporting rate for interviewers increases with the size of the sample, as described below. The default values are the authors' assumptions and were applied only to assisted modes.
4. **Data-entry error rate.** This is the percentage of times that the data-entry operator enters an incorrect response ('no' when it is really 'yes,' or vice versa). The default values are the authors' assumptions and were applied only to those modes that require data entry.
5. **Fixed cost.** This is the minimum cost required to implement the mode, in US\$. The default values come from costing performed for the experiment in the Dominican Republic.
6. **Variable cost.** This is the cost for each unit in the sample, in US\$. The total cost of a mode is equal to (fixed cost) + (variable cost) x (sample size).

Those users **who are applying** the model for the first time can utilize the following procedure:

1. Choose an indicator of prevalence to measure, for example, prevalence of young people who have been incarcerated in the last 12 months;
2. Make an assumption about the level of prevalence of the indicator, for example, 5%, and determine the second general parameter accordingly;
3. Leave in place the default values of all other model parameters;
4. If the budget is known a priori, determine the parameter available budget accordingly, and observe the results in the table Modes of Administration, ordered from least to greatest error.
5. If the budget is not known a priori, set up a parameter sweep for available budget, between US\$50 and 1,000, and observe how the results vary in the table Modes of Administration, ordered from least to greatest error. The total error decreases as the budget increases, rapidly at first, but then more slowly, until the point where a further increase in the budget does

not significantly reduce error (in some cases, a further budget increase may even elicit an increase in error). Users who are familiar with the aforementioned procedure may proceed to edit the other parameters.

**Warning:** The specific parameters for each mode of administration have default values that have been defined by the authors, based on limited information. The specific parameters must be reviewed for each particular case, as they depend on the sensitivity and difficulty of each question and the survey setting.

### Model calculation methods

The model estimates survey errors based on the parameters described above. As next figure shows, the model incorporates five sources of error: (1) sampling error, (2) interviewer effect, (3) socially desirable response bias, (4) non-response variance, and (5) data-entry error bias.

Figure 11. Functioning of Survey Error Model



Source: Authors.



### Box 9: Types of Errors in Survey Administration

#### Sampling error

The sample size is calculated based on the available budget, using the equation:  $n = (P - F) / V$ , where  $P$  is the available budget,  $F$  is the mode's fixed cost, and  $V$  is the mode's variable cost. Then, the **sampling error** is calculated using the equation for standard error, where  $p$  is the user-specified prevalence:

$$se = \sqrt{\frac{p(1-p)}{n}}$$

#### Interviewer effect

This effect occurs when the interviewers have an incentive to answer 'no' when the real answer is 'yes.' This assumption applies when the option 'yes' forces a set of additional questions. The interviewer effect is a bias that is calculated by the equation  $\beta = -tp$ . In our model,  $t$  is called adjusted under-reporting rate for interviewers, because it is adjusted according to the size of the sample. The model assumes that the under-reporting rate for interviewers increases with the sample size, due to fatigue and the learning of bad practices. Assuming the under-reporting rate increases linearly with each additional interview performed by an interviewer, this can be calculated by the equation:  $t = \frac{t_{1000}}{2} \left( \frac{n}{1000} + 1 \right)$ , where  $t_{1000}$  is a reference rate for under-reporting in a sample size equal to 1,000, defined by the user.

#### Socially desirable response bias

This model is similar to the previous one and assumes that respondents have an incentive to answer 'no' when the real answer is 'yes.' Socially desirable response bias is calculated by the equation:  $\beta = -tp$  where  $t$  is the probability that a respondent answers 'no' when the real answer is 'yes,' and it is a user-defined parameter.

#### Non-response variance

Non-response error is defined as the difference between the value of the prevalence provided by the survey,  $p_r$  (i.e., the prevalence among those who responded), and the prevalence in the full sample  $p$ , including non-responders:  $e = p_r - p$ .

In addition, if  $t$  is the non-response rate, then:  $e = \frac{t(p - p_{nr})}{1 - t}$  where  $p_{nr}$  is the prevalence in the population that did not respond.

The model assumes that  $p_{nr}$  follows an unknown probability distribution with a mean equal to  $p$  and a variance equal to  $1/24$ .

The non-response error variance is then  $Var(e) = \frac{t^2}{24(1-t)^2}$ .

#### Data-entry error bias

Suppose the data-entry operators make a mistake (entering a response as 'yes' when it is really 'no,' or vice-versa) with a probability equal to  $t$ . Then, a bias is produced that can be calculated using the equation  $\beta = t(1 - 2p)$ .

## 4. Organizing Field Work

Among the key factors to consider for good field work are the following:

- Hiring of a company to conduct the survey;
- Selection of the appropriate number and quality of field staff;
- Training of field staff;
- Design and implementation of a plan and timetable for sample coverage;
- Measures to prevent sample dropout (especially important for youth);
- Design and implementation of a data monitoring and quality control plan;

These factors for good field work apply to all kinds of surveys. In our specific case—surveys aimed at adolescents and young people—some additional considerations must be taken into account and will be highlighted in the relevant sections.

### Contracting firms to conduct surveys

Due to its scale, a risk behavior survey project will require some level of outsourcing by whoever is interested in collecting the data (the contracting party).

At the highest level of contracting, the entire survey process is contracted out to a single firm. The contracting party is limited to providing terms of reference indicating the survey's objectives, products, and minimum requirements. The firm is responsible for designing the survey, collecting the data, and analyzing the results.

There are two disadvantages with this method. First, few firms are interested and capable of conducting a survey of youth risk behavior in developing countries, and it may be difficult to find the exact product the contracting party is looking for. Sometimes, the contracting party will be forced to be flexible in its terms of reference so as to broaden the offer. Second, contracting a firm to carry out the entire project means putting “all the eggs in one basket.” The contracting party risks significant losses if the firm

cannot follow through and may be forced to lower its expectations in order to complete the survey.

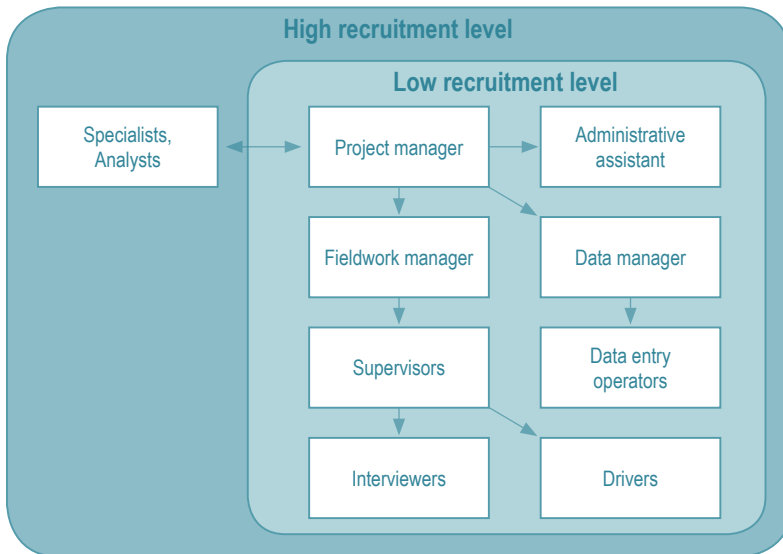
At the lowest level of contracting, all or part of the staff is hired directly and individually (see next figure). This includes hiring members of the management team (project manager, field manager, data management director, and administrative assistant), recruiting field staff (supervisors, interviewers, data-entry operators, drivers, and others), and securing the technical assistance of specialists in various fields (some specialty areas are always required, such as sampling, data entry software programming, and quality control, while other areas, such as economics, medicine, etc., are specific to the subject matter of each survey). Some of these roles can be filled by the internal staff of the contracting party, but contracting parties rarely have the internal capacity to assign full-time staff to the survey, as are the management team and field staff.

When contracting at the lowest level, the contracting party must devote more effort to coordinating the survey. The advantage is that the contracting party has greater control over decisions that could affect the outcome of the survey. In addition, the quality control process is more transparent for the contracting party because it can directly monitor the performance of field staff.

At an intermediate level of contracting, a firm is hired to collect survey data, but technical assistance and data analysis are hired separately or provided internally by the contracting party. In this case, the firm provides a package that includes the management team and field staff, and the contracting party is responsible for coordinating the work between the specialists and the firm. One advantage relative to the highest level of contracting is that there are a greater number of firms capable of performing this type of work. On the other hand, the contracting party must take responsibility for coordinating the work between the firm and the specialists and ensure that the firm adequately incorporates the input provided by the specialists. Another disadvantage is that if the firm is not responsible for producing the study's analysis and final results, there is less incentive to collect quality data.

Other disadvantages shared with the highest level of contracting include the risk of significant losses if the firm cannot follow through and the loss of transparency in the quality control process.

Figure 12. Survey project flowchart



- The **weekly delivery**, throughout the entire survey period, of a database with all data collected to date<sup>22</sup>.
- A **weekly performance** review of the interviewers through an analysis of the error rate produced by each interviewer. Both parties must agree in advance as to what error levels will be considered good, average, bad, etc. To enforce this system, it is a good idea to incorporate fines for non-compliance and delays.

Another way to maintain a financial incentive for the firm as the field work progresses is by offering a bonus at the end of the project, provided the firm obtains expected levels of coverage and quality. However, this option can be dangerous if there is no transparent quality control system in place, as it creates a *perverse incentive* for the firm to falsify coverage and quality data or invent interviews. The contracting party must monitor this through random checks.

Source: Authors.

### How to reduce risks and losses when contracting a firm

Normally, the firm will receive a payment at the time the contract is signed, a few payments upon receipt of intermediate deliverables, and a payment upon receipt of the final product. One problem with this payment schedule is that in practice the actual value or usefulness of the intermediate deliverables is rarely commensurate with the amount of the partial payments.

Many times the contracting party finds itself in a situation where more than half of the contract has been paid but no data has been received, so that the project has virtually no value unless it is completed. This puts the contracting party at a disadvantage when it comes to demanding the fulfillment of contractual obligations, in particular, good sample coverage and good-quality interviews throughout the survey period.

A good idea is to require **bank guarantees** against the delivery of the final product. In this way, a financial incentive for the firm remains throughout the entire implementation period.

Another useful strategy is to incorporate an objective, impartial quality control system into the contract, including:

- A **screening test** for interviewers, as described in the [FIELD WORK] section.

## 5. Selecting field staff

As a general rule, it is preferable to utilize the *fewest number of interviewers possible*, as this allows for higher quality results. With fewer interviewers, it is easier to recruit good interviewers (selecting only those of the highest quality), training is more rigorous (in smaller groups, the student-to-teacher ratio is lower), and the supervision is more thorough (the interviewer-to-supervisor ratio is lower). If there are many interviewers, the duration of the survey will be very short, and there will be no time to detect and fix problems. Furthermore, working with fewer interviewers means training is less costly.

The lower limit of the number of interviewers should be determined by the *maximum duration* of the survey. Unless the survey requires, for analytical reasons, the information to be collected in a short period of time, it is recommended that the survey duration be extended in order to be able to work with the fewest number of interviewers possible.

It is recommended to always select and train more field staff than are actually needed. This allows for people whose performance is inadequate to be *filtered out*, and it promotes competition among the candidates. Plus, it is important to have a backup group in case dropouts occur during training or field work.

<sup>22</sup> This requires the firm to implement data entry in parallel with the field work or to use a computerized mode of administration. This is recommended for several reasons apart from performance monitoring.

The criteria for selecting candidates vary depending on the needs of the survey. In some surveys, the gender or ethnicity of the interviewer may be relevant. Previous experience may be used as a criterion to select candidates, but it should not be a criterion for the final selection. The final selection should always be based exclusively on the performance evaluations made during the training period for each specific survey.

Another important aspect to consider with adolescents and young adults is the interviewer's gender. Chapter 1 addresses the interviewer effect on potential biases in the data collected. For practical purposes, when working with children and adolescents, it may be preferable to use female interviewers because they make parents feel more at ease. On the other hand, when it comes to sensitive issues such as sexual health, an interview conducted by interviewers of the same gender as the respondent can improve the quality of information (see other examples in chapter 2).

### Training field staff

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A few of the factors required for successful training are:

- The participation of the experts who designed the instrument;
- A sufficient number of practice interviews;
- An evaluation system for the subjects participating in the study.

Experience has shown that *it is important that the experts who designed the instrument participate in training*. Interviewers always have concerns that are not addressed by the questionnaires and manuals and for which only the experts have adequate answers.

An interviewer's first interviews are usually of very poor quality, but they gradually improve as the interviewer gains experience. It is important for interviewers to acquire this experience before beginning to interview young people in the sample. To do so, they must engage in practice interviews during training. Additionally, practice interviews allow for the results of training to be assessed and for corrective actions to be taken before the interviewer goes into the field.

To hire the best interviewers, there must be an objective evaluation system that allows all students to be rated based on their performance. For this purpose, tests and exercises can be given at the end of each day of training.

### Sampling strategy: study of low-probability risk behaviors

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Many risk behaviors have a very low probability in the general population (e.g., intravenous drug use and incarceration), such that it is difficult to obtain adequate sample sizes of populations who engage in these risk behaviors.

One solution to this problem is using a type of non-probabilistic sampling known as snowball sampling, chain-referral sampling, or RDS (respondent-driven sampling) (Heckathorn 1997). This type of sampling begins with a small sample of the at-risk population, and new participants are recruited from among the existing participants' network of acquaintances. This method can be very effective when the at-risk population is connected by networks. These networks exist for many risk behaviors such as drug use, gang affiliation, and homosexual sex. The problem is that these methods do not allow for unbiased estimates to be obtained for the entire at-risk population.

Another solution is to obtain a sample from administrative or institutional records. For example, in order to study the population of incarcerated youth, obtaining a sample from correctional facilities would be much more efficient than obtaining a sample from a household survey. Unfortunately, in many cases, administrative or institutional records do not provide a complete sampling frame of the population of interest. For example, a sample of young intravenous drug users' records could be obtained from rehabilitation or health centers, but the sample will not be representative of young people who use these drugs but who have never been treated at these centers.

Yet another solution is to perform a two-stage sample of the general population, where the first stage involves conducting a brief interview with a large sample of the general population, with the sole purpose of identifying the at-risk population. The second stage involves a detailed interview of the population of interest. For example, suppose we want to gather a sample of 500 cocaine users, and it is estimated that 10% of the general population are users. In the first stage, we would interview 5,000 people, from among whom we would expect to find approximately 500 users. In the second stage, we would conduct a detailed interview of the 500 users. This method provides estimates that are representative of the entire at-risk population, but the first stage of selection can be quite costly.

### Sample coverage plan

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The sample coverage plan describes **who** will interview each sample unit and **when**. For example, suppose we want to cover a sample of 1,000 young people selected from 40 neighborhoods (selecting 25 young people from each neighborhood). We have five interviewers, and each one can interview 25 young people per week. A reasonable way to cover the sample would be to assign eight neighborhoods (200 young people) to each interviewer. Each interviewer would have to work eight weeks. The question is how to choose the eight neighborhoods that will be assigned to each interviewer and how to distribute them over those eight weeks.

The solution that involves assigning neighborhoods by geographic proximity is not ideal, because it can introduce regional biases.

As an example, suppose that one interviewer is assigned the neighborhoods in the country's northern region, another is given the southern region, and so on. In this case, the interviewer effect would skew the results by region. To eliminate **regional bias**, neighborhoods should be randomly assigned to each interviewer, scattering the five interviewers across all of the country's regions.

The order in which each interviewer visits the assigned neighborhoods should also be randomized in order to avoid **temporal bias**. The method of assigning order according to the "shortest route" is not ideal, because it can introduce temporal bias. Let us assume, for example, that each interviewer visits his or her neighborhoods by making a sweep from north to south. In the first week, the northernmost neighborhoods would be interviewed, and in the eighth week, the southernmost neighborhoods would be interviewed. Now, let us imagine that during the eight weeks of interviews there were changes in the weather, variations in business activity, political crises, or some other circumstances that could affect interview responses. This effect would skew the results from north to south.

In many cases, transportation costs do not significantly increase if neighborhoods are not assigned by geographic proximity or the "shortest route," because most of the cost lies in the day-to-day transportation needs within each neighborhood as opposed to transportation between neighborhoods. In some regions, transportation costs to the neighborhoods may be significant, or there may be other restrictions in terms of language or ethnicity, and thus it may not be feasible to assign areas randomly.

## 6. Other Considerations for youth survey administration

In interviews with adolescents and young adults, it is important to consider the following additional issues:

- » The appropriate **interview schedule** will depend on the time of year. During the school year, surveys should be scheduled outside of school hours or on the weekend. During vacation periods, it may be difficult to locate some adolescents and young adults.
- » Parents or guardians must be informed of the **reason for the survey**, with an explanation of its objectives and scope, in order to obtain consent and to secure a place for the interview that ensures privacy and trust (as described earlier).
- » Depending on the complexity and duration of the survey, it is common practice to provide **breaks**, which should be mentioned at the beginning of the interview. These breaks can be short (one minute) or long (maximum of five minutes), during which the adolescents/young people can leave their seats to go to the

bathroom, eat or drink something, or just relax. The number and timing of breaks during the interview will also depend on the age and attention span of the adolescent (see other examples of work with children in IDB, 2013).

- » If the adolescent/young person becomes distracted or **appears tired** during the survey, he or she should be reminded that breaks are allowed, or the number of short breaks (one to two minutes) to stretch/move around, etc., can be increased.
- » If the adolescent/young person is defiant and **refuses to respond to the questionnaire** or follow the rules of the interview, remind him or her of the reward (if one is defined), the objective, and the time remaining. If this is insufficient, involve the parents. In extreme cases, the survey may have to be suspended.
- » If the adolescent/young person is worried or anxious about his or her responses, he or she should be reminded that some questions might be very difficult while others will be very easy, since this test is made for people of all ages, and that it is fine if he or she does not know the answer (he or she will not be graded, etc.).
- » If the adolescent/young person is **physically ill**, the interview should be discontinued, as in these conditions, the subject may not be able to stay focused and the health of the interviewer could also be put in danger. The tests should be rescheduled in these cases. When the interviewer returns, the survey will resume at the point where the interviewer left off.
- » It is common practice to administer a brief **cognitive development test** (see example in annex) to the adolescent as the first part of the survey. Even if the adolescent/young person seems to have a learning/cognitive disability, the interviewer should not modify the test questions (although more time can be given to respond), give advice or suggest responses, or change the mode of question administration.
- » If the adolescent/young person doubts the response or, if after giving examples, the interviewer is still confused about the response, the subject may be asked, "What is your final answer?"

## Sample dropout in longitudinal studies with young people

A characteristic of at-risk youth is their high mobility, making it difficult to track a sample over time as needed for longitudinal studies. A cost-effective way to reduce sample dropout over time is to maintain **regular telephone contact** with the young person or his or her guardian/contact (for example, with rounds of telephone calls every three or six months). An updated record with the telephone numbers for each young person in the sample must be maintained, including the numbers of relatives, friends and

neighbors (see table 8). In each round of calls, as many contact numbers as possible should be updated, because the probability of contacting a young person in the next round depends on the number of telephone numbers available.

**Table 8. Example of contact data record for follow-up with a young person**

Phone number	Type of phone number	Contact name	Relationship to young person
9555-7496	Mobile	Jorge Durán	Self
9555-4582	Mobile	Evelin Pérez	Mother
9555-4981	Mobile	Mario Durán	Father
2555-1216	Home	María Avello	Grandmother
2555-7545	Home	Pedro	Neighbor
9555-2989	Mobile	Marco	Friend
9555-3721	Mobile	(Pepe) Bustos	Friend
....			

## Verifying information

There are three types of supervision mechanisms:

- Response consistency checks
- Monitoring calls or revisits
- Direct observation of interviews

A response consistency check involves reviewing each questionnaire to make sure that it is complete and free of detectable errors. The preferred way of checking response consistency is with a computer. Manual review of the questionnaires by a supervisor is not recommended.

With computerized modes, the check can be performed *during the interview*. In modes with paper questionnaires, data entry should be performed *in parallel with the field work and in an integrated manner*, so that the consistency check is performed on all questionnaires.

During monitoring calls or revisits, a supervisor calls or visits a sample of the young people interviewed and repeats selected

questions to verify that they were correctly asked by the interviewer. This is the preferred technique of supervisors, who must revisit between **10 and 20% of the sample**, selected at random.

The supervision of interviews through **direct observation is not recommended**. This technique is expensive and imprecise. It is sometimes necessary to resort to direct observation in order to support interviewers who have not had enough practice, but this should be minimized.

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# CHAPTER 6

## The Cost-Effectiveness of Survey Administration

### A Case Study

This chapter explores two central issues of measurement, (1) comparing the cost-effectiveness of four modes of survey administration, and (2) evaluating whether a gender match between the interviewer and respondent affects data quality. What is described in the following sections corresponds to the summary of a case study<sup>23</sup> carried out in late 2010 in the Dominican Republic with a sample of 1,200 young people. Two assisted modes and two self-administered survey modes were studied in a population of young people between the ages of 18 and 30. The main results of the study show that young people tend to under-report information on sensitive topics when questionnaires are self-administered, suggesting that the degree to which a mode of questionnaire administration improves the response rate for risk behaviors is context-specific. Lastly, based on the results, we offer recommendations for selecting the most cost-effective mode of administration.

23 A detailed report of the case study is available as an IDB publication. Search for Muñoz, Rodrigo; López-Peña, Paula; Vivo, Sigrid; McCoy, Sandra (2011) "How Accurate is Our Misinformation?: A Randomized Trial to Assess the Cost-Effectiveness of Administering Alternative Survey Modes to Youth at Risk: Dominican Republic Case Study." Division of Social Protection and Health. Inter-American Development Bank. Washington, DC. <http://www.iadb.org/en/publications/publicationdetail,7101.html?id=67311%20&dcLanguage=en&dcType=All>



## 1. Considerations on the study case results

### Context

The study case came about in response to the need for more specific knowledge about how to promote the healthy development of youth in the region by the more effective design and evaluation of policy initiatives. With the goal of gaining in-depth knowledge about the measurement and verification of risk behaviors, an agreement was reached to work with the Youth and Employment Program (in Spanish PJE) implemented by the Dominican Republic's Ministry of Labor.

Although the study case provides many useful lessons, such as the incorporation of cost variables in the comparative analysis of survey modes, two factors that limit their external validity must be considered. First, the study was conducted on a specific population, different from other youth populations in the Dominican Republic and other countries. Second, the cost and effectiveness of a mode of administration are not constant (the effectiveness of

a mode of administration is understood as equal to its accuracy or to the inverse value of the resulting measurement errors). Even if instruments and samples remain constant, the effectiveness of a mode of administration may vary considerably depending on the budget and effort invested in the design, preparation, and implementation of the survey.

In other words, it is impossible to know the cost or effectiveness of a mode of administration independently budget considerations, as survey costs vary widely, and effectiveness is directly related to cost. It is more appropriate to ask how the effectiveness of a mode of administration varies depending on the amount invested or what is the most effective mode of administration for any given budget. These two factors—the context and the amount of investment—are determinants of the effectiveness of a mode of administration, and consequently, the results of the study cannot be extrapolated to any other situation. Still, care has been taken to control as many parameters as possible, trying to maintain the same quality of design, preparation, and implementation between the different modes of administration.

**Table 9. Essential characteristics of the Different Administration Modes**

Characteristics	Administration Mode			
	FTFI	CATI	SAI	ACASI
Assisted Interview	Yes	Yes	No	No
Automatic Checks by a Computer	No	Yes	No	Yes
Interview Location for the Experiment	Home	Telephone	Home	Home
Interview Mode	Verbal	Verbal	Paper	Computer
	Face to face	Telephone	Text	Audio+Text

Source: Authors.

### Case study: a comparison of administration modes

The study was conducted between November and December 2010 in the Dominican Republic, with a sample of 1,200 young people registered in the Ministry of Labor's PJE<sup>24</sup>. The **four** modes of administration evaluated in the study (FTFI, CATI, PAPI and ACASI)<sup>25</sup> were randomly assigned to these young people. The

content of the questionnaires was the same in all four cases<sup>26</sup>; it included questions about the consumption of tobacco, alcohol and drugs, violence and crime, sexuality, family planning and reproductive health, poverty, and education. It also included a five-question test to assess the young person's cognitive level and an evaluation for the interviewer to assess conditions of the interview.

<sup>24</sup> PJE is an employment and technical training program for young people between the ages of 16 and 29 who did not finish high school, dropped out of school, or are unemployed.

<sup>25</sup> See the description in chapter 3.

<sup>26</sup> The paper questionnaires for the FTFI and PAPI modes were nearly identical, except for some instructions specifically designed for the interviewer or the respondent. For the CATI mode, the software displayed a data entry screen identical to the paper questionnaires. For the ACASI mode, the software displayed the questions one at a time; that is, there was never more than one question per screen.

In terms of the cost-effectiveness analysis, an indicator of cost-effectiveness was defined for each mode of administration<sup>27</sup>, equal to the product of the cost and the measurement error attributable to the mode. Furthermore, in each case, costing was carried out, taking into consideration the cost of staff, per diem expenses, transportation, materials, office space and technical assistance. Then, the fixed and variable components were calculated based on sample size, and a sensitivity analysis was performed on the input parameters assumed by the authors<sup>28</sup>.

## 2. Case study results: cost-effectiveness

### Costs of different modes of administration

The **total estimated cost of a survey** of 300 young people varies between US\$60,000 and US\$80,000, depending on the mode: the CATI mode costs approximately US\$60,000; the PAPI mode costs approximately US\$70,000; and the FTFI and ACASI modes cost approximately US\$80,000. The difference between the CATI mode and the other modes is primarily attributable to savings in transportation costs and time spent locating individuals. The difference between the PAPI mode and the other home-based modes is primarily attributable to the lower level of experience and training required for interviewers and supervisors. The following table summarizes the results found on the topic of cost:

**Table 10. Fixed and Variable Components of Cost as a Function of Sample Size (US\$)**

Cost component	Mode of administration			
	FTFI	CATI	PAPI	ACASI
Fixed cost	52,569.30	52,369.09	45,922.87	55,861.34
Marginal cost (for each additional unit in the sample)	90.77	20.49	77.82	79.85
<b>Total cost for different sample sizes:</b>				
n = 100	61,645.88	54,418.38	53,704.45	63,846.25
n = 1000	143,335.10	72,862.02	123,738.64	135,710.45
n = 10.000	960,227.38	257,298.48	824,080.62	854,352.42
<b>Average cost per unit for different sample sizes:</b>				
n = 100	616.46	544.18	537.04	638.46
n = 1000	143.34	72.86	123.74	135.71
n = 10.000	96.02	25.73	82.41	85.44

Note: Fixed costs are costs that are independent of output and include technical assistance (design software, training materials, methodology), machinery, project team leader, and data team leader.

Source: Authors.

<sup>27</sup> Assuming that the effectiveness of a mode of administration is the same as its accuracy or the inverse of the measurement errors it generates, the above definition is analogous to the definition of the cost-effectiveness ratio used in the cost-effectiveness analyses of interventions.

<sup>28</sup> Details of these estimates can be found in Vivo et al (2011).

### Error rate

The unit non-response rate was 15%, and no statistically significant differences were observed between modes. Approximately nine out of 10 cases of non-response occurred because the individual could not be located; the rest of the cases were due to refusals (the individual was located but did not answer any questions). It was expected that there would be no differences between the three home-based modes, since they used exactly the same method of localization. However, the CATI mode used a different localization method, which achieved the same effectiveness as a home-based mode.

The **item non-response rate** and the **response consistency index (RCI)** were measured among those who answered at least one question on the questionnaire (85% of the sample, uniformly distributed between modes). PAPI mode had the worst performance of the four, with an RCI equal to 83%. It produced more than double the blank responses and non-responses of the other modes. It also produced a significant amount of skip errors, whereas there were almost no skips observed in the other modes. The ACASI, FTFI and CATI modes managed to control non-responses, blanks, and skip errors through the use of trained interviewers. However, interviewers in the FTFI mode produced a greater number of complex inconsistencies (inconsistencies involving two or more questions) than interviewers in the CATI mode. This was because, in the CATI mode, computer-assisted checks helped the interviewers eliminate complex inconsistencies.

Table 11. Percentage of data with visible errors at the question level according to type of error and administration mode

Type of error	Administration Mode				Total
	FTFI	CATI	SAI	ACASI	
Non-responses offered	0.5	0.8	1.6	0.9	0.9
Blank	1.2	1.1	3.3	1.3	1.7
Skip errors	0.2	0.0	6.5	0.0	1.7
Out-of-range errors	0.0	0.0	0.2	0.0	0.1
Consistency errors between two or more questions	3.2	0.1	5.5	4.8	3.4
<b>Total errors</b>	<b>5.1</b>	<b>2.0</b>	<b>17.0</b>	<b>7.0</b>	<b>7.8</b>
<b>RCI</b>	<b>94.9</b>	<b>98.0</b>	<b>83.0</b>	<b>93.0</b>	<b>92.2</b>

Source: Authors.

### 3. Conclusions of the case study

#### Modes of administration and their implementation

##### Costs

The characteristic that most greatly influences cost is the mode of contact, whether by telephone or in the home. Transportation costs absorb a large part of the survey budget. This explains why the marginal cost of the CATI mode is four times less than the marginal cost of the other modes. The fixed cost does not vary much between modes of administration, so CATI mode turns out to be the least expensive of all, on the basis of relatively small samples.

The second most influential characteristic in terms of cost is the level of experience and training required for interviewers and supervisors. The FTFI mode requires more skilled and trained field staff than the PAPI mode, since they must play the more demanding role of interviewer (rather than a mere visitor). The ACASI mode requires staff with an intermediate level of experience and training, for although they are visitors who are not required to conduct a personal interview, they do have to be prepared to operate the ACASI software.

Another variable cost that may be relevant to the FTFI and PAPI modes, especially in large samples, is the cost of printing, photocopying, pencils, and any other materials necessary to administer a paper form.

##### Errors

No differences in location efficiency were found between home-based modes and the CATI mode. The lists of addresses and telephone numbers proved to be of equal quality, and the individual refusal rate was relatively low in all modes.

The PAPI mode generated the highest item non-response rate and the lowest RCI. This was due to various cognitive failures arising as a direct consequence of young people responding without any assistance or supervision (except for the written instructions on the paper form).

The ACASI mode introduced downward bias for the *ever had sex* indicator, arising as a direct consequence of young people responding without any assistance or supervision (except for the written instructions). Many young people may have responded 'no' to finish the questionnaire faster. The incentive to do this may be higher in ACASI than in PAPI, since the ACASI mode gave no indication of how much of the questionnaire remained, while in PAPI mode the young people knew approximately how many pages and questions were yet to be filled out. Although the ACASI mode solves many of the quality issues observed in the PAPI mode, it has its own quality issues associated with the lack of supervision or motivation.

With some risk indicators, there is evidence for socially desirable response biases: 1) FTFI mode introduced an upward bias for the *safe casual sex* indicator in men; 2) the use of male interviewers introduced a downward bias for the *same-gender sex* indicator in

men; 3) FTFI mode introduced an upward bias for the *transactional sex* indicator in men; 4) FTFI mode introduced a downward bias for the *concurrent sex* indicator in women; and 5) FTFI mode introduced a downward bias for the *age of sexual debut* indicator in women.

The length of the questionnaire is also a determining factor in choosing a mode of administration. This study used a questionnaire with approximately 100 questions to measure a broad set of risk indicators. The study shows that self-administered modes are not appropriate for a survey of this size. The PAPI mode is vulnerable to high non-response rates, largely due to cognitive difficulties. The longer a questionnaire, the harder it is to avoid using difficult questions and instructions. The ACASI mode, for its part, is vulnerable to high rates of inconsistent responses, which may be due to the fact that the ACASI instrument converts the multiple-choice questions into a series of yes/no questions (see figure 1). This forces the respondent to advance through approximately 200 screens in the ACASI mode, in other words, almost double the questions of the other modes. It is likely that some young people get tired and systematically choose 'no' in order to advance more quickly.

The CATI mode is not negatively affected by the length of the questionnaire. The study showed that, in this population, a

questionnaire can be administered both at home and over the phone. Administering the interview by telephone does not generate completeness issues or higher refusal rates. Additionally, the CATI mode offers better data quality than the FTFI mode.

### Cost-effectiveness

In the absence of bias, or whenever all modes are subject to the same bias, the CATI mode always proves to be the most cost-effective. When the bias is null, the optimal investment in the CATI mode is approximately US\$105,000, corresponding to a sample of 2,560 young people. The optimal investment decreases considerably when there is bias. With a bias equal to +0.01 (at a prevalence equal to 0.5), the optimal investment decreases to US\$82,000, and the sample size decreases to 1,440. With a bias equal to +0.1, the optimal investment decreases to US\$62,000, and the sample size decreases to 470. This shows the futility of investing in large samples when there are biases.

Under different conditions of bias between modes, the most cost-effective mode almost always has the least amount of bias. Bias differences on the order of 0.01 may be sufficient to justify a change of mode. The detectable biases in this study were 0.04 or greater; therefore, they virtually guaranteed a change in favor of the mode subject to the least amount of bias.





# CHAPTER 7

## Final Considerations

This chapter presents a set of practical considerations for the design and implementation of youth surveys. Also, to facilitate the selection of the most cost-effective mode of administration, as well as the mode that best fits the objectives, context, and target population, we also provide a set of recommendations and user-friendly tools.

## 1. Practical considerations for survey DESIGN

- ✓ A well-designed youth survey should use a variety of study measurements in order to understand the different levers of change that are relevant to targeted youth risk behaviors, as well as their causes, factors, and effects (the “causal network”).
- ✓ Clearly defining “what” we intend to measure and “why” will then allow us to define the “how.”
- ✓ The process of defining the type of indicators to be measured by the study is based on the dimensions selected for analysis. In turn, based on these indicators, we design the type of questions that will make up the survey. The indicators are also used to monitor and follow-up on the prevalence of behaviors and other dimensions of vulnerability—that is, to measure the impact of the intervention and the effects it produced in the target population.
- ✓ Prior to the selection and definition of the indicators, it is important to consider special characteristics of the program, the target population, and the ultimate goal of the research. It is also important to specify the field of research (the relevant disciplines) and to establish the parameters of the study: the number of indicators to be considered, the size of the survey, the available resources (time, staff and budget), as well as the best ways to ensure data quality.
- ✓ Survey size does matter. The greater the number of indicators, the greater the cost of data collection, respondent and interviewer fatigue, and dispersion of the research, with corresponding effects on data quality.
- ✓ The success and credibility of youth research depends heavily on the quality of the data used. The **three sources of bias** typically found in surveys of youth behaviors are: a) **socially desirable response bias**, b) biases produced by the **survey mode of administration** (different modes can produce different results for the same indicator), and c) biases produced by the **field interviewer’s attributes** (ethnicity, age, and gender, among others).
- ✓ Due to differences in maturity and cognitive development, social biases<sup>29</sup>, issues of consent, as well as issues of confidentiality and privacy, surveys of young people must consider and integrate **the age of the respondent** into basic framework of their design.

- ✓ It is important to establish **confidentiality and privacy parameters or protocols** during survey design, as they are key to ensuring the timely development of research and maximizing data quality.
- ✓ Given the lack of standardized measurements, the measurement of personality and intertemporal preferences is especially challenging. However, because of their importance, such factors need to be incorporated into studies of youth.
- ✓ The use of standardized instruments is rare in this area of study. Instead, it is more appropriate to test, adapt, and customize.
- ✓ Knowing the environment, the population of interest, and the required information is critical. This information can help us understand the origin of various biases.

## 2. Practical considerations for survey IMPLEMENTATION

- ✓ **The design and implementation processes** of a survey must be **integrated and planned together**. They are not separate pieces of a research study. The only way to prevent data problems is to plan the design and implementation processes together from the very beginning.
- ✓ The interview setting, such as a school or home, should not be confused with the mode of administration. The setting and mode are separate features of a survey, and each of the modes can be implemented in different settings. However, the best mode cannot be selected without considering the setting, as the effects and costs of each mode vary greatly depending on the latter.
- ✓ Past experience indicates that it **is possible to reduce bias and increase the accuracy** of collected data through:
  - proper planning and careful preparation of the study, focusing on the design of the questionnaire;
  - the selection (considering gender, age, and ethnicity) and training of interviewers;
  - appropriate monitoring and feedback from the pilot test;
  - tailoring of the mode of administration to the study’s characteristics and target population;
  - consideration of the protocols to ensure confidentiality and privacy.

29 Age is also a determinant of measurement bias, e.g. socially desirable responses (over- and under-reporting behaviors considered acceptable or unacceptable).

✓ Evidence supports **biological testing** as a potential solution to problems of data reliability and validity. In addition, validating data with external sources lends extra credence to the results.

✓ All research must conform to existing regulatory frameworks in each country (age of consent and conditions for administering surveys to minors vary) and must incorporate confidentiality and consent clauses.

✓ When choosing between self-administered and assisted modes, three basic factors are important to keep in mind:

↳ **interviewer effects.** Interviewers (even well-trained ones) generate 5 to 10% of response variance; and this value may be as high as 40% for highly sensitive questions (Tourangeau 1998; Bocci et al. 2006). Self-administered modes have the advantage of being free from interviewer effects, but may introduce other effects when the questionnaire is lengthy or contains difficult questions;

↳ **sensitivity level of the questions.** Self-administered modes offer more privacy than assisted modes, and thus generally produce less socially desirable response bias for sensitive questions;

↳ **setting of the interview.** In addition to affecting the questions' sensitivity level, the setting is a major determinant of the cost of data collection.

✓ Modes of administration can be classified according to the following characteristics (which determine their cost-effectiveness):

- ↳ presence (or absence) of an interviewer;
- ↳ presence (or absence) of computer-assisted checks;
- ↳ location of the interview;
- ↳ interview medium;

✓ The place where data entry occurs influences the cost and effectiveness of the mode. The disadvantage of centralized data entry is that the computer is rarely used to prevent errors of data entry, flow, and consistency. In contrast, field data entry provides the opportunity to detect errors with the computer and correct them through a second home visit.

for larger samples to be covered at a lower cost. A major disadvantage, however, is that increasingly fewer households have landlines; therefore, it must rely on respondents having mobile or cell phones, and those phone numbers must be obtained in advance. Another issue to consider is the need for mechanisms that maintain the respondent's motivation and thereby avoid non-responses during the interview.

✓ One of the main advantages of **PAPI mode** as compared to assisted modes (FTFI and CATI) is that it grants the respondent more privacy. The disadvantage is that it may be difficult for respondents to fill out relatively complex forms. Survey complexity can generate a high number of errors, which is also correlated with the respondent's level of comprehension. In contrast, assisted modes reduce the number of errors in complex questionnaires, and they equalize the differences between people with varied levels of comprehension.

✓ **ACASI mode** offers significant comparative advantages such as:

↳ Perception of "privacy": many respondents feel that it is the best way to capture highly sensitive information, as the interviewer is not present in the same room (*privacy and confidentiality*).

↳ Questions are formulated in the same way for all respondents (*standardization*).

↳ ACASI can be used with people of differing levels of education, and it can be adapted to different languages and dialects or through color codes to indicate responses on short questionnaires (*language flexibility*).

↳ Interview data is automatically stored in the database (*security*).

↳ Computers can recognize skipped questions or automatically identify errors made when completing the questionnaire (*quality control*), so that many of the quality factors that were previously assigned to the interviewers and data entry operators are now the ACASI designer's responsibility.

The **length of the questionnaire is a determining factor** in choosing a mode of administration. Self-administered modes do not appear to be appropriate for extensive questionnaires. PAPI mode is vulnerable to high non-response rates, largely due to cognitive difficulties. The longer a questionnaire, the harder it is to avoid using complicated questions and instructions. ACASI mode, for its part, is vulnerable to high rates of inconsistent responses, which may be due to the fact that the ACASI instrument converts multiple-choice questions into a series of yes/no questions. This type of questionnaire can be tedious, and it is likely that some

### 3. Advantages and disadvantages of the most popular modes of administration

✓ A recognized advantage of **CATI mode** is that it costs substantially less than the in-home FTFI mode, since it does not require interviewer transportation. This mode allows



young people will develop fatigue and repeatedly answer ‘no’ in order to advance more quickly.

#### 4. Recommendations for the selection of the most cost-effective mode of administration

The choice of mode of administration and the decision of how much to invest depend on the number and type of indicators the experiment seeks to measure. The number of indicators determines the length of the questionnaire, and self-administered modes are not suitable for long questionnaires (over 50 questions) due to bias and data quality issues.

✓ If **PAPI mode** is selected, special attention should be paid to the logical and graphic design of the tool. The following lessons have been drawn from this study:

↳ A large percentage of youth do not correctly follow *skip instructions* unless they are relatively simple. For example, “skip to the next page” usually works, but “skip to question x” may generate errors.

↳ A large percentage of youth do not respond well to questions requiring a large *cognitive effort*, such as questions regarding the variables for calculating concurrency (e.g., asking about dates of concurrency).

↳ *Multiple-choice* questions should be avoided, as they result in a high level of missing data. In addition to blanks, multiple-choice questions cannot guarantee a complete answer even when one choice has been selected. Questionnaires should be designed so that each item requires a response.

↳ Key *filter* questions (such as “ever had sex”) should be placed earlier in the questionnaire, but not at the beginning, unless ACASI is being used only to assess risk and some less sensitive questions precede the interview.

✓ If **ACASI mode** is selected, special care should be taken to avoid an *excessive number of screens* and to show respondents a *progress indicator* for the interview. If a large number of screens are involved, key filter questions (such as “ever had sex”) should be placed earlier in the questionnaire.

✓ If **FTFI mode** is chosen, efforts should be taken to reduce *complex inconsistencies*. One way to obtain data quality similar to that of the CATI mode is to replace FTFI mode with computer-assisted field entry (CAFE), which incorporates new technologies and allows respondents to self-administer the questionnaire and save their responses on a computerized device (such as an electronic tablet), a much simpler method for real-time data collection in the field.

✓ The **type of indicator** also has an effect. On the one hand, self-administered modes are not suitable for indicators involving high cognitive difficulty, such as *concurrency dates* and *multiple-choice questions*. On the other hand, assisted modes are not advisable for measuring sensitive indicators. If enumerators wish to combine difficult and sensitive questions in the same survey, one alternative is to use an assisted mode for the difficult questions and a different mode for the sensitive questions. For example, Langhaug (2002) uses FTFI mode with voting boxes, which are equivalent to PAPI mode.

✓ It is tempting to choose a self-administered mode to deal with **social desirability bias and to cut costs** (as well as avoid face-to-face questionnaires, which require trained interviewers). However, it turns out that properly applying a self-administered mode is extremely complex, and there is a risk that the final result will be worse than that of FTFI.

Small details in the *format of a paper questionnaire* (such as skips) may result in biases equal to or greater than those originating from the socially desirable response, whose avoidance was the reason for the choice of self-administered mode.

Likewise, decisions that may seem relatively simple when designing an ACASI questionnaire (like breaking a multiple choice question into a series of yes/no questions) may lead to the same negative results.

**In conclusion**, developing a self-administered instrument entails difficulties that are inherent to each mode and that may be resolved only by conducting more extensive field tests than those required for an assisted mode. Questionnaire design is especially important.

Responses may be susceptible to the **length** and **complexity of the instrument** (which can produce tedium or fatigue), **graphic layout**<sup>30</sup>, the **location** of page breaks (PAPI), or question **placement** within the questionnaire. Undoubtedly, the design of ACASI survey administration demands more than a little ingenuity.

Next **Figure** summarizes the foregoing recommendations as a decision tree. The recommended modes are based on the number and type of indicators to be measured. The biases generated by the length of the questionnaire and the difficulty and sensitivity of the questions are assumed to be sufficiently large to justify a change of mode.

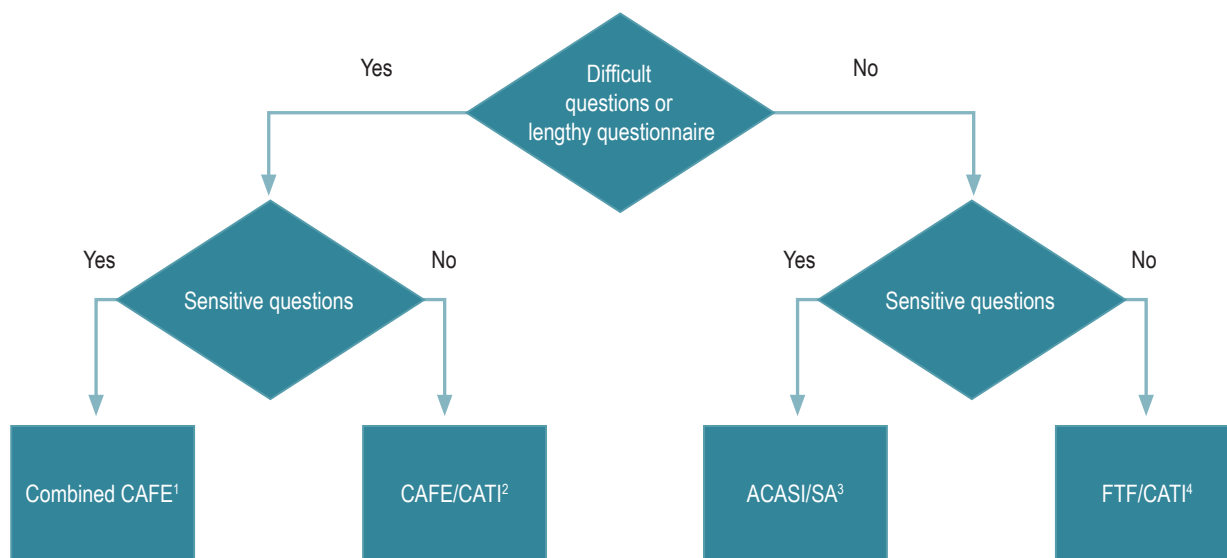
30 Several HIV prevention trials have integrated pictures into ACASI to clarify questions about contraceptive methods. It is also a way to adapt the questionnaire to those with low levels of literacy.

### Selection of the mode of administration under budgetary constraints

Both Table 12 and Figure 13 provide formulas for determining the most cost-effective mode of administration; the level of investment is not defined a priori but is treated as an outcome.

However, the level of investment cannot be optimized in a scenario of firm budgetary constraints. The only possible avenue is choosing the most effective mode of administration (i.e., the one with the smallest error) for that level of investment.

Figure 13. Recommended administration modes, according to length of the questionnaire and difficulty and sensitivity of questions



(1) Combined CAFE = CAFE + self-administered mode for sensitive questions.

(2) CAFE or CATI depending on the relative accuracy of address or telephone number records.

(3) ACASI is preferred. SAI only for very simple questionnaires.

(4) FTF or CATI depending on the relative accuracy of address or telephone number records.

Source: Authors.

Table 12. Procedure for the selection of the most cost-effective mode of administration

#	Procedure	Example	
1	Choose the available budget, $B$ .	$B = \$7000$	
2	Choose two modes of administration to be compared.	Mode 1: CATI	Mode 2: ACASI
3	Using table 4, determine the fixed costs associated with each mode ( $CF_1$ y $CF_2$ , respectively), and the marginal costs ( $CM_1$ and $CM_2$ , respectively).	$CF_1 = \$52.369,09$ $CM_1 = \$20,49$	$CF_2 = \$55.861,34$ $CM_2 = \$79,85$
4	Using the formula below, calculate the sample sizes supported by this budget ( $n_1$ and $n_2$ , respectively): $n_i = (b - CF_i) / CM_i$	$n_1 = (70.000 - 52.369,09) / 20,49$ $n_1 = 860$	$n_2 = (70.000 - 55.861,34) / 79,85$ $n_2 = 177$
5	Define the level of prevalence of the indicator intended to be measured, $p$ .	$p = 0,20$	
6	Define the bias in each ( $\beta_1$ and $\beta_2$ , respectively).	$\beta_1 = 0,05$	$\beta_2 = 0,01$
7	Using the formula below, calculate the error generated by each mode: $e_i = \beta_i - 1,96 \sqrt{\frac{p(1-p)}{n_i}}$	$e_1 = 0,05 + 1,96 \sqrt{\frac{0,2(1-0,2)}{860}}$ $e_1 = 0,077$	$e_2 = 0,01 + 1,96 \sqrt{\frac{0,2(1-0,2)}{177}}$ $e_2 = 0,069$
8	Choose the mode with the smallest error.	ACASI mode	

Source: Authors.







# ANNEX SUPPORT TOOLS

## ANNEX I – PLANNING AND ORGANIZATION OF THE SURVEY

- 1.1. Interviewer's manual
- 1.2. Interviewer's manual II - Review and correction of errors
- 1.3. Data-entry operator's manual
- 1.4. Instructions for the field supervisor
- 1.5. Quick guide to the audio computer-assisted self-interview (ACASI) system (youth)
- 1.6. Administration guide and support for the audio computer-assisted self-interview (ACASI) system (interviewer)
- 1.7. Guide to preparing terms of reference (TOR) for the contracting of consulting services from a survey firm

## ANNEX II – INITIAL CONTACT WITH THE RESPONDENT

- 2.1. Informed consent letter (youth)
- 2.2. Informed consent letter (parents or guardians)
- 2.3. Informed consent letter (young man): High risk behaviors I. Administration of biomedical tests and questionnaire in the prison system
- 2.4. Informed consent letter (young man): High risk behaviors II. Evaluation strategies for preventing HIV/AIDS
- 2.5. Contact card (youth, parent or guardian)

## ANNEX III – THE SURVEY

- 3.1. Risk behavior survey (self-administered, young woman)
- 3.2. Cognitive module
- 3.3. Interviewer assessment
- 3.4. Result of the interview
- 3.5. Contact form

- Purpose of the annex: To provide support tools to plan, design and monitor surveys on youth risk behaviors. These reference materials have been used in various research studies and have passed strict quality controls. They systematize best practices in the administration and implementation of youth surveys.
- Cut and Paste: The goal of these materials is to orient and guide the user. They are not intended to replace the detailed planning and critical thought necessary for the creation of these tools (crucial for effective measurement). This document identifies those elements of interest in the text, thus allowing the research to be adapted to the user's needs.
- How to use it: The annex has been divided into the three phases of field research. Each phase contains a specific group of work tools. Throughout the document, you will be guided by different icons that link sections of the text, helping you to navigate the document and annexes.





1 —  
2 —  
3 —

# ANNEX I

## PLANNING AND ORGANIZATION OF THE SURVEY

This section includes support materials for the planning, organization and quality control of the data that has been or will be collected. As we mentioned at the beginning of the annex, these materials are meant to offer guidance and as such will require critical thought and adaptation of the reference research.

Among the documents included in this review are:

- Interviewer's manual: contains a set of general and specific instructions for interviewers, including a description of the work to be carried out and instructions for correct completion of each of the questions.
- Data entry operator's manual: includes basic information to ensure effective data entry and strict data quality control.
- Instructions for the supervisor: describes the functions, activities and basic responsibilities of the field supervisor to ensure the collection of quality data.
- Quick guide to the application of the survey using ACASI: instructions for the respondent pertaining to the system's operation and how to correctly answer questions.



## 1.1 INTERVIEWER MANUAL

The Interviewer Manual is a very important tool, since it will guide the actions of Interviewers and will have an influence on the conditions under which the information is collected.

The following are the minimum contents that this kind of manual should have, and in some cases we will present examples used in the Interviewer Manual for the project in the Dominican Republic (Ex. DR).

### 1.1.1 Introduction

Clearly explain the purpose of the survey, the number of interviewers, and the total population that each interviewer will be responsible for.

### 1.1.2 Organization of the survey

Part of the organization is the team description and details regarding the instruments they will work with.

*(Ex. DR): The survey is conducted by a Project Manager and a Field Chief, who supervise 5 field teams. Each field team consists of 3 people: 1 supervisor and 2 interviewers. You should make approximately 90 visits to young people on a list provided by your supervisor. The survey uses 3 different instruments to measure risky behaviors: (i) an assisted questionnaire that you must apply to the youth, (ii) a self-administered questionnaire you must give to the youth to fill out themselves, and (iii) an Audio-CASI questionnaire which comes on a laptop that you must provide the youth. Your supervisor will also tell you which of the 3 instruments should be administered at each visit.*

### 1.1.3 The role of the interviewer

Explain at least the following aspects (Ex. DR (Ej. R.D))

- » Visit the people you have been assigned to by the supervisor of the team. Under no circumstances may you replace one of the youth you have been assigned.
- » Review the interviews conducted using the assisted questionnaire. Make sure that all questions were asked and the answers were recorded carefully and legibly.
- » Go back to the person whenever needed to confirm information that supervisor feels is not correct..
- » Other roles ...

### 1.1.4 Interviewer supervisor

These duties are: Observe some of your interviews to ensure that you are guiding them properly, accompany some visits in the field to make sure you looked for or interviewed the person selected, and that the data are reliable and the questionnaire is complete, meet daily with each team member to comment on the performance of the tasks and give new assignments, others.

### 1.1.5 Regulation

Important definitions:

- » Fieldwork assistance. *(Ex. DR):* Except in case of illness, any person who is absent from duty during any stage of the fieldwork (whether it is a full day or part of a day) without prior approval from their supervisor may be fired.
- » Hours and period of the survey.
- » Ethics and behavior in the field.
- » The importance of data collection, accuracy and validity. Means for detecting and correcting inaccurate or invalid data.
- » Confidentiality of information *(Ex. DR):* you may not disclose or discuss any of this information outside the work group, or outside working hours.

## 1.1.6 First contact with the youth

Description of the characteristics and importance of first contact.

*Ex. DR: During working hours, you are responsible for caring for your personal appearance and mannerisms. During the first contact, you should always have on hand: Your Ipsos ID card, the interviewers handbook, two pencils and a watch or stopwatch, a calendar, a calculator, and two blank copies of the checklist. If you are doing an assisted survey: one blank copy of the assisted questionnaire, corresponding to the sex of the youth. If doing a self-administered survey on paper: a manila envelope with a blank copy of the self-administered questionnaire, corresponding to the sex of the youth. If doing an Audio-CASI survey: a laptop computer with audio-CASI system, headphones, a USB mouse, and a copy of the Quick Guide for the Computer-Assisted Interview System.*

Scripts can be set so that interviewers have greater ease when coming into contact.

*Ex. DR: You should approach the youth in a friendly manner and greet him or her using the following script:*

*Hi! My name is \_\_\_\_\_, and I'm a researcher from \_\_\_\_\_. I'm doing a study on risky behavior among youth. I would like to conduct a brief voluntary survey, and I'm offering you a \$150 peso phone card as an incentive for your participation. The survey takes 15 to 25 minutes. Your answers are strictly confidential and will be kept strictly anonymous. Are you willing to participate?*

If the youth says he or she does not want to or is not interested or doesn't have time, reply:

*Don't worry, the survey is completely voluntary. However, we offer a \$150 peso calling card as an incentive for your participation; or Don't worry, I can come back another time. We only need 15 minutes to complete the interview, and then I'll give you your calling card ...*

It is important to try to anticipate possible questions from youth and the responses from the interviewers. For example: If the youth asks why s/he has been chosen for this survey, or how their personal or contact information was obtained, what the survey or study is about, or expresses any concerns regarding the confidentiality of the interview, etc.

## 1.1.7 Administration of risky behavior survey

This section should clearly explain how the assigned survey mode is to be administered.

### a) Self-administered on paper mode

In the self-administered on paper mode, the youth should be given a manila envelope with a blank copy of the questionnaire and a pencil. The envelope and the copy of the questionnaire should be clean, with no stains, folds, or wrinkles. You must provide details about the process.

*Ex. DR: Before handing out the materials to the youth, you must explain the following:*

*This is a questionnaire you fill out yourself. The first page contains instructions for filling it out. Some questions are private. Please find a quiet, private place to fill it out. If you have any questions, I'll be here waiting to help you in any way. Please, when you're done, put the questionnaire in the envelope and seal it closed.*

Explanation should be given on other issues, such as: what the folio number on the cover is, the process of receiving the completed survey, and how to introduce the cognitive module (recommended).

Final Instructions. *Ex. DR: After administering the Cognitive Module, and after leaving the residence, the folio number of the youth must be written on the manila envelope. You should never open the envelope, nor should you note the number on the cover sheet of the questionnaire. The data entry staff will open the envelopes and copy the folio number you wrote on the envelope onto the cover of the questionnaire. If you forget to write down the folio number on the envelope, the data entry staff cannot enter the information.*

### b) Audio-CASI mode

In the audio-CASI mode, the youth must be provided with a laptop with sufficient battery charge (in case there is no electricity in the home), headphones, and a USB mouse.

The manual should detail how to use the computer, explain the audio options, the password, and the conditions for waiting for the interviewer to answer any questions

When the computer is returned, the interviewer must check that the software is showing the 'End of interview' window. In this case, you must press the key combination to close the system, and describe the type of closure. *Ex. DR: We appreciate your participation. Now you will receive a \$150 peso phone card. Thank you for your cooperation.*

List the cases when the software is not showing the 'End of interview' display, but is instead showing a question in the questionnaire, and if the software is showing an error, or if the software was closed unexpectedly.

Finally, administer the **Cognitive Module** (recommended).



### c) Assisted mode

In assisted mode, a questionnaire will be administered to the youth by reading the questions and recording the answers. To do so, the interviewer should be thoroughly familiar with the questionnaire and have the administration instructions on hand.

The general instructions concern:

- » Finding a private place to conduct the interview. The presence of others during the interview may prevent frank and honest answers.
- » The importance of staying completely neutral when formulating the questions. Never allow the respondent think they have given the “right” or “wrong” answer to the question, either by your facial expression or tone of voice.
- » Explain that the questions have been formulated to be read exactly as written, and in the order they are given.
- » Do not answer for the respondent or assume what is the correct answer.
- » No question may be left blank, except if there is an instruction to skip that requires some questions to be omitted. All questions must be completed. If the youth does not answer, despite your having insisted and urged, the following codes must be recorded: NR: No Response or NS: Does not know, cannot remember or does not understand.

Next the manual must provide detailed instructions for conducting the interview in assisted mode. Depending on the subject, the questions will require some kind of answers filled with response information, which must be clearly explained in the manual. Here are example questions applied to sexuality, AIDS and reproductive health and the corresponding explanation included in the interviewer manual in the Dominican Republic case study.

*Ex. DR: Sexuality: **It is important to read the introduction to this section exactly as it is formulated:** The following questions are about your relationships and sexuality. Some of them may make you feel uncomfortable. Remember that no one else but you knows these questions, and your answers are completely confidential. You can choose not to answer the questions that you do not wish to.*

*a. Are you currently legally married with a marriage certificate?*

If the person answers yes, check the ‘Yes’ box and go to question (8.c) on this page. If the person answers no, check the ‘No’ box and go to question (8.b) on this page.

*b. Have you ever been legally married with a marriage certificate?*

Read the question exactly as it is given.

*c. Which of the following words best describes your sexual identity?*

On this question you should read all answer choices. On the women’s questionnaire, the question should read as follows:

¿Which of the following words best describes your sexual identity: heterosexual, relationships with men; homosexual or lesbian, relationships with women; bisexual, relationships with men and women? On the men’s questionnaire, the question should read as follows:

Which of the following words best describes your sexual identity: heterosexual, relationships with women; homosexual or gay, relationships with men; bisexual, relationships with men and women?

- » If the youth does not fully understand, or none of the three words describes their sexual identity, repeat the entire question more slowly, pausing between each option. If the youth still feels that none of the options describes their sexual identity, check “Other.”

#### • HIV/AIDS test

*(a) Have you ever had an HIV or AIDS test?*

If the person answers yes, check the ‘Yes’ box and go to question (9.b) on this page. If the person answers no, check the ‘No’ box and go to question (10) on the next page. If the person says they do not remember, do not insist, and check the box ‘Does not remember’. Then go to question (10) on the next page.

*(b) The last time you had an HIV or AIDS test, did you find out the results?*

Read the question exactly as it is given.

## • Sexual and reproductive health

(a) Has a health care professional, such as a doctor or a nurse, ever told you that you had the following sexually transmitted diseases?

After reading the question, you should read all the options. Never read all the options at once. You should wait for the youth to answer after reading each option. If the youth has not had any of the diseases mentioned, check the box next to “No, none of the above.”

(b) In the last 12 months, have you had any of the following symptoms?

After reading the question, you should read all the options. Never read all the options at once. You should wait for the youth to answer after reading each option. If the youth has not had any of the symptoms mentioned, check the box next to “No, none of the above.”

(c) Think about the next 6 months. Over the next six months, do you want to get pregnant?

This question is only on the women’s questionnaire. You should not read the options. After reading the question, wait for the youth’s response and check the appropriate option. The appropriate option depends on the type of response from the youth, as shown in the following table:

SOME POSSIBLE RESPONSES FROM THE YOUTH	OPTION YOU SHOULD CHECK
No, I hope not	Definitely not
I don't think so	Probably not
Maybe It's possible, It depends, If the conditions are right	Probably yes
Yes, I hope so, God willing	Definitely yes
I'm pregnant	Currently pregnant
I don't know	Does not know

You should always read this question, even if the youth appears to be pregnant. The only exception is when the young person has previously commented on being pregnant; in this exceptional case, you can check the ‘currently pregnant’ option and skip the question.

The manual should also include an explanation of how to finish the questionnaire, asking questions and comments.

*Ex. DR: (a) This is the conclusion of the interview. Were there any questions you didn't understand well? Write down the number of questions the youth did not understand well. Check the box next to 'No' if the youth understood all the questions.*

Finally, it is suggested that the **Cognitive Module** be administered.



### 1.1.8 Administering the cognitive module

The Cognitive Module should be administered immediately after the youth completes the survey (in any of the three modes) and received the card.

In the case of the Dominican Republic, the cognitive module included 5 questions (See applicable Appendix for details). The Instructions for completion of this module are defined as:

- » Important: Never show the youth the answer sheet to help. You should also never suggest the answer, nor should you show expressions of approval or disapproval with their answer. Maintain neutrality at all times and never tell the youth the correct answers.
- » If the youth has a hard time answering, repeat the question slowly and clearly. Offer to read the question again as many times as necessary, but never show the sheet. If the youth says they do not know, check the “Does not know / No answer.”

- » If the youth asks why you are asking these questions, reply that they are part of the survey and they can choose not to answer questions that they do not wish to answer.
- » Immediately after the youth answers the last question, record the end time of the cognitive modules, including the seconds.
- » Finally, say goodbye politely and leave the residence to fill out the interviewer assessment, the results of the interview and the cover page.

### 1.1.9 Filling out the interviewer assessment



These questions must be verified by the supervisor. Never let the youth see the evaluation sheet. Suggested questions to include are:

- 1) Who else was present during the interview (besides the adolescent)? Only include people who were present for 50% of the interview or more.
- 2) How do you think question comprehension was (excluding the cognitive module survey) for the youth? Mark Excellent, Good, Not very good or Poor. *Do not include questions that the youth did not want to answer due to privacy or other reasons other than lack of understanding.*
- 3) How difficult was it to get the youth to decide to cooperate or agree to the interview?
- 4) What were the conditions of the place of the interview?
- 5) Was the youth: 'Quiet', 'Distracted' or 'Nervous'?

### 1.1.10 Filling out the interview results



The objective of this module is to record and monitor the process of locating the youth, as well as the process of filling out the interview. The interviewer must complete this section with his or her supervisor. Never let the youth see the results of the interview.

The location process can be very complex and requires a great deal of experience and flexibility. This is a simplified record of all work done by the interviewer and the supervisor in contacting the youth. Therefore, always follow the instructions of the person who is in the best position to make the right decisions to allow the youth to be tracked down.

In the example of the Dominican Republic, this section included two parts. The first part consists of two sheets with six columns. Each column corresponds to a possible visit to contact to the youth. The second part is one sheet, and is used to record information with the outcome of the interview.

- » p1. Visit date: The date of the visit. It is possible for there to be more than one visit during the same day, so multiple columns can have the same date.
- » p2. Start time and end time of visit (24 hours format)
- » p3. Was the youth located at the original address registered? /Was the youth located?
- » p4. Why could the youth not be located? The use of these codes must always be approved by the supervisor. *Options: Absent for less than 3 months, moved, outside the country for more than 3 months, is in jail and does not get out for more than 3 months, died, abandoned residence, original registered address does not exist / address does not exist / phone does not work, no one at the address, no one knows him/her in the area / denies it.*
- » p5. Were additional data obtained to allow the youth to be tracked down (phone numbers or addresses with neighbors/family/friends)?
- » p6. Completeness of the interview (risk questionnaire + cognitive module) only for assisted mode. *Options: full interview, partial interview, empty interview.*
- » p7. Mark the sections that the youth did not answer. If a section was partially answered, mark it the same. Assisted mode only.
- » p8. Final result of the visit. *Options: 100% complete interview, partial answers from youth, complete rejection, youth not located.*
- » p9. Causes for partial response or refusal (check the most relevant cause)
- » p10. Date and time of return visits to try to contact the youth
- » p11. Remarks  
*It is advisable to add examples in this section.*

*Ex. D R. The youth is contacted and interviewed at the first visit, at the original address provided by your supervisor. The visit took place on November 26, 2010, between 17:15 and 19:10.*



**Important:** Include the total time of the visit, from the time the youth was personally contacted (do not include the time taken to find him or her) until the time you left the residence.

As you can see in the example, you should only complete questions P1, P2 and P3 in the first column. For question Q3, the instruction appears to move on to question P6; therefore, you should leave questions P4 and P5 blank. If you are administering the self-administered on paper mode, or the Audio-CASI mode, also leave questions P6 and P7 blank.

**INTERVIEW RESULTS**

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### 1.1.11 Filling out the Information sheet on the youth



The interviewer must fill out this form together with his or her supervisor at the end of a visit. Never let the youth see this sheet.

- » Youth folio. Write down the folio number of the youth, which will be provided by the supervisor. It is a 5 digit code.
- » Name of youth.
- » Address and reference of residence.
- » Province / municipality / sector / city / neighborhood / rural area.
- » Interviewer code and name.
- » Supervisor code and name. These boxes must be filled out by your supervisor.
- » Data entry staff code and name. These boxes must be filled out during data entry.

## 1.2 INTERVIEWER'S MANUAL. REVIEW AND CORRECTION OF ERRORS

### 1.2.1 The task of revision

The interviewers are responsible for reviewing each questionnaire once the interview has concluded. This review must be completed before you leave the subject's home, to ensure that all appropriate questions have been asked, that all answers are clear and reasonable, and that your writing is legible.

It also requires you to follow the filter instructions and skip to other questions correctly. You can make minor corrections, but any significant error should be clarified by the respondent. Apologize, explain that you made a mistake, and ask the question again.

Do not rewrite the questionnaires. The questionnaire does not need to be overly neat, as long as the answers are clear and legible. Every time you transcribe the answers to a new questionnaire, you increase the likelihood of making a mistake. For this reason, do not use worksheets to collect information.

Record the information on the questionnaires that have been provided. If you need to perform calculations, you can do them in the margin or on the back of the questionnaires. It is also important to explain anything out of the ordinary, either in the margins next to the relevant question or in the comments section at the end. This will greatly help the supervisors and staff when reviewing the questionnaires.

### 1.2.2 Return of work assignments

At the end of each day of fieldwork, check to make sure you have filled out the cover page of the questionnaire for each person to whom you have been assigned, then give all completed questionnaires to your supervisor.

You must inform your supervisor of any problems you may have encountered while completing an interview. Generally, your supervisor will suggest that you hold on to the pending questionnaires, as you will be responsible for revisiting those persons selected during the next day of fieldwork. You may be asked to return those documents if s/he decides to assign them to another member of your group in order to handle all new visits the next day. No substitutions are allowed in the survey. The only people that should be interviewed are the young people to whom you have been assigned. A supervisor will assist you in the process of contacting young people.

### 1.2.3 Error correction

It is very important for you to record all answers neatly and clearly. For pre-coded questions, be sure to write the correct response code legibly. For open questions, the answer must be written legibly. If you made an error while recording the respondent's answer or if the person changes his/her answer, be sure to cross out the incorrect answer and record the correct one. Do not attempt to erase an answer; just cross out the incorrect answer using two horizontal lines. Remember that if there are two answers to a particular question, it may be difficult to ascertain which is the correct answer later when the data is being coded or entered into the system. Here is an example of how to correct an error:

Example:

(301) During the past week, did you work for pay or salary at least one hour?

YES	1	▶ (315)
NO	2	

### 1.2.4 Review of completed questionnaires

After completing an interview, you should review the questionnaire by carefully reading the answers to the various questions. It is very important to check that you have followed all the appropriate information flow patterns and that you have not missed any sections. If necessary, you can make a correction or clarify the answers. You should review the questionnaire BEFORE you proceed to the next interview so that the respondent is still available in case you need to ask him or her something else. We recommend that you write down comments about the interview that you think might clarify the responses recorded or that could be of interest to your supervisor. If you have any questions about how to record a response, you can make a note on the questionnaire to check with your supervisor, who is there to help you.

## 1.3 DATA TYPIST MANUAL

### 1.3.1 Introduction

*You have been selected as data entry typist for the Youth Risk Behavior survey. The purpose of this survey is to assess risk behaviors –tobacco, alcohol and drug use, violence and delinquency, high-risk sexual behaviors, etc.– in young adults between the ages of 18 and 30. The survey focuses on youth in special vulnerability conditions. You have been selected as one of two data typists who will enter data for a total population of 900 youth. You will be responsible for entering the information of approximately 450 youth, that is, 50% of the survey; therefore, we expect outstanding performance from you.*

*Even though you may be a seasoned typist, please read this manual in its entirety. It contains some important instructions that you will need to follow, depending on the question you are entering. Please have this manual handy whenever you work with this survey.*

### 1.3.2 Survey organization


The survey is led by a Project Manager and a Field Manager, who supervise 5 field teams. Each field team consists of three individuals: 1 supervisor and 2 enumerators.

The survey uses three different instruments to assess risk behaviors: (i) one assisted questionnaire administered by an enumerator, (ii) one self-administered questionnaire that the enumerator gives to the youth for self completion, and (iii) one Audio-CASI questionnaire loaded in a portable computer that the enumerator provides to the respondent.

### 1.3.3 The role of the data typist

The typist is responsible for transferring data from field-administered paper questionnaires onto a computer file. For this process, you will use a **data entry software (DES)** in which a series of screens display the questionnaire pages for you to enter the information contained in the paper questionnaires.

The data entry process is not an error-free one. For example, you may sometimes press the wrong key or inadvertently skip a question. In order to help you detect typing errors, the DES features error-detection algorithms.



**Important note:** Your job is to transfer the information exactly as it was recorded in the paper questionnaires. If the information contains errors, do not attempt, under any circumstance, to amend it. The data entered must reflect the information exactly as it appears in the questionnaire, including any errors. There are some exceptions to this rule, which are explained further on in the manual.

Every time a DES shows an error message, you should verify that you have copied the information as written in the questionnaire. If you make an error, amend it. If the enumerator made an error, follow the instructions in **section 6.3**.

### 1.3.4 Installing the data entry software (DES)

For this survey you will be using two types of DES: (i) DES for control sheets and (ii) DES for questionnaires. To install the DES software, follow these steps:

#### Configuration for Windows

- » Open Windows Control Panel (Start > Control Panel);
- » In the Control Panel, select 'Regional and Language Options';
- » In the 'Regional and Language Options' window, select the 'Regional Options' tab;
- » From the list 'Standards and formats', select the option 'English (United Kingdom)';
- » Click on 'OK' to close the 'Regional and Language Options' window.

#### Preparing Directory Data

- » Create a new directory in Drive C called C:\MRDATA\_CONTROL\ (this is the directory where control sheet data will be stored). **Important note: If this directory already exists and contains information, create a backup (See section 6.5 for backup instructions), and then clear the directory.**
- » Create a new directory in Drive C called C:\MRDATA\_PAPER\ (this is the directory where questionnaire data will be stored). **Important note: If this directory already exists and contains information, create a backup and then clear the directory.**



## MS Excel Configuration

- » Please ensure MS Excel 2003 is installed in your computer.
- » Open MS Excel 2003,
- » Select the menu Tools> Macro > Security. . . ;
- » In the 'Security Level' tab, select 'Low'.
- » Make sure that the 'Trust access to Visual Basic Project' check box is marked in the 'Trusted Publishers' tab.
- » Click 'OK' to close the Security window.
- » Close MS Excel 2003.

## Installing DES

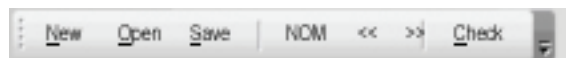
- » Insert the USB memory stick containing the DES into a USB port;
- » Copy the DES Control MDR Ver 1.x.xls file from the USB memory unit to the Windows Desktop;
- » Copy the DES Questionnaire MDR Ver 1.x.xls file from the USB memory unit to the Windows Desktop;
- » Once all files have been copied, double click on the Control MDR Ver 1.x.xls DES file to run DES for control sheets; double click on the Questionnaire MDR Ver 1.x.xls DES file to run DES for questionnaires.



**Important note:** Always use capital letters when entering data. Before beginning to enter data, ensure the Caps Lock key is active.

### 1.3.5 Basic DES Functions

DES software run on an Excel platform. When running any DES, the screen displayed will look very much like the paper forms you will need to type. The screens contain some boxes in yellow. You will only be able to write in these boxes. A new menu will also appear in the Excel toolbar. This is called the 'Operator's Menu' and it looks as follows:



**Important note:** If you do not see the Operator's Menu, your antivirus may have corrupted the DES. Ask the IT technician to disable or configure your antivirus to skip the DES scan. Then, ask your supervisor for new DES copies (your antivirus may have corrupted the copies in the USB memory sticks), and repeat steps 15-18 of the DES installation.

The Operator's Menu has the following functions:

- » **New:** Clears all yellow boxes so that you can start typing a new form.
- » **Open:** Opens an existing form so that you can read or edit data.
- » **Save:** Saves data pertaining to the form currently displayed. DES automatically assigns a name to each form, which coincides with the youth's sequential form number. If you have not entered a form number, you will receive an error message and will not be able to save the form.
- » **NOM:** Displays the list of options for the cell selected.
- » **<< :** Goes back to the previous screen. You may also press Ctrl+PgUp.
- » **>> :** Moves to the following screen. You may also press Ctrl+PgDn.
- » **Check:** Runs the error detection routines.

### 1.3.6 Typing Protocol

In this survey you will need to type two different forms: (i) control sheets and (ii) youth questionnaires. All youth have a control sheet, but not all will have a questionnaire. Some youth (up to 300) will receive questionnaires inside a sealed Manila envelope. Other youth (up to 300) will receive loose questionnaires. The rest will not get any questionnaire.

### 1.3.7 Sorting Forms

Your job begins when you receive the control sheets and the questionnaires from the field. They may not be organized and your first task will be to sort them out. Sorting will be conducted as follows:

- 1) For each control sheet, go to the last page (with organization logos) and fold the packet along the staple so that the page with the logos is now the first page you see.
- 2) For each Manila envelope:
  - a. Look for the form number on the envelope (if you do not find the form number on the envelope, do not open the envelope and contact your supervisor),
  - b. Open the envelope;
  - c. Remove the questionnaire;
  - d. With a pen, copy the form number on the first page of the questionnaire, in the box that reads Form Number;
  - e. Look for the control sheet corresponding to the questionnaire, which has the same form number;
  - f. Staple the control sheet with the questionnaire. Ensure the page with the logos (of the control sheet) is the first visible page.
  - g. Discard the Manila envelope.
- 3) For each loose questionnaire:
  - a. Look for the form number on the first page of the questionnaire (all loose questionnaires should have the form number and the youth's name written on the first page. If this is not the case, contact your supervisor);
  - a. Look for the control sheet corresponding to the questionnaire, which has the same form number;
  - a. Staple the control sheet with the questionnaire. Ensure the page with the logos (of the control sheet) is the first visible page.

After sorting the forms, you will begin typing each control sheet and then the questionnaire stapled to it. Some control sheets will have no questionnaire attached, in which case you will only need to type the control sheet.

### 1.3.8 Typing the Control Sheet

Before typing, run both DES. Each DES will open in a new Excel window. Then follow these steps to type a control sheet and a questionnaire.

- 1) Select the window with the DES for control sheets;
- 2) Begin by typing the Form Number box in the control sheet;
- 3) To move to the next box, press ENTER;
- 4) Fill in all data, copying them exactly as they appear in the control sheet, except in the following cases:
  - a. Even though the boxes marked Province and Municipality contain some text, you must always enter the numeric codes for the Province and the Municipality. To see a list of codes, select a cell and click on NOM in the Operator's Menu.
  - b. Do not enter the names of the Interviewer, Supervisor or Typist. Just enter their codes.
- 5) In the Typist box, enter the code that was assigned to you.
- 6) Use a pen to write your code and name in the 'Typist' space provided in the paper form.
- 7) Once you finish typing the first page of the control sheet, click on >> in the Operator's Menu to move to the next page: Cognitive Module.

### 1.3.9 Cognitive Module

- 1) Enter the time when you begin typing.
- 2) Enter the answer to question 1. If the Interviewer marked the box 'Does not know / Declines to answer', you can reflect it in two ways: (i) by typing the letter 'X' (capitalized) in the box or (ii) by right-clicking (or double clicking) on the box.
- 3) Type the answer to question 2. You may mark the answer selected ('True' or 'False') in any of the following ways: (i) by typing the letter 'X' in the appropriate box or (ii) by right-clicking (or double clicking) on the box.
- 4) Type the answers to the following questions in the same manner.
- 5) Enter the time when you finish typing.
- 6) Move to the next page: Enumerator's evaluation.

### 1.3.10 Enumerator's Evaluation

- 1) Type this page in the same manner as the previous page.
- 2) Move to the next page: Interview Result.

### 1.3.11 Interview Result

- 1) Type all dates in this section using the dd/mm/yyyy format. Choosing any other format will create errors further on.
- 2) Fill in the remaining boxes exactly as they are written in the paper form. Ensure you fill in all visit columns.
- 3) Move to the next screen to fill out the last page of the control sheet.
- 4) You may mark the boxes in question 7 by right-clicking (or double-clicking), or by typing the letter 'X'.
- 5) In the box marked 'TYPING' located on the last page of the control sheet, type the current date, and use a pen to write the same date on the paper form.
- 6) Once you finish entering the last page of the control sheet, click on Save in the Operator's Menu. Data in the control sheet will be saved automatically.
- 7) Before continuing, remember to run the error detection routines as explained below.

### 1.3.12 Error Detection

To run the error detection routines, click the Check button in the Operator's Menu. If no errors are detected, the DES will display a 'No errors detected' message. If there are errors, the DES will display a list of the errors found. To continue, follow the instructions below:

- 1) Carefully read the first error message. Under the error message you will find one or more links in blue that take you directly to the boxes containing the error.
- 2) The first thing you need to do is **verify that you have entered the information correctly**, exactly as it appears in the paper form (with the exceptions mentioned above).
- 3) If you have wrongly typed the information, reenter it and click on Check.
- 4) If you entered the information correctly, proceed according to one of the following options depending on the type of error:
  - a. If one of the responses in the questionnaire has been left blank, enter the code 'B' in the corresponding box. If there is more than one box available for a response, the error message will tell you in which box exactly to enter the code 'B'.
  - b. In case of any other type of error, follow the instructions in the error message.
  - c. If the error message does not provide explicit instructions, consult this manual or contact your supervisor.



**Important note:** Before you finish entering a questionnaire, ensure there were no error messages left in the problem list. The only exception to this rule is when you are absolutely positive to have typed the information correctly. In these cases, you should leave errors as they are.

### 1.3.13 Typing the questionnaire

Once you have typed, checked and saved the control sheet data, you will need to select the window with the DES for the questionnaire, and go through a data entry process that is very similar to that of the control sheet. Begin by typing the form number of the first page of the questionnaire, and proceed with the next boxes. Save your work often by clicking on Save.

Whenever the enumerator or the youth erroneously marks an option, they are given an instruction to fill the 'wrong' box (See the instructions on the first page of the questionnaires). When you come across a box filled in this manner, leave it blank in your screen.

When you finish entering the questionnaire, click on Check and go through all error messages. Amend any typing errors according to the instructions provided in the messages. Once you have followed the instructions of all messages and corrected all typing errors, some errors may still appear. Disregard these messages.


This is the end of the typing process for a youth's information. Now you may file the form and proceed with the next one. To enter a new control sheet or questionnaire, click on New in the corresponding DES.

### 1.3.14 Backups

The backup procedure must be repeated twice or more times a day. You are responsible for backing up the information. Follow these instructions:

- 1) Compress the C:\MDRDATA\_CONTROL directory into a .zip or .rar file.

- 2) Compress the C:\MDRDATA\_PAPEL directory into a .zip or .rar file.
- 3) Rename the compressed files as shown below:
  - » RESPALDO CONTROL dd-mm-yyyy hh\_mm.zip,
  - » RESPALDO PAPEL dd-mm-yyyy hh\_mm.zip,
  - » where the text dd-mm-yyyy hh\_mm is replaced by the current date and time of the system (in the yyyy-mm-dd hh-mm format).
- 4) Copy the compressed files to your USB memory stick.



Important note: use a USB memory stick exclusively for this purpose. Do not use the USB memory stick for personal or other uses. This practice reduces the probability of virus infection.

Important note: never delete the directory C:\MDRDATA\_CONTROL or C:\MDRDATA\_PAPER, which contain the control sheets and the questionnaires respectively. This means backups are incremental and, once field work has been completed, those directories will contain all the forms entered into this computer.

Important note: Copy your backup files in the USB memory stick to a central computer often, saving it in a directory with the number of the computer.

### 1.3.15 Special Codes

DES use some special codes to record exceptional situations::

- 1) Code 'B' is used when a response has been left blank in the paper questionnaire, except when there is an instruction indicating the question should be skipped.

*If there is a blank in the paper form . . .*

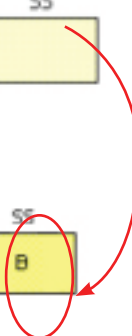
Start time  
(24 hour format)

HH	MM	SS
16	45	

*You should enter the code 'B':*

Start time  
(24 hour format)

HH	MM	SS
16	45	B



- 2) Code 'NS' is used when the enumerator has written 'NS' (Does not know).
- 3) Code 'NR' is used when the enumerator has written 'NR' (Declines to respond).
- 4) Code 'M' is used when a response that does not allow multiple choices has been marked with more than one option. An error message will alert you when this happens. The following example shows how code 'M' is used:

If the paper form contains more than one option checked for a question that allows only one option...

2. How do you evaluate the youth's level of understanding of the questions?

Check only one option

<input type="checkbox"/>	Excellent
<input checked="" type="checkbox"/>	Good
<input checked="" type="checkbox"/>	Not very good
<input checked="" type="checkbox"/>	Poor
<input type="checkbox"/>	Very poor

You should mark the first option checked with an "X" and then mark the rest of the options checked with the code "M":

2. How do you evaluate the youth's level of understanding of the questions?

Check only one option

<input type="checkbox"/>	Excellent
<input checked="" type="checkbox"/>	Good
<input checked="" type="checkbox"/>	Not very good
<input checked="" type="checkbox"/>	Poor
<input type="checkbox"/>	Very poor



Important note: A box filled in black indicates the enumerator or the youth amended the response; it does not mean a multiple choice. It is important that you distinguish these cases, as shown below:

### Case of multiple choice error

2. How do you evaluate the youth's level

Check only one option

<input type="checkbox"/>	Excellent
<input checked="" type="checkbox"/>	Good
<input checked="" type="checkbox"/>	Not very good
<input checked="" type="checkbox"/>	Poor
<input type="checkbox"/>	Very poor

Usted debe marcar con la 'X' la primera opción marcada, y marcar con el código 'M' el resto de las opciones marcadas:

2. How do you evaluate the youth's level

Check only one option

<input type="checkbox"/>	Excellent
<input checked="" type="checkbox"/>	Good
<input checked="" type="checkbox"/>	Not very good
<input checked="" type="checkbox"/>	Poor
<input type="checkbox"/>	Very poor

### Case of corrected response

2. How do you evaluate the youth's level

Check only one option

<input type="checkbox"/>	Excellent
<input type="checkbox"/>	Good
<input type="checkbox"/>	Not very good
<input checked="" type="checkbox"/>	Poor
<input type="checkbox"/>	Very poor

Usted debe marcar con 'X' solamente la respuesta correcta, dejando el resto de las opciones en blanco:

How do you evaluate the youth's level

Check only one option

<input type="checkbox"/>	Excellent
<input type="checkbox"/>	Good
<input type="checkbox"/>	Not very good
<input checked="" type="checkbox"/>	Poor
<input type="checkbox"/>	Very poor

- 5) Some messages will have the instruction to use the code 'FR'. In this case, you must first verify you have entered the data correctly. If you have entered the data correctly, enter the 'FR' code immediately followed by the value written in the questionnaire, as shown in the following example::

If you receive an error message prompting you to use the 'FR' code

■ DATE OF VISIT  
DAY MONTH YEAR

21/12/2011

You should verify that you taped the data correctly. If you did type correctly, then enter the 'FR' code immediately followed by the value written in the form:

■ DATE OF VISIT  
DAY MONTH YEAR

FR21/12/2011



Remember your job is to type the information in the paper questionnaires exactly as it has been written, except in the situations explained above. If the information contains errors, you should not attempt, under any circumstance, to correct it. The data entered must reflect the information exactly as it appears in the questionnaire, including any errors.

## 1.4 INSTRUCTIONS FOR THE FIELD SUPERVISOR

- 1) Make sure you are fully familiar with the interviewer's manual.
- 2) Ensure that the interviewers reporting to you comply with the regulation and instructions for each administration mode, as specified in the manual.
- 3) Directly observe at least one assisted interview per interviewer per day. This observation should be as discrete as possible. The respondent should not be aware you are watching the interview. The supervisor must try to hear the questions of the interviewer without being noticed by the respondent.
- 4) Directly observe at least one self-interview or Audio-CASI interview per interviewer per day.
- 5) In 100% of cases, before the interviewer leaves the place of the interview, check the control sheet to make sure it is correctly filled out.
- 6) In 100% of assisted interviews, before the interviewer leaves the place of the interview, check the questionnaire. In 100% of the cases where the respondent has failed to complete the questionnaire, revisit the household either to correct the interview or to check for some kind of decline.
- 7) During direct observations, make sure that the interviewer follows all the manual instructions, including:
  - a. If the interviewer has the script that has been provided;
  - b. If the interviewer responds to the respondent's reactions and questions, according to the script that has been provided;
  - c. If the interviewer applies the self-administered and Audio-CASI modes as instructed;
  - d. If the interviewer reads the questions in the assisted questionnaire as written and does not omit or add any information;
  - e. If, whenever the respondent has questions, the interviewer probes according to the instructions in the manual and does not induce responses;
  - f. If the interviewer reviews the assisted questionnaire before finishing the interview;
  - g. If the interviewer properly bids the respondent farewell and hands out the telephone card;
  - h. If the interviewer applies the cognitive module;
  - i. If the interviewer fills out the interviewer's evaluation;
  - j. If the interviewer shows the proper attitude at all times (see Manual); etc.
- 8) When checking assisted questionnaires, make sure the interviewer:
  - a. Filled out the form number;
  - b. Properly filled out all fields;
  - c. Properly skipped questions;
  - d. Had clear, legible handwriting.
- 9) Make sure that the field work is performed according to the field work plan (organization, schedule, etc.) provided by the field manager.
- 10) Make sure interviewers work only and exclusively in the cases they have been assigned. No changes of respondents or interviewers are permitted. Interviewers are not allowed to exchange their cases. Interviewers are not allowed to change the assigned mode.
- 11) Make sure that 100% of the contact attempts observe the contact protocol described below.
- 12) Keep record of the youth search by using the Interview Result sheet.
- 13) Make backups of Audio-CASI questionnaires as instructed in the manual.
- 14) Make sure that all field team materials are available (vehicles, fuel, wages, per diem allowance, questionnaires, pens, watches, etc.).

15) Report to the field manager regularly through a report on the supervision activities that have been conducted.

## CONTACT PROTOCOL

The methodology used to locate youths in this survey must, as a minimum, observe the same criteria used to locate youths in the World Bank's longitudinal survey. If you did not work in such survey or if you have any questions/doubts concerning the criteria used in it, contact your field manager for further information.

The contact process must be recorded as instructed in the –(Filling out of interview results)—section in the interviewer's manual.

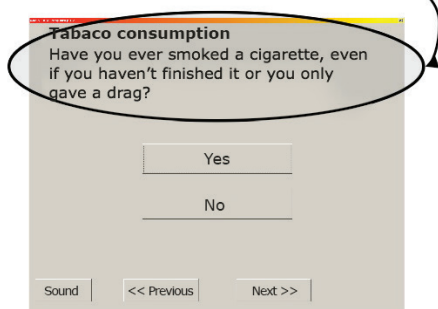
If you think you are unable to follow the instruction to fill out the interview results, you should always report to the field manager and request authorization to bypass the protocol.

If the respondent cannot be located after three home visits, three calls to all the telephone numbers in record and if no additional contact data has been obtained (addresses and telephone numbers), you are allowed to abort the search. The three visits and call attempts to all telephones must be performed at different times and dates.

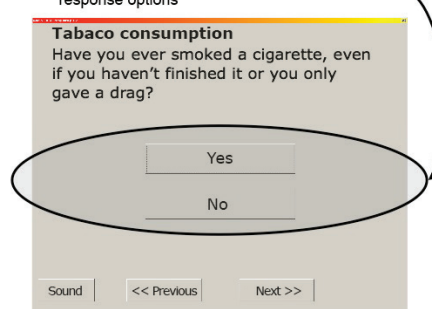
If additional contact data is available, you are required to continue to try to locate the respondent even if those efforts imply more than three visits or telephone calls.

## 1.5 QUICK GUIDE TO THE AUDIO COMPUTER-ASSISTED SELF INTERVIEW (ACASI) SYSTEM (YOUTH)

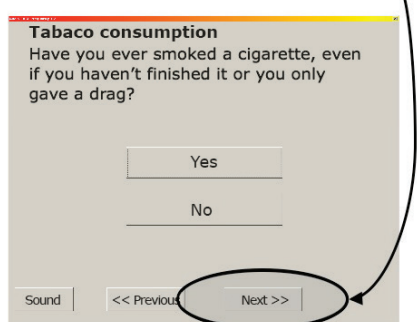
1 First, the computer shows you a question.



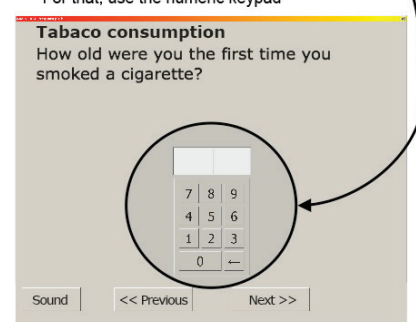
2 Second, you answer it by pressing one of the response options



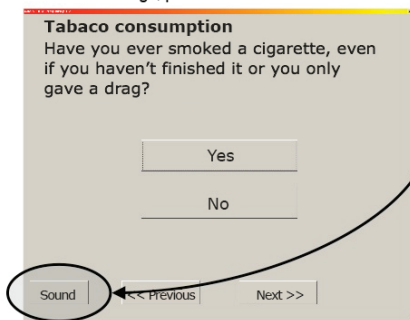
3 Third, click 'Next >>' to pass to the next question



4 Some questions require you to enter a number. For that, use the numeric keypad



- 5 The computer can read the questions either in a man or woman's voice format. To change the sound settings, press the "Sound" button



## 1.6 ADMINISTRATION AND BACKUP GUIDE FOR AUDIO COMPUTER-ASSISTED SELF-INTERVIEWING SYSTEM AUDIO-CASI

### 1.6.1 Administration

To run the Audio-CASI software, just double-click on the file: C:\SOFTWARE\_CASI\Audio-CASI MDR Ver 1.x.xls. A menu with three options will be displayed:

- 1) Audio-CASI Interview
- 2) Interview backup
- 3) Exit

Select the first option to prepare an interview. The 'List of Youth' window will be displayed. Choose the name of the respondent you will interview from this list.



**IMPORTANT NOTE: AVOID TAKING THESE STEPS IN THE PRESENCE OF THE RESPONDENT.** Please refer to the Interviewer's Manual for more information on how to prepare the Audio-CASI interview.

The software will guide the respondent through the questions but will not allow respondents to discontinue completion. This helps ensure respondents will fill out the interview and prevents them from stopping participating midway (drop off). If for any reason you wish to interrupt the interview, press Ctrl+Shift+T. This key combination will return you to the main menu and you will be able to resume the interview, if you so wish.



**IMPORTANT NOTE: ONLY ADMINISTRATORS ARE ALLOWED TO USE THE CTRL+SHIFT+T KEY COMBINATION.** It should not be shown to respondents.



## 1.6.2 Backup Instructions

The backup procedure should be completed twice a day in each computer. Field team supervisors are responsible for performing backups.

The main menu has an 'Interview Backup' option. Choose this option to generate a .zip file with all the interviews. The .zip file will be stored under the name RESPALDO dd-mm-yyyy hh\_mm.zip (BACKUP yyyy-mm-dd hh\_mm.zip), where the dd-mm-yyyy hh\_mm text is replaced by the current time and date of the system. Copy this file in your USB memory stick to complete the backup..



**IMPORTANT NOTE: USE A USB MEMORY STICK EXCLUSIVELY FOR THIS PURPOSE.** Do not use the USB memory stick for personal or other uses. This practice reduces the probability of virus infection.

**IMPORTANT NOTE: YOU SHOULD NEVER DELETE THE DIRECTORY: C:\MDRDATA\_CASI.** This is where interviews are stored. This means backups are incremental and once field work has been completed, that directory will contain all the interviews conducted in that computer.

**IMPORTANT NOTE: COPY THE BACKUPS REGULARLY FROM YOUR USB MEMORY STICK TO THE MAINFRAME** (to a directory with the computer number)

## 1.6.3 Manual Backup

Follow these instructions for manual backup:

- 1) Compress the C:\MDRDATA\_CASI directory into a .zip or .rar file.
- 2) Rename the compressed file as shown below:  
RESPALDO dd-mm-yyyy hh\_mm.zip,  
where the text dd-mm-yyyy hh\_mm is replaced by the current date and time of the system
- 3) Copy the compressed file to your USB memory stick.

## 1.7 GUIDE TO PREPARING TERMS OF REFERENCE FOR THE CONTRACTING OF CONSULTING SERVICES FROM A SURVEY FIRM

Survey firm for measuring youth risk behaviors

This guide to preparing Terms of Reference (TOR) for the contracting of consulting services specialized in measuring youth risk behaviors has the overarching goal of offering advice and providing general guidelines for the contracting party in the preparation of specific TOR required to contract this type of service. This document is for educational purposes and is supplemented with real examples drawn from other TOR, so its final content must be adapted from the reference research to match your study's context and conditions.

As a general rule, the TOR should be explicit, specific and clear about the expected services, products covered, obligations, conditions and rights of the consulting services. Remember that the TOR are an essential tool and starting point for obtaining quality information, so it is recommended that they be developed in a thoughtful, deliberate manner. Once the company has been contracted on the basis of these TOR, we will not be able to make any modifications to the company's hiring terms, so they will be our road map to chart the development of a complex, extensive service process.

Do not forget that (i) once the Terms of Reference have been drafted, we have to verify their consistency. It is very important to verify them prior to their inclusion in the specifications or guidelines and their publication. (ii) The TOR are just the first step in the contracting process; it is essential to maintain oversight and technical control of the entire management cycle. (iii) The TOR serve as a tool to assess the impact of the contracting process, because they establish the need that must be met. How that need is met will depend on the quality of the contracted services.

### 1.7.1 Basic content of the TOR

The Terms of Reference for hiring a survey firm for the measurement of youth risk behavior and evaluation studies of government programs and projects must include at least the following basic elements:

- 1) Background, research context and, if applicable, a program description.
- 2) Purpose, general goal and specific objectives of the consulting services.
- 3) Scope, stakeholders involved and their responsibilities.
- 4) Methodology.
- 5) Activities to be performed.
- 6) Products and reports to be delivered.
- 7) Duration of service.
- 8) Costs and compensation.
- 9) Selection/evaluation criteria.
- 10) Confidentiality of the information.
- 11) Annexes: Documents or additional information excluded from the main document to keep it to a manageable length.

### 1.7.2 Context and program description

This section contains a description of the context, the issue that helped determine the need to proceed with the implementation of a survey in the country/region, the topic of interest and, if applicable, a description of the program or evaluation that will receive feedback as a result of this research.

Example:

**General Context.** *Forty (40) percent of the LAC population is under the age of 30, of which 41% (58 million people) lives below the poverty line. This large group of young people presents a great opportunity to accelerate development: the demographic window that occurs when having a higher proportion of the population at working age and a lower number of dependents is significant, making an impact on the region's socio-economic situation. However, the achievement of these dividends depends on the success of the transition from youth to adulthood. In this sense, youth in XX...*

**Introduction to the specific subject being measured.** *The costs of risk-taking behavior are potentially high and accumulate not only for the individual and his family but also for society as a whole. The number of deaths and injuries resulting from events related to youth violence constitutes a public health, social and economic problem in XX. A wide variety of risk factors contributes to the prevalence of youth violence: poverty, youth unemployment, urban/rural migration, drug and alcohol abuse, a weak education system and the presence of organized gangs. In the local context. . .*

**Overview of the instrument to be administered.** *Measuring youth development programs presents special and unique challenges, both conceptual and logistical. Characteristics exclusive to youth such as mobility, issues related to parental consent and privacy, exposure to sensitive questions related to risk behaviors (crime, violence, substance use, and issues related to sexual and reproductive health), and the influence of gender (who conducts the interview and how the questions are asked) can have a big effect on the responses. The success and credibility of research on at-risk youth is based largely on the quality of the data used, which must be carefully analyzed, particularly in the case of sensitive data. In this study, the application of the XXX mode of administration...*

### 1.7.3 Definition of the purpose

When designing the TOR for contracting a survey firm to measure youth risk behavior, it is necessary to clearly define the purpose, specific objectives and scope of the consulting services. This section will provide a guide for the firm with regard to the execution of the work and supervision guidelines for the contracting party.

Example:

*The goal of these consulting services is to gather data on risk behaviors through the use of the following interview methods: Face-to-face/Audio-CASI/CATI and/or a self-administered questionnaire, in order to measure/evaluate the... (indicate the data's intended purpose or use). It also seeks to obtain the following outcomes of interest: (for example) response rate, response variation, gender disparities, response sensitivity, and others.*

## 1.7.4 Methodology and scope of the research

If this section is defined in the TOR, it should include: basic conceptual elements, procedural techniques whose use will most likely produce the expected results, methods and systematized techniques that should be employed by the consulting firm, and development strategies for the consulting services. Another alternative is for the contracting party to propose the methodology, in which case the specifications for its evaluation criteria must be clear.

If the TOR call for a sample survey to be conducted, the scope of the research should consider both subject and geographic variables. In this regard, it is important to specify whether the scope of the evaluation is national or regional, as well as the sampling unit (e.g., dwelling) and the unit of analysis (e.g., households or individuals). If a random sample is required, it is very important for the design to specify the type of sample to be used and its justification.

This section should include:

- 1) Basic conceptual elements.
- 2) Mode of administration to be used.
- 3) Methods and systematized techniques that should be employed by the consulting services.
- 4) Development strategies for the consulting services.

Example:

### STUDY SPECIFICATIONS

a) Sample. Describe the sample that will be under study.

*The population sample must be randomly assigned to each of the four subgroups (each subgroup will respond to the same questionnaire using a different instrument). Also, each of the methods must implement a field protocol that introduces best practices according to existing technology and allows for the interview to be replicated on a large scale. The quality of the field teams, supervision levels and other variables related to the quality of data collection and handling should be similar in all four subgroups.*

b) Subject matter to be covered by the questionnaires. Describe the specific topics that must be included in the instrument.

*If the goal is to investigate sexual and reproductive health risk behaviors, the topics will be sexual debut, use of protection during sexual intercourse, pregnancy history, related risk behaviors (drug/alcohol use), frequency and concurrency, STDs, and others. Also, specify whether gender-specific items are to be included in the questionnaire.*

c) Data entry programs. Specify the type of programs to be used and the support for data entry/keying.

*Data entry programs provided by entity XX must be used. These programs run on desktops or laptops with the Windows XP operating system and MS Excel 2003 software installed...*

## 1.7.5 Essential activities of the consulting services

The tasks and main activities to be implemented by the consulting services should be described in as much detail as possible, defining their sequence and coordination, as well as the products and results that are expected to be obtained and that allow for the achievement of the general goal and specific objectives of the consulting services contracted.

Example: Expected Activities

- 1) Design and piloting of the selected instrument.
- 2) Administration of the questionnaire using a sample, questionnaires and data entry programs with the specifications listed below.
- 3) Field work supervision.
- 4) Analysis of results and preparation of reports.

For each of the activities, the consulting firm will be responsible for:

- » Recruitment and hiring of experienced supervisors, enumerators and data entry operators; the number of contracts must be approved by entity XX.
- » Training of supervisors, enumerators and data entry operators to administer the questionnaire provided by entity XX.
- » Adaptation of the questionnaire's language and response options to local conditions.
- » Piloting of the questionnaires using the four interview modes. The sample used for piloting must be approved by entity XX.
- » Reproduction of the questionnaires and other data collection forms in sufficient quantity to meet the needs of the study.
- » Organization and provision of logistical support (transportation, per diem, etc.) for the enumerators and supervisors during data collection.
- » Application of controls for the questionnaire to ensure the quality of the information collected during survey implementation. Survey controls will be provided by entity XX.
- » Use of data entry programs provided by entity XX.
- » Recruitment and hiring of data entry supervisors, the number of which must be approved by entity XX. Preferably, the supervisors will have been previously involved in the supervision of data collection in the field so as to ensure a good understanding of the survey.
- » Organization and supervision of data entry.
- » Perform data quality control as data entry occurs.
- » Delivery of data produced by data entry programs.
- » Delivery of a report on the organization and overall implementation of the survey and data entry.

### 1.7.6 Expected results and products

This section should include each of the activities, products and services expected from the data collection firm during the consulting period. The more we narrow down and clarify the content, implementation, scope of contracted products and services, and catalog (specifications) of best practices, the easier it will be to appropriately monitor quality standards and match them with the originally established terms.

Example:

#### EXPECTED PRODUCTS:

- 1) Obtaining all necessary approvals to implement data collection, including approval from the Institutional Review Board (Protection of Human Subjects) and permission to use proprietary or trademarked materials, if necessary.
- 2) Adherence to local formalities and procurement of any required permits with regard to the logistics of research implementation (including any field sampling), as well as medical insurance, wages and taxes for all enumerators and supervisors.
- 3) Evidence of insurance and permission to implement the research and other activities required for data collection.
- 4) List of recruited staff and their respective qualifications
- 5) Data collection supervision report
- 6) Weekly progress reports on the research in Spanish
- 7) Delivery of the database in the time agreed and final delivery of the database.

#### QUALITY SPECIFICATIONS:

The main result expected by entity XX is that XX mode of administration be executed under the highest quality standards possible, within the explicit a priori limitations stated during the design phase. This is an essential requirement, as entity XX will use this information to estimate prevalences or XXX.... Therefore, the following factors should be avoided:

- » Different success rates in locating youth, depending on the region or mode of administration used (if more than one).
- » Different refusal or non-response rates for some questions
- » Differences in the quality of the questionnaires used by regions or groups
- » Differences in the way that incentives are offered
- » Differences in the amount of effort to contact young people
- » Differences in the level of experience or training among data entry or field staff, either within the same mode of administration or between modes
- » Differences in the level of supervision
- » Differences in the quality of the data entry programs

### 1.7.7 Confidentiality

The degree of information privacy will be specified, in terms of both the information provided to conduct the studies and that generated during the performance of activities. A breakdown of the confidentiality safeguards in place for the collection, keying and processing of data will be included.

### 1.7.8 Delivery schedule

This section assigns an expected date of delivery or completion to each activity/product.

#### Example

PRODUCT	DATE
Evidence of the existence of insurance and approvals for the implementation of research and data collection	XX
List of staff recruited	XX
Supervision report	XX
Weekly reports	XX
Final database	XX

### 1.7.9 Payment schedule

Definition of a tentative payment schedule, which ideally should explicitly link the products and services delivery schedule with a % of the total payment of the consulting services.

PRODUCT	DATE
Evidence of the existence of insurance and approvals for the implementation of research and data collection	10%
List of staff recruited	10%
Supervision report	10%
Weekly reports	30%
Final database	40%

### 1.7.8 Estimated costs and work period

This section indicates the rules governing the determination of fees, reimbursable expenses and other costs that will constitute the consulting firm's compensation. When presenting proposals, firms need to demonstrate their interest in the consulting services and have the information, budget ceiling, and an estimated cost breakdown for the research activities described (in the absence of a budget ceiling, they must more precisely define the technical characteristics of the study). Additionally, the anticipated work period for the development of the rights and obligations of the contract must be included.

Lastly, the anticipated method of payment that best fits the organization's or institution's form of work should be indicated.

#### Example:

*The consulting group/firm will be paid on presentation of the invoices, contingent upon the receipt of the deliverables agreed upon in these TOR.*

### 1.7.10 Required qualifications

This section should detail the qualifications, merits and expectations for the potential company to be contracted. The more concrete and specific the expectations for the firm, the closer we will be to selecting and hiring the right company.

It is essential to indicate the minimum professional and academic requirements as well as previous experience in conducting similar studies. Specialized experience that the consulting firm and key members of its team must have should be specified.

Example:

The firm or group selected must possess the following qualifications:

- » Legal status recognized by the Government of XXX, allowing the organization to carry out the aforementioned activities;
- » Experience in organizing at least five household studies in the past 10 years,
- » Strong skills and experience in planning and organizing the logistics of research,
- » Network consisting of experienced enumerators, supervisors and data entry operators/processors,
- » Strong data management and statistics capabilities;
- » Strong knowledge of the following software: CS-Pro, SPSS, StAta,
- » Strong interpersonal skills and a spirit of teamwork;





## ANNEX II

### INITIAL CONTACT WITH THE RESPONDENT

This section includes support materials for the administration of the youth survey. It includes sample letters of consent to participate in a research study, as well as a contact card for the respondent. These materials are the product of work with youth from specific projects, and therefore must be adapted to the goal and topic of your research. However, in order to facilitate this adaptation, we have indicated sections where potential changes can be made.

The letter of informed consent is a tool through which the interviewer presents the objectives and topics of the survey, thus allowing the informant to ask questions about the survey, clarify any doubts and decide whether to participate. It also serves as proof that the interviewer obtained the respondent's consent to proceed with the survey.

These forms are completed during the first visit with the interviewer and are targeted at the young person, if he or she is 18 or older, or the parents or guardians, in the case of a minor. The interview will only be conducted with those persons who agree to participate and give their informed consent.

Lastly, it includes a sample contact card for the young person or guardian so that, if necessary, he or she can contact the research entity or referring program responsible for the implementation of the survey.



## 2.1 LETTER OF CONSENT (YOUNGSTER)

### **Introduction/purpose:**

(**Institution XXX**) wishes to invite you to participate in a research study aimed to learn about your way of relating to your schoolmates, members of your family, friends and boyfriend or girlfriend. We have prepared a series of questions, which we would like to ask you to answer.

### **Procedures:**

If you agree to participate:

1. You will answer the questions related to life experiences and the way of relating with people.
2. The questionnaire will be applied in your classroom, during school hours and it will take you around an hour to complete it. We will be there to assist you if you need any help to understand a question or if you have any doubts.

### **Benefits:**

If you agree to participate, you will not benefit directly from it. However, the information you will provide, will help (institution) improve the programs on interpersonal relations among adolescents.

### **Costs and compensation:**

You will not be compensated for participating in this study. Neither will you be asked to make any payments.

### **Potential risks:**

Some questions are very personal and you may feel uncomfortable about answering them. If you do, you are free to decline to respond to those questions and you may even stop participating in the study. We will give you a brochure with a toll free number where you can call if you need information on healthy dating relationships.

### **Confidentiality:**

Your answers are completely confidential and anonymous. Your name, address or any personal information will not appear in the study. The information you provide us will not be shared with your parents or school personnel and only (institution) researchers will have access to survey data. All findings of this research project that may be published for scientific purposes will be reported in a way that ensures complete confidentiality.

### **Voluntary participation/Withdrawal:**

Participation in this study is completely voluntary. You are free then to decline to answer any questions you feel uncomfortable with, or to stop the interview at any time. If you choose not to participate or to withdraw from the study, such decision will not affect your academic activities or grades in any manner whatsoever.

### **Contact:**

If you have any questions, comments or complaints about the project, you will be provided a card with the contact data of the person responsible for the project. If you have any questions about your rights as a participant in this study, we will provide you the contact data of **Institution XXX**.

## 2.2 LETTER OF CONSENT FOR PARENTS OR TUTORS

(Institution XXX) would like to invite your son or daughter to participate in a research study aimed to learn about their way of relating to their schoolmates, family members and friends.

If you agree to allow your child to participate in the study:

1. Your child will answer questions regarding their age, activity, household characteristics, experience and way of relating to family members, friends, and boyfriend/girlfriend. The questionnaire also includes questions about their sexuality and mood.
2. The questionnaire will be administered in the classroom during school hours. This survey should take about one hour to complete. One of the members of the survey team will be present in the classroom while your child will be completing the questionnaire to offer any assistance they may need concerning the questions.

**Benefits:** If you agree to allow your child to participate in the study, neither you nor your child will benefit directly from it; however, the information your son/daughter will provide will help (institution) improve the programs on interpersonal relations among adolescents. You will find attached a brochure with useful tips to improve child/parent relationships.

**Costs and compensation:** Neither you nor your child will be compensated for participating in this study. In addition, participation is cost free.

**Potential risks:** Some questions are very personal and may cause your child to feel uncomfortable or embarrassed about answering them. Accordingly, your child will be provided a brochure with a toll free number where they can call if they need information on healthy dating relationships.

**Confidentiality:** The survey is entirely anonymous and confidential. Respondents can not be identified by their name, address or any personal information. The information collected will not be shared with parents or school personnel. Only (institution) researchers will have access to survey data. All findings of this research project that may be published for scientific purposes will be reported in a way that ensures complete confidentiality.

**Voluntary participation/Withdrawal:** Participation of your child in this study is completely voluntary. Your son/daughter will be free to decline to answer any questions they feel uncomfortable with or to stop the interview at any time. If you or your child decline to participate, such decision will not affect your child's academic activities or grades in any manner whatsoever.

Contact data: If you have any questions, comments or complaints about this survey project, please contact: Mr/ Ms \_\_\_\_\_  
Tel: ( ) \_\_\_\_\_ Monday thru Friday from \_\_\_\_\_ to \_\_\_\_\_.

If you have any questions about your or your child's rights as a participant in this study, please contact \_\_\_\_\_ at Tel. \_\_\_\_\_  
Monday thru Friday from \_\_\_\_\_ to \_\_\_\_\_, or send an e-mail to: \_\_\_\_\_.

## 2.3 INFORMED CONSENT LETTER (MEN). HIGH RISK BEHAVIORS I ADMINISTRATION OF BIOMEDICAL TESTS AND QUESTIONNAIRE PRISON SYSTEM

### What is this study about?

The (Ex. Institution XXXX), with a team coordinated by XXXXXXX, is conducting a study of HIV/AIDS in XXXX. The goal of this survey is to obtain information on cases of HIV/AIDS as well as risk behaviors and practices. This information will be used to generate national strategies for prevention and reduction of HIV infection.

### What is my part in this study?

If you agree to participate, we will ask that:

**First**, you complete a **questionnaire** that includes some questions about general, educational and work characteristics, in addition to questions regarding your usual sexual practices.

- » The main **risk** posed by the questionnaire is that you may feel **uncomfortable answering certain personal questions**. Some of the questions are very personal in nature and as such may be uncomfortable to answer; you may refuse to answer them.
- » Remember you are not obligated to answer all the questions.
- » Additionally, you can rest assured that the information you provide is **strictly confidential**; therefore, we will NOT ask for your name or any identifying information. All data will be entered directly into a computer, and once recorded, only the researchers overseeing the study will have access to it.

### We will then ask that:

**Second**, you provide a **drop of blood** from your finger for an HIV test. You will NOT be given the results of this test; however, the result of this test will be very useful in terms of statistical information on the number of HIV cases that exist in Mexico.

- » The main risk posed by a blood sample is **pain from the finger stick**. A finger stick will be performed to collect a drop of blood and then a small bandage will be applied. You will probably feel a slight pain in your finger.
- » However, do NOT worry about catching an infection from the finger stick. The staff members who take the blood samples are trained, and each test meets the conditions and rules necessary to ensure that you are not in danger.
- » It is important for you to know that **the test result will be kept strictly confidential**, even from the participants themselves.

### Why WON'T I be given the test results?

The results of the HIV test will NOT be disclosed to the participants, or anyone, because the purpose of this test is not individual diagnosis but rather the measurement of HIV prevalence (i.e., the percentage of positive cases) within the population. If you are interested in finding out your status, we suggest that you go to your nearest health center where you can get tested for HIV and receive results with counseling by trained personnel.

### How long will my participation in the study last?

In total, your participation will last about 30 minutes. We greatly appreciate your time.

## 2.3 CONT.

### **Do I benefit in some way by participating?**

Participation is completely voluntary.

- » You will not receive monetary compensation.
- » You will not receive any direct benefit.

However, your participation will contribute to improved health and social programs in Mexico.

### **Your consent is required and your participation is very important!**

Remember that there is no problem if you decide not to participate, and you can stop at any time you choose.

Should you agree to participate, please sign this document and keep the card that we give you so you will have our contact information in case you have any questions or concerns.

Contact Information:

If you have any questions, comments or complaints regarding your participation in this study, please contact **XXXX** at phone **XX XX** ext. **XXXX**, Monday through Friday from 9am to 3pm. For clarification regarding your rights as a participant in the study, call the Chair of the Ethics Committee of this institution, **XXXX** at phone **XX XX** ext. **XXXX**, Monday through Friday from 9:30am to 5:30pm, or if you prefer, send an email to the following address: **xxx@xxxx**. For questions about the survey, contact **XXXX**, who is in charge of data collection activities, at phone **XX XX** ext. **XXXX**, Monday through Friday from 9am to 5pm or through the site <http://xxxxx>.

**CONSENT: I HAVE BEEN INFORMED OF THE STUDY CONDITIONS AND AGREE TO PARTICIPATE.**

Authorizing Signature

## 2.4 INFORMED CONSENT LETTER (MEN): HIGH RISK BEHAVIORS. EVALUATION OF STRATEGIES FOR PREVENTING HIV/AIDS

The (Ex. XXXXX) is conducting research to determine the health status of the population of the prison system in XXXXX. For this study, we ask that you participate by donating a blood sample, answering some questions and, in some cases, completing a questionnaire about issues related to your health.

The first part of the study involves taking a blood sample (three 5 milliliter-vials, about one teaspoon each) to test for HIV, syphilis, hepatitis B, hepatitis C, and herpes simplex 2. Depending on your weight and your family history, we may also measure your glucose and cholesterol levels through the blood sample. Additionally, we will measure your waist and hips and your height. Then we will take your pulse and blood pressure. Beyond that, you will be asked questions about nutrition, physical activity and risk of tuberculosis to determine the need for related clinical tests. Should you require TB testing, you will have a chest x-ray taken and you will be asked to provide a sample of sputum, i.e., phlegm coughed up from the lungs.

In the second part of the study, you may be asked to complete a confidential questionnaire on a computer, which contains questions on various topics, including: (a) personal information such as age, marital status, education and childhood, (b) criminal history, (c) experiences of violence, (d) sexual behavior, (e) alcohol and drug use, and (e) risk factors for metabolic and psychological disorders. You do not need to identify yourself by name to answer the questionnaire; your answers are completely confidential.

Some of the procedures may be uncomfortable, and you may feel a slight, momentary prick when the blood sample is drawn. Also, some of the questions we will ask might be uncomfortable or very personal; if you do not wish to participate in certain parts of the study, you are free to opt out.

Participation in this study is completely voluntary. You are not required to participate. Your participation or refusal will in no way affect your status at the center or prison, your criminal process or your pre-release procedures, nor will it have negative consequences with regard to access to medical services in the center or prison where you are detained. You may withdraw from the study at any time.

The measurements and blood sample will take about 35 minutes and will be performed here in the prison where you are detained. If you are selected for the questionnaire, it will take you about an hour more to complete it. All procedures will be conducted in private. Only you and the study nurse will be present. S/he is trained to administer the tests and to explain the operation of the device that you will use to listen to the questionnaire. You will answer the questions on the questionnaire privately and confidentially. The nurse will not be able to see the answers that you enter in the computer.

All of the information we are requesting from you is very important for the study, and you can rest assured it will be handled with strict confidentiality. If you agree to participate in any part of the study, you will be assigned a code to protect your identity at all times. In order to analyze the results of your lab work or responses to the questionnaire, as well as those of the other participants, we will record all of the information in a database, where your information will be identified solely by this code. Similarly, the information you provide will be safeguarded by the researcher in charge of the project. The collective results of this study may be published for academic purposes, but they will be presented in such a way that your individual identity will not be revealed.

No one in the prison system (neither staff nor inmates) will have access to your personal information. In the event that you test positive for any of the diseases included in this study, we will give you your results in coordination with the Ministry of Health of the Federal District so that you will receive an explanation about the treatment you need or might need, and to ensure that you have access to such treatment. Both the National Institute of Public Health (INSP) and the Ministry of Health of the Federal District are required to keep your personal information confidential.



## 2.5 CONTACT CARD

INSTITUTION XXX \_\_\_\_\_

WE APPRECIATE YOUR PARTICIPATION

If you have any questions, comments or complaints about your participation in this study, please contact Ms/Mr \_\_\_\_\_ Tel: (\_\_\_\_) \_\_\_\_\_ ext. \_\_\_\_\_. Monday thru Friday from \_\_\_\_ to \_\_\_\_.

If you need clarification regarding your rights as a participant in this research study, you may call Ms/Mr ----- at (Institution XXX) \_\_\_\_\_, Tel: (\_\_\_\_) \_\_\_\_\_ ext. \_\_\_\_\_ Monday thru Friday from \_\_\_\_\_ to \_\_\_\_\_. Or you can send an e-mail to the following e-mail address: [etica@correo.insp.mx](mailto:etica@correo.insp.mx)

Date of the interview \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Day / Month / Year

\_\_\_\_\_ Address, city, country \_\_\_\_\_



1 ✓  
2 ✓  
3 ✓

## ANNEX III

### THE SURVEY

This section includes a sample of a self-administered questionnaire for young women, as well as complementary tools for evaluation and monitoring of the interview. These tools allow for follow-up and assessment of the conditions in which the interview took place, as well as provide contact information for the young person and identification of the interviewer.

The questionnaire on risk behaviors was created to systematize the main risk behaviors and dimensions (high-risk sexual behaviors, violence and substance abuse). Multidisciplinary experts have participated in the creation of the questionnaire, which incorporates input resulting from different interactions with youth and the referring program for which it was designed. Note that it includes the version given to young women, which specifically addresses certain research questions where female participation is of particular importance (e.g., teen pregnancy).

The following are collected as monitoring and evaluation tools for the interview: (a) the cognitive module that establishes the respondent's response capacity; (b) the interviewer's assessment of the privacy conditions of the interview; (c) the assessment of the results of the interview with regard to the young person's participation and location, responses and their motives; and (d) the young person's contact form, which contains information about the interviewer, supervisor and data entry operator.



### 3.1 RISK BEHAVIOR SURVEY. (SELF-ADMINISTERED, YOUNG WOMAN)

**TO COMPLETE THE QUESTIONNAIRE:**

Use blue or black ink. Check boxes like this:  x      Fill numbers and letters like this:

If you check the wrong box, fill the wrong box like this:

And check the right box like this:  x

*Please, go to the next page to answer the first question*

PAGE

--	--	--

1.a. Have you ever smoked a tobacco cigarette, even if you did not finish it and had just one puff?

YES       NO      *SKIP to question 2 on the next page*

1.b. How old were you the first time you smoked a cigarette?

age

1.c. Have you ever smoked cigarettes on a regular basis, that is, at least one cigarette a day for more than 30 days?

YES       NO

1.d. In the last 30 days, have you smoked cigarettes at least once?

YES       NO      *SKIP to question 2 on the next page*

1.e. In the last 30 days, how many days did you smoke cigarettes?

days (write '30' if you smoked every day)

1.f. In the last 30 days, on the days when you smoked, approximately how many cigarettes did you smoke per day?

cigarettes per day

### 3.1 CONT.

2.a. Have you ever had an alcoholic beverage, even if it was only once?

*Alcoholic beverages include beer, wine and liquors such as rum, vodka, gin or whiskey.*

YES       NO      *SKIP to question 3 on the next page*

2.b. In the last 30 days, did you drink at least one glass of these beverages?

YES       NO      *SKIP to question 3 on the next page*

2.c. In the last 30 days, how many days did you drink at least one glass of these beverages?

days

2.d. In the last 30 days, did you drink 4 or more consecutive glasses?

YES       NO      *SKIP to question (f) on this page*

2.e. In the last 30 days, how many days did you drink 4 or more consecutive glasses?

days

2.f. In the last 30 days, did you ever have enough alcohol to feel like you were drunk?

YES       NO      *SKIP to question 3 on the next page*

2.g. In the last 30 days, how many days did you have enough alcohol to feel like you were drunk?

days

### 3.1 CONT.

3. The following questions are about the use of certain drugs.

a. Check the drugs that you have ever tried, even if it was just once.

b. How many times did you use this drug in the last 12 months?

c. If you used this drug more than 10 times: in the last 12 months:

*How often did you use it in the last 12 months?*

Drugs that you have ever used	Number of times in the last 12 months	Frequency			
		Once a month	Once a week	Once a day	More than once a day
<input type="checkbox"/> Marijuana or hashish	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Cocaine (powder, crack, paste or injection)	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Glue or cement sniffing (aerosol or spray inhaling)	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Heroin	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Methamphetamines	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Ecstasy	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Hallucinogens (LSD, acids, PCP, mushrooms, etc.)	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Steroid pills or injections without a medical prescription	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Medicines (such as painkillers, stimulants, antidepressants, etc used to get high)	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> None of the above	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.d. Have you ever used a needle to inject yourself a drug?

YES       NO

4.a. Have you ever belonged to a street gang or a nation?

YES       NO      *SKIP to question 4.c on this page*

4.b. Are you a member of a street gang or a nation right now?

YES       NO

4.c. Have you ever hanged out with a street gang or a nation without actually belonging to it?

YES       NO

5.a. In the last 12 months, have you been involved in a fight with other youth?

YES       NO      *SKIP to question 5.c on this page*

5.b. During any of these fights, were any weapons used, such as knives, guns, etc.?

YES       NO

### 3.1 CONT.

5.c. In the last 30 days, have you carried any weapons with you, such as knives, guns, etc.?

YES       NO      *SKIP to question 6 on the next page*

5.d. In the last 30 days, how many days have you carried a weapon with you?

days

6.a. In the last 12 months, have any of your partners beat you or physically hurt you on purpose?

YES       NO

6.b. Do you know where to look for help if you are hurt by or feel unsafe near your partner?

YES       NO

7.a. In the last 12 months, have you been a victim of . . .

Check  all that apply

- mugging in the street or a public place?
- home robbery?
- rape?
- purse robbery?
- none of the above

7.b. Have you ever been forced to have sex with someone against your will?

YES       NO

7.c. Have you ever been sent to a youth detention center, jail or prison for any crime?

*This does not include raids.*

YES       NO      *SKIP to question 8 on the next page*

7.d. When was the last time you were sent to a youth detention center, jail or prison? I just need to know the month and year?

*If you do not remember the last time, enter the approximate year, and write  in the box marked Month*

YEAR     MONTH

8. **The following questions are about your relations and sexuality. Some of them may make you feel uneasy. Remember that only you know these questions, and that your answers are completely confidential. You may choose not to respond to those questions that make you feel uncomfortable.**

8.a. Are you legally married (with a marriage certificate) right now?

YES       NO      *SKIP to question 8.c on this page*

### 3.1 CONT.

8.b. Have you ever been legally married (with a marriage certificate)?

- YES       NO

8.c. Which of the following statements best reflects your sexual identity?

*Check ONE option only*

- Heterosexual, sex with men  
 Homosexual or lesbian, sex with women  
 Bisexual, sex with both men and women  
 Other

9.a. Have you ever been tested for HIV or AIDS?

- YES  
 NO      *SKIP to question 10 on the next page*  
 I DON'T REMEMBER      *SKIP to question 10 on the next page*

9.b. The last time you were tested for HIV or AIDS, did you know the results?

- YES       NO

10.a. Has any health practitioner, such as a doctor or a nurse, ever told you that you had any of the following sexually transmitted diseases?

*Check  all the diseases you have ever had*

- Genital herpes  
 Trichomoniasis  
 Gonorrhea  
 Hepatitis B  
 Chlamydia  
 Lice infestation  
 Syphilis  
 Condyloma (warts, HPV)  
 Vaginal infection or vulvovaginitis  
 Pelvic inflammatory disease  
 HIV or AIDS  
 No, none of the above

10.b. In the last 12 months, have you had any of the following symptoms?

*Check  all the symptoms you have had in the last 12 months*

- Pain when urinating or frequent urge to urinate  
 Pain or blisters in your genitals  
 Warts in your genitals  
 Itch in the vagina or genital area  
 No, none of the above

### 3.1 CONT.

10.c. Think about the next 6 months. In the next six months, are you planning to become pregnant?

*Check ONE option only*

- Definitely No
- I am currently pregnant
- Probably No
- I don't know
- Probably Yes
- Definitely Yes

11.a. Have you ever had sexual intercourse in the form of oral sex, vaginal sex or anal sex?

- YES       NO      *SKIP to question 27*

11.b. How old were you the first time you had sex?

age

11.c. Approximately how many sexual partners have you had in your life?

number of persons

11.d. In the last 12 months, how many sexual partners have you had?

number of persons

12.a. In the last 12 months, which of the following methods have you used to avoid getting pregnant?

*Check  all the methods you have used in the last 12 months*

- |   |  |
|---|--|
| <input type="checkbox"/> Male condom                                | <input type="checkbox"/> Male sterilization or vasectomy               |
| <input type="checkbox"/> Pull out or ejaculation outside the vagina | <input type="checkbox"/> Injection                                     |
| <input type="checkbox"/> Female condom                              | <input type="checkbox"/> Emergency contraceptive or morning after pill |
| <input type="checkbox"/> Norplant or implants                       | <input type="checkbox"/> Cycle, ovulation or periodic abstinence       |
| <input type="checkbox"/> Pills                                      | <input type="checkbox"/> Any other contraceptive method                |
| <input type="checkbox"/> Female sterilization or tubal ligation     | <input type="checkbox"/> No method                                     |
| <input type="checkbox"/> IUD, insert, copper T, spiral              | <input type="checkbox"/> I don't know                                  |

12.b. Have you ever been pregnant, even if that pregnancy ended in abortion or miscarriage??

- YES       NO

12.c. Have you ever given birth?

- YES       NO

### 3.1 CONT.

12.d. Are you pregnant right now?

- YES
- NO
- I DON'T KNOW

13. **Now think about the last person you had sex with (oral sex, vaginal sex or anal sex). The following questions are about that person.**

13.a. How old is he/she now? If you don't know their age, you may guess.

age

13.b. What is his/her ethnicity?

- White
- Black
- Mulatto
- Indian
- Other

13.c. Does s/he belong to or is affiliated to a street gang or nation?  
*Check ONE option only*

- Yes, s/he belongs to a street gang or nation
- Yes, s/he is affiliated to a street gang or nation
- No
- I don't know

14.a. Is or was this person a regular sexual partner (such as a boyfriend/girlfriend or husband/wife) or a partner with whom you have or had occasional sex?  
*Check ONE option only*

- Husband/wife or free union
- Regular partner
- Occasional partner
- I don't know

14.b. When was the first time you had sex with this person? We just need to know the month and the year.

*If you do not remember the first time, enter the approximate year, and write  in the box marked Month.*

MONTH  YEAR

### 3.1 CONT.

14.c. When was the last time you had sex with this person? We just need to know the month and year.

*If you do not remember the last time, enter the approximate year, and write  in the box marked Month.*

14.d. In the last 12 months, how often did you have sex with him/her?

*Check ONE option only*

- Never
- Once
- Less than once a month
- Approximately once a month
- A couple of times a month
- Approximately once a week
- Approximately 2 or 3 times a week
- More than 2 or 3 times a week

15.a. The last time you had sex with this person, what type of sex was it?

*Check all the options that apply*

- Vaginal
- Anal
- Oral
- I don't remember

15.b. The last time you had sex with this person, did you or your partner use a male or female condom?

*Check ONE option only*

- Yes, male condom
- Yes, female condom
- No
- I don't remember

15.c. Is that person a man or a woman?

- Man
- Woman *SKIP to question 16 on the next page*

15.d. The last time you had sex with this person, what contraceptive method did you use to avoid getting pregnant?

*Check all the methods you used with this person*

- |   |  |
|---|--|
| <input type="checkbox"/> Male condom                                | <input type="checkbox"/> Male sterilization or vasectomy               |
| <input type="checkbox"/> Pull out or ejaculation outside the vagina | <input type="checkbox"/> Injection                                     |
| <input type="checkbox"/> Female condom                              | <input type="checkbox"/> Emergency contraceptive or morning after pill |
| <input type="checkbox"/> Norplant or implants                       | <input type="checkbox"/> Cycle, ovulation or periodic abstinence       |
| <input type="checkbox"/> Pills                                      | <input type="checkbox"/> Any other contraceptive method                |
| <input type="checkbox"/> Femal sterilization or tubal ligation      | <input type="checkbox"/> No method                                     |
| <input type="checkbox"/> IUD, insert, copper T, spiral              | <input type="checkbox"/> I don't know                                  |



### 3.1 CONT.

16.a. Does or did this person give you money, presents or other type of compensation such as paying for school tuition, transportation or other expenses?

- YES       NO

16.b. Do you think that while you were a sexual partner of this person s/he was also having sex with other people?

- YES  
 NO  
 I DON'T KNOW

16.c. Do you think you will have sex with this person in the future?

- YES  
 NO  
 I DON'T KNOW

16.d. Did you have sex with anybody else prior to this person?

- YES       NO      *SKIP to question 25*

17. **Now think about the person you had sex with (oral, vaginal or anal sex) before the last person. The following questions are about that person.**

17.a. How old is he/she now? If you don't know their age, you may guess.

age

17.b. ¿A qué grupo étnico pertenece él/ella?

- White  
 Black  
 Mulatto  
 Indian  
 Other

17.c. Does s/he belong to or is affiliated to a street gang or nation?

*Check ONE option only*

- Yes, s/he belongs to a street gang or nation  
 Yes, s/he is affiliated to a street gang or nation  
 No  
 I don't know

### 3.1 CONT.

18.a. Is or was this person a regular sexual partner (such as a boyfriend/girlfriend or husband/wife) or a partner with whom you have or had occasional sex?

*Check ONE option only*

- Husband/wife or free union
- Regular partner
- Occasional partner
- I don't know

18.b. When was the first time you had sex with this person?

*We just need to know the month and year. If you do not remember the first time, enter the approximate year, and write  in the box marked Month.*

MONTH  YEAR

18.c. ¿Cuándo fue la última vez que tuviste relaciones sexuales con esta persona?

*We just need to know the month and year. If you do not remember the first time, enter the approximate year, and write  in the box marked Month.*

MONTH  YEAR

18.d. In the last 12 months, how often did you have sex with him/her?

*Check ONE option only*

- Never
- Once
- Less than once a month
- Approximately once a month
- A couple of times a month
- Approximately once a week
- Approximately 2 or 3 times a week
- More than 2 or 3 times a week

19.a. The last time you had sex with this person, what type of sex was it?

*Check  all the options that apply*

- Vaginal
- Anal
- Oral
- I don't remember

19.b. The last time you had sex with this person, did you or your partner use a male or female condom?

*Check ONE option only*

- Yes, male condom
- Yes, female condom

### 3.1 CONT.

- No
- I don't remember

19.c. Is that person a man or a woman?

- Man
- Woman      *SKIP to question 20 on the next page*

19.d. The last time you had sex with this person, what contraceptive method did you use to avoid getting pregnant?

Check  all the methods you used with this person

- |   |  |
|---|--|
| <input type="checkbox"/> Male condom                                | <input type="checkbox"/> Male sterilization or vasectomy               |
| <input type="checkbox"/> Pull out or ejaculation outside the vagina | <input type="checkbox"/> Injection                                     |
| <input type="checkbox"/> Female condom                              | <input type="checkbox"/> Emergency contraceptive or morning after pill |
| <input type="checkbox"/> Norplant or implants                       | <input type="checkbox"/> Cycle, ovulation or periodic abstinence       |
| <input type="checkbox"/> Pills                                      | <input type="checkbox"/> No method                                     |
| <input type="checkbox"/> Female sterilization or tubal ligation     | <input type="checkbox"/> I don't know                                  |
| <input type="checkbox"/> IUD, insert, copper T, spiral              |  |

20.a. Does or did this person give you money, presents or other type of compensation such as paying for school tuition, transportation or other expenses?

- YES       NO

20.b. Do you think that while you were a sexual partner of this person s/he was also having sex with other people?

- YES
- NO
- I DON'T KNOW

20.c. Do you think you will have sex with this person in the future?

- YES
- NO
- I DON'T KNOW

20.d. Did you have sex with anybody else prior to this person?

- YES       NO      *SKIP to question 25*

21. **Now think of the person you had sex with (oral, vaginal or anal sex) before the next to last person. The following questions are about that person.**

21.a. How old is he/she now? If you don't know their age, you may guess.

*If you don't know their age, you may guess.*

age

### 3.1 CONT.

21.b. What is his/her ethnicity?

- White
- Black
- Mulatto
- Indian
- Other

21.c. Does s/he belong to or is affiliated to a street gang or nation?

*Check ONE option only*

- Yes, s/he belongs to a street gang or nation
- Yes, s/he is affiliated to a street gang or nation
- No
- I don't know

22.a. Is or was this person a regular sexual partner (such as a boyfriend/girlfriend or husband/wife) or a partner with whom you have or had occasional sex?

*Check ONE option only*

- Husband/wife or free union
- Regular partner
- Occasional partner
- I don't know

22.b. When was the first time you had sex with this person? We just need to know the month and year.

*If you do not remember the first time, enter the approximate year, and write  in the box marked Month.*

MONTH  YEAR

22.c. When was the last time you had sex with this person? We just need to know the month and year.

*If you do not remember the last time, enter the approximate year, and write  in the box marked Month.*

MONTH  YEAR

22.d. In the last 12 months, how often did you have sex with him/her?

*Check ONE option only*

- Never
- Once
- Less than once a month
- Approximately once a month
- A couple of times a month
- Approximately once a week
- Approximately 2 or 3 times a week
- More than 2 or 3 times a week

### 3.1 CONT.

23.a. The last time you had sex with this person, what type of sex was it?

*Check all the options that apply*

- Vaginal
- Anal
- Oral
- I don't remember

23.b. The last time you had sex with this person, did you or your partner use a male or female condom?

*Check ONE option only*

- Yes, male condom
- Yes, female condom
- No
- I don't remember

23.c. Is that person a man or a woman?

- Man
- Woman *SKIP to question 24 on the next page*

23.d. The last time you had sex with this person, what contraceptive method did you use to avoid getting pregnant?

*Check all the methods you used with this person*

- |   |  |
|---|--|
| <input type="checkbox"/> Male condom                                | <input type="checkbox"/> Male sterilization or vasectomy               |
| <input type="checkbox"/> Pull out or ejaculation outside the vagina | <input type="checkbox"/> Injection                                     |
| <input type="checkbox"/> Female condom                              | <input type="checkbox"/> Emergency contraceptive or morning after pill |
| <input type="checkbox"/> Norplant or implants                       | <input type="checkbox"/> Cycle, ovulation or periodic abstinence       |
| <input type="checkbox"/> Pills                                      | <input type="checkbox"/> Any other contraceptive method                |
| <input type="checkbox"/> Female sterilization or tubal ligation     | <input type="checkbox"/> No method                                     |
| <input type="checkbox"/> IUD, insert, copper T, spiral              | <input type="checkbox"/> I don't know                                  |

24.a. Does or did this person give you money, presents or other type of compensation such as paying for school tuition, transportation or other expenses?

- YES       NO

24.b. Do you think that while you were a sexual partner of this person s/he was also having sex with other people?

- YES
- NO
- I DON'T KNOW

### 3.1 CONT.

24.c. Do you think you will have sex with this person in the future?

- YES
- NO
- I DON'T KNOW

25. **Thank you for that information. The following questions are about your sexual experiences in the past.**

25.a. Have you ever had sex with a woman?

- YES
- NO

25.b. Have you ever paid money to someone to have sex?

- YES
  - NO
- SKIP to question (25.e) on this page*

25.c. In the last 12 months, how many times have you paid money to have sex?

Number of times

25.d. The last time you paid for sex, did you use a condom?

- YES
- NO
- I DON'T REMEMBER

25.e. Have you ever had sex with someone who gave you money, gifts or drugs in exchange for sex?

- YES
- NO

26.a. Have you ever had sex with someone who uses needles to inject themselves drugs?

- YES
- NO
- I DON'T KNOW

26.b. The last time you had sex, had you drunk any alcohol or used drugs?

- I had drunk alcohol only
- I had used drugs only
- I had drunk alcohol and used drugs
- I had not drunk any alcohol nor used drugs
- I don't remember

27. **The following questions are about the place where you live and your education.**

### 3.1 CONT.

27.a. Have you ever been homeless or lived in the street?

YES       NO      *SKIP to question 28 on the next page*

27. b. When was the last time you were homeless or lived in the street?

*If you do not remember the last time, enter the approximate year, and write  in the box marked Month.*

MONTH     YEAR

28.a. Are you enrolled in school right now?

*By school I mean a school or program in which you hope to obtain a high school or college diploma or a vocational degree.*

NO   YES

b. What is the highest grade you successfully passed?  
Choose among the following options:

b. What grade are you attending right now?  
Choose among the following options:

*Check ONE box only*

College  
 1st year  
 2nd year  
 3rd year  
 4th year  
 5th year  
 6th year or higher

Vocational school  
 1st year  
 2nd year  
 3rd year  
 4th year  
 5th year  
 6th year or higher

High school  
 1st grade  
 2nd grade  
 3rd grade  
 4th grade

Primary school  
 1st grade  
 2nd grade  
 3rd grade  
 4th grade  
 5th grade  
 6th grade  
 7th grade  
 8th grade

29.a. This is the end of the interview. Were there any questions that you did not completely understand?

29.b. If you have any comments, please write them in the following space:

## 3.2 COGNITIVE EVALUATION MODULE FOR YOUTH

### 3.2.1 Objective:

The purpose of this module is to provide elements for the assessment of the cognitive status of the young person interviewed. Cognitive functioning consists of intellectual functions— for example, memory, orientation, problem-solving, the ability to perform calculations— relating to language development, imagination, perception, and the planning and execution of complex behaviors.

### 3.2.2 Why measure cognitive capacity?

- The measurement of cognition is essential for any study on health and wellbeing and should be included in large-scale epidemiological studies and experimental studies on health and youth development, even if the target of the study is not cognition itself.
- Studies often assume a normal cognitive capacity in the young people interviewed. The measurements yielded by this module will allow us to assess the respondent's ability to complete the survey; they will provide objective information about the cognitive capacity and development of the young person, as a variable of interest when analyzing the vector of youth behavior and the causes that contribute to the success or failure of the intervention.

### 3.2.3 Validity and Reliability:

En el área de la psicología, epidemiología e investigación clínica existen diferentes escalas y baterías de preguntas que permiten evaluar diferentes aspectos de la dimensión cognitiva. Aunque validados y utilizados extensamente en la práctica clínica, en el trabajo con jóvenes y en especial en la región de América Latina y el Caribe (ALC) necesita de una mayor aplicación sistemática en función del rango etario de estudio.

### 3.2.4 Strengths:

- It helps explain the behavior vector.
- It measures cognitive development before and after an intervention (longitudinal cohort follow-up).
- Allows for screening of the young person's intellectual capacity and therefore a determination of whether the survey is appropriate given the young person's age and intellect.
- Provides measurements of (1) executive functioning, (2) episodic memory, (3) language processing and working memory speed.

### 3.2.5 Limitations:

- Lack of validation and systematization in LAC.
- Need for standardization according to age.
- Validated scales are copyrighted and payment is required for their use.
- Need for great variability in the range and number of questions to capture the dimensions of interest; this can be expensive and requires an implementation strategy to prevent the module from becoming a difficult and tedious task for the young person.

Examples: <http://www.nihtoolbox.org/Pages/default.aspx>



### 3.3 INTERVIEWER ASSESMENT

*Fill out this section after the interview*

- 1, Who else was present during the interview (besides the adolescent)?  
Only include people who were present for 50% of the interview or more.

*Mark all that apply*

- No one
- A child 5 years old or younger
- A children between the age of 5 and 14
- Spouse or partner
- Another person 15 years of age or older

- 2, How do you think question comprehension was for the youth?

*Check only ONE option*

- Excellent
- Good
- Not very good
- Poor
- Very poor

- 3, How hard was it to get the youth to cooperate or agree to the interview?

*Check only ONE option*

- Easy (the youth agreed without problems)
- Neither easy nor difficult (the youth agreed with some hesitation)
- Difficult (he/she did not want to be interviewed but agreed after a good deal of persistence)

- 4, What were the conditions of the place of the interview?

*Check only ONE option*

- Very quiet
- A little quiet
- Noisy

- 5, The youth was ...

*Check only ONE option*

- calm
- nervous
- distracted

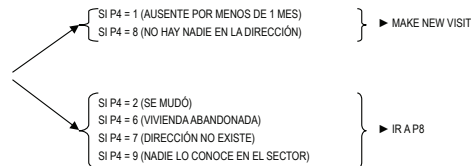
# 3.4 RESULT OF THE INTERVIEW

## INTERVIEW RESULTS

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IF ADDITIONAL INFORMATION WAS OBTAINED ▶ ATTEMPT NEW VISIT

IF NO ADDITIONAL DATA OBTAINED, REVIEW P4



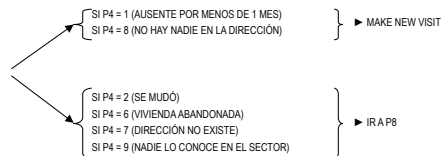
### 3.4 CONT.

#### INTERVIEW RESULTS

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IF ADDITIONAL INFORMATION WAS OBTAINED ▶ ATTEMPT NEW VISIT

IF NO ADDITIONAL DATA OBTAINED, REVIEW P4



### 3.4 CONT.

P6 Completeness of the interview (risk questionnaire + cognitive module)

- ..... 1 ▶ P8  
FULL INTERVIEW: YOUTH ANSWERED ALL QUESTIONS
- ..... 2  
PARTIAL INTERVIEW: YOUNG DID NOT ANSWER ONE OR MORE QUESTIONS
- ..... 3 ▶ P8  
NULL INTERVIEW: YOUTH DID NOT ANSWER ANY QUESTIONS

P7 Mark the sections that the youth did not answer. If a section was partially answered, mark it the same.

- |                            |                             |                             |                             |                             |                             |
|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 6  | <input type="checkbox"/> 11 | <input type="checkbox"/> 16 | <input type="checkbox"/> 21 | <input type="checkbox"/> 26 |
| <input type="checkbox"/> 2 | <input type="checkbox"/> 7  | <input type="checkbox"/> 12 | <input type="checkbox"/> 17 | <input type="checkbox"/> 22 | <input type="checkbox"/> 27 |
| <input type="checkbox"/> 3 | <input type="checkbox"/> 8  | <input type="checkbox"/> 13 | <input type="checkbox"/> 18 | <input type="checkbox"/> 23 | <input type="checkbox"/> 28 |
| <input type="checkbox"/> 4 | <input type="checkbox"/> 9  | <input type="checkbox"/> 14 | <input type="checkbox"/> 19 | <input type="checkbox"/> 24 | <input type="checkbox"/> 29 |
| <input type="checkbox"/> 5 | <input type="checkbox"/> 10 | <input type="checkbox"/> 15 | <input type="checkbox"/> 20 | <input type="checkbox"/> 25 | <input type="checkbox"/> CM |

CM: Cognitive Module

P8 Final result of the visit

- ..... 1 ▶ P11  
FULL INTERVIEW 100%
- ..... 2  
Partial response
- ..... 3  
COMPLETE REJECTION
- ..... 4 ▶ P11  
YOUTH NOT LOCATED

P9 Causes for partial response or refusal (check the most relevant cause)

- ..... 1 ▶ P11  
YOUNG was bored WITH answering questions
- ..... 2 ▶ P11  
YOUNG was angered by the TYPE OF QUESTIONS
- ..... 3 ▶ P11  
YOU WAS uncomfortable DUE TO THE TYPE OF QUESTIONS
- ..... 4 ▶ P11  
YOUNG NOT UNDERSTOOD SOME QUESTIONS OR DID NOT KNOW / DID NOT REMEMBER THE ANSWER TO SOME QUESTIONS
- ..... 5  
YOUNG HAD TO INTERRUPT TO DO SOMETHING, AND IT WAS NOT POSSIBLE TO GET BACK IN CONTACT WITH HIM/HER
- ..... 6  
SOMEONE ELSE INTERRUPTED THE INTERVIEW
- ..... 7 ▶ P11  
OTHER (SPECIFY \_\_\_\_\_)

P10 Date and time of return visits to try to contact the youth

VISIT 1					
DAY	MONTH	YEAR	HH	MM	
VISIT 2					
DAY	MONTH	YEAR	HH	MM	
VISIT 3					
DAY	MONTH	YEAR	HH	MM	

P11 REMARKS

SUPERVISION		
DAY	MONTH	YEAR

DATA ENTRY		
DAY	MONTH	YEAR

### 3.5 CONTACT FORM

#### SURVEY ON RISKY BEHAVIOR IN YOUTH

##### [stop all caps] Information on youth

Folio	First name(s)	
<input type="text"/>	<input type="text"/>	
Nickname	Paternal last name	Maternal last name
<input type="text"/>	<input type="text"/>	<input type="text"/>

##### Address of residence

Street	Number	
<input type="text"/>	<input type="text"/>	
Block	Building	Apartment
<input type="text"/>	<input type="text"/>	<input type="text"/>

References

Province	Municipality
<input type="text"/>	<input type="text"/>
Sector/City	Neighborhood/Rural area
<input type="text"/>	<input type="text"/>

##### Surveyor

Code	Name
<input type="text"/>	<input type="text"/>

##### Supervisor

Code	Name
<input type="text"/>	<input type="text"/>

##### Data entry staff

Code	Name
<input type="text"/>	<input type="text"/>





