Lior Gideon *Editor*

Handbook of Survey Methodology for the Social Sciences

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Acknowledgments

This project was a truly a unique one. The process of recruiting contributors who specialize in methodology and care about the topic of survey methodology was not an easy one. Time and again, the panel of experts experienced attrition and subject mortality. (I still wonder where some "committed" contributors disappeared to without leaving a trace). This resulted in delays and the recruitment of new experts. As can be gleaned from the biographies of the contributors to this project, this handbook is a result of an international collaboration, one that brings together the devotion of people from different countries, and from different academic disciplines. I was fortunate enough to connect with some wonderful colleagues across the Atlantic who found it important to assist and bring this project to maturity. In particular, I would like to thank Ineke Stoop (Netherlands Institute for Social Research), Eric Harrison (Centre for Comparative Social Surveys at City University London), Vera Toepoel (Department of Leisure Studies at Tilburg University, the Netherlands), and Burke Johnson (College of Education at the University of South Alabama). Not only did they contribute to the handbook, but they were available for advice and also referred other potential contributors. The success of this handbook is theirs as well.

In addition to recruiting and following up with each contributor, there was also the challenge of bringing all the chapters together to use the same voice. This was not an easy task by any means, and in fact, in the end, I chose not to fully integrate the varying writing approaches. In many aspects, the handbook is even better in its current format, presented in different voices, as the topics covered reflect the many and complex facets of social inquiry. No other format could so clearly make the point that surveys are used by a very wide variety of scholars, for different purposes in different formats, in different modes of administration, and in different places across the globe.

I am glad to see this important and unique work being published, and I hope it will be used as a guide by the many researchers around the world who aim to use survey methodology in their own work. The goal was to lay out the theories of survey methodology in a simple way, so that those who are interested will not shy away from it simply because it involves complex and at times unfriendly formulas. Reviews of the chapters confirmed this to be the case, remarking that the chapters were

written in a user-friendly style and conveyed the ideas in a simple and elegant manner. For this I am grateful to all those who contributed, reviewed, and advised during the many months, long hours, and rocky roads of making this handbook the way it is.

I would also like to thank Welmoed Sphar, senior editor at Springer, for her support. Welmoed took the time to listen to the idea and fell in love with it and did not let go until the project was on its way. She has high hopes for this handbook, and I hope her hopes will mature. I know that I am very pleased with it. Katie Chabalko, who assumed editorship on this handbook, was also supportive and willing. She provided me with a lot of support, contacted contributors, and helped me meet the deadline. I would also like to thank Morgan Ryan, from Springer, who assisted in the final stages of preparing the manuscript for print. Zora O'Neill, my personal editor for the past year, was instrumental in reviewing my thoughts and writings. I think it is because of her that my ideas can be clear to others, and for that I am grateful to her.

On a different level, I am filled with gratitude to my family, Hila, Jonathan, and Eithan, for their never-ending support and understanding, and for giving me the space when I needed it the most.

Contents

Contributors

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Lior Gideon is an Associate Professor at the John Jay College of Criminal Justice in New York, New York, is a devout methodologist,

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Part I

Introduction to Issues of Survey Methodology

Introduction

1

Lior Gideon

1.1 Introduction

Surveys have become a major part of our lives. In an era in which a wealth of information is highly accessible and rapidly changing, many researchers use surveys to inform knowledge, challenge existing assumptions, and shape policies. Surveys are used by so many people for so many different purposes that it gives the impression that conducting a survey is as easy as a walk in the park. Many beginning researchers think surveys are simply a way of collecting information by asking questions—nothing sophisticated or difficult, just "ask and you will know."

Unfortunately, such an attitude pervades the foundations of social research, leading some people in the field to contribute knowledge that may be unreliable at best, and outright damaging at the worst. The dangers become even clearer when researchers design and execute a full survey-based study under the name of a respectable academic institution, while knowing very little about method. In the end, they deliver only low-quality results that, due to the institution's prestige, are nonetheless used to inform public policy.

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This is all mainly due to the fact that in the course of their studies, not many social scientists have received adequate training in survey methodology. I have seen this time and again when graduate students have approached me to advise on their doctoral work, and just as often when looking at research papers presented in professional conferences by those who have already completed their dissertations and are now conducting independent research. While their topic of research is interesting, often their data collection tool is badly designed, so their results show low reliability and validity. All of them nonetheless proudly declare that their results are valid and can be generalized to the population, as they have used probability as the sampling technique. In fact, it seems that more emphasis is typically given to sampling techniques than to data collection methods and proper data collection protocols.

It is within this context that the current handbook has been written to provide social scientists with a simple point of reference and to educate on the nuts and bolts of this important method. The aim of this book is to examine the various issues surrounding survey methodology, and there is no better way to jump in than to begin with the concept of total survey error (TSE), the theoretical heart of survey methodology, as well as the chapters that follow. While there are many available books and guides on this topic, many of them are either too difficult for students or appear to be somewhat unfriendly to non-statisticians.

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1.2 Total Survey Error

Many who use surveys as their primary data collection method fail to think of the process as a scientific method. "What's the big deal about asking questions?" people may say with a shrug. Instead, the focus of research is usually on sampling and the number of questions to be asked. Much less attention is paid to the lurking sources of bias that are not sample-related. Weisberg (2005) warns that this single-minded focus on sampling error is only the tip of the iceberg in surveys: The total survey error is much greater than that. Unfortunately, the emphasis has been—and for many young researchers, continues to be—on sampling errors simply because they are easy to deal with mathematically and can be relatively estimated and resolved by increasing the sample size. On the other hand, errors not related to sampling—what we will call non-sampling errors—have typically been seen as too difficult to estimate, and it has been assumed that their effect on the results would be minimized if samples were big enough and properly representative. In Chap. 4, Bautista discusses the silent bias in survey research while focusing on the concept of total survey error. But for the purpose of paving the way to the other chapters in this book, we will make a brief introduction of this important theoretical framework here.

TSE, as the combined total of both sampling and non-sampling errors, should be the dominant paradigm for developing, analyzing, and understanding surveys and their results. Among researchers using surveys as the main method for data collection, many have assumed people will respond honestly to questions presented to them. There is also a basic assumption that people are generally willing to share their views, opinions, experiences, and attitudes with researchers and thus, all researchers have to do is ask the questions. Such assumptions, however, have been revealed to be untrue. As a result, survey researchers have recently shown an increased interest in what other factors that cause bias in surveys. Returning to the iceberg metaphor, survey researchers have since been able to identify and focus on the submerged part of the iceberg: the core of error not related to sampling, which was previously hidden from view. This effort, along with an accumulated wealth of survey experience in recent decades, has resulted in a better understanding of the multiple sources of survey bias. Figure 1.1 illustrates the concept of TSE using the well-known Pythagorean Theorem as a metaphor: The sum of the squares of both the sampling error and the non-sampling error is equal to that of the squared total survey error—in short, the TSE becomes much bigger than each of its components. Differently put, when both sampling and non-sampling errors occur in a survey, the TSE is exponentially higher. Of course you cannot actually place actual error values and calculate this theorem for the TSE, but it should give readers a good idea of what the actual problem is.

Sampling errors stem from the sampling method used. So researchers must initially identify their population of interest and then clearly define their unit of analysis and what elements will best serve the aim of their study. Once these issues are addressed, researchers progress to the sampling method—either probability or non-probability. It is understood that by using non-probability sampling, bias will naturally be introduced into the research, and no generalization will be possible. This is not to say that one should never use such sampling techniques, but merely to indicate their salient weakness and the corresponding criticism of them. On the other hand, using probability sampling that relies on the principle of randomness will provide a more representative sample, one that better reflects the target population and thus enables generalizations from the sample to the larger population. However, depending on the type of probability sampling used (e.g., simple random, systematic random, stratified proportional, stratified non-proportional, cluster, etc.), the level of sampling error in the model may increase or decrease. Using such methods, a researcher can estimate the sampling error and warn the potential audience

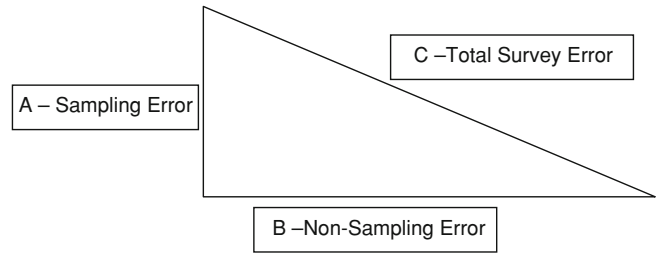

Fig. 1.1 Total survey error

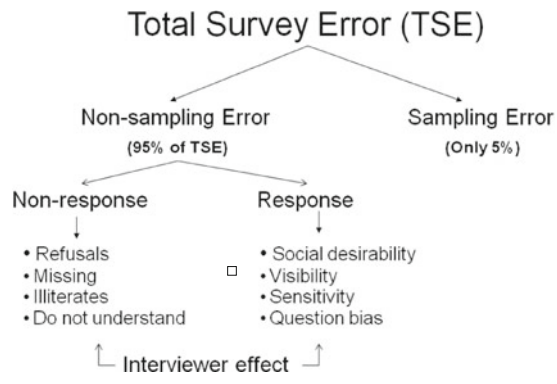

Fig. 1.2 Sources of total survey error

of the source and magnitude of the error. (In Chap. 5, Hibberts, Johnson, and Hudson discuss sampling in more detail, while focusing on the advantages and disadvantages of each sampling method in relation to the researcher's ability to generalize.)

Non-sampling errors, on the other hand, tend to be more complex, and they require researchers' detailed attention, as they may creep into each and every stage of the data collection. As illustrated in Fig. 1.1, its effect on results may be exponentially more damaging to the results of the study. Non-sampling errors can come from a multitude of sources—it is safe to say they can comprise about 95% of the TSE. As illustrated in Fig. 1.2, non-sampling errors are further divided into response and non-response errors, and each of these categories then hosts multiple and additional sources of error. For example, response error can stem from, among other things, social desirability, visibility, the degree of sensitivity of a specific item, the order of the questions, the way in which a specific item is constructed (see Chap. 7 by Gideon)—or even the entire survey topic. (Part VI of this handbook deals with sensitive topics and populations that are difficult to locate populations.) Problems can also stem from the mode used for the questionnaire: In a face-to-face survey, an interviewer can unwittingly increase social desirability, for example. (In Chap. 10, Billiet and Matsuo further discuss the variety of response errors and how they can be controlled.)

On the other hand, non-response errors can stem from simple refusals to answer questions (see Stoop and Harrison, Chap. 9; Albaum and Smith, Chap. 11; and Glaser, Chap. 12). Or they can come as a result of a failure to locate participants who were originally sampled when it comes time to complete the study. Non-response can be for the entire survey, but it can also be for specific questionnaire items. These are important to monitor and examine, as their effect may be detrimental to the results of the study. Non-response to specific items may later affect scaling and can also reduce survey reliability.

It is important to note that interviewer effect may also have a detrimental effect on both response and non-response errors, as can be seen in Fig. 1.2. Accordingly, ample time and emphasis must be devoted for interviewer training and monitoring. In that regard it may be wise to analyze data by interviewer to monitor variations and potential biases prior to the integration and merging of the entire data set.

Non-sampling errors also vary according to the mode of questionnaire administration, as will be discussed further in Part V of this handbook. Each of the above components of the TSE will be addressed at length through the chapters of this handbook.

Yet it is important to understand what course of action we as researchers can take to minimize the TSE, and in particular those errors of response and non-response. Accordingly, the chapters of the handbook will focus on methods for increasing response rate and converting non-response, and the ethical issues that revolve around such practices. Further, methods designed to increase accuracy and quality of response will be discussed. In that regard, Part II of the handbook focuses on the stages of survey design, commencing with common survey sampling techniques, starting with the role of the introduction and questionnaire phrasing on through to interviewing. These chapters should be used by readers as guiding tools in the process of designing a survey.

Reference

Weisberg, H. F. (2005). *The Total survey error approach: A guide to the new science of survey research*. Chicago: University of Chicago Press.

Classification of Surveys

2

Ineke Stoop and Eric Harrison

2.1 Introduction

In 'The Analytical Language of John Wilkins', Borges describes 'a certain Chinese Encyclopaedia, the Celestial Emporium of Benevolent Knowledge', in which it is written that animals are divided into:

- those that belong to the Emperor,
- embalmed ones,
- those that are trained,
- suckling pigs,
- mermaids,
- fabulous ones,
- stray dogs,
- those included in the present classification,
- those that tremble as if they were mad,
- innumerable ones,
- those drawn with a very fine camel hair brush,
- others,
- those that have just broken a flower vase,
- those that from a long way off look like flies.

To modern readers this classification may seem somewhat haphazard, hardly systematic and certainly not exhaustive (although the category 'others' makes up for quite a lot of gaps). Actually, Borges did not find this classification in a Chinese encyclopaedia: he made it up. Making up a classification of surveys at times seems as challenging as making up a classification of animals. A short enquiry into types of surveys yields random samples, telephone surveys, exit polls, multi-actor surveys, business surveys, longitudinal surveys, opinion polls (although some would argue that opinion polls are not surveys), omnibus surveys and so forth. It will be clear that the types of surveys mentioned in this list are neither exhaustive nor mutually exclusive. The 'type' of survey can refer to the survey mode, the target population, the kind of information to be collected and a number of other characteristics. Sometimes these different characteristics interact, but some combinations are rarely found together. Surveys of older persons are rarely web surveys, for instance, and exit polls are never longitudinal surveys.

This chapter presents a brief overview of the different ways in which surveys can be classified. First, however, we need to consider what a survey is. Below is given an abridged version of the section 'What is a survey' from the booklet drafted by Fritz Scheuren from NORC.[1]

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[1] www.whatisasurvey.info/overview.htm

L. Gideon (ed.), *Handbook of Survey Methodology for the Social Sciences*,
DOI: 10.1007/978-1-4614-3876-2_2, © Springer Science+Business Media New York 2012

> Today the word 'survey' is used most often to describe a method of gathering information from a sample of individuals. This 'sample' is usually just a fraction of the population being studied…. Not only do surveys have a wide variety of purposes, they also can be conducted in many ways-including over the telephone, by mail, or in person. Nonetheless, all surveys do have certain characteristics in common. Unlike a census, where all members of the population are studied, surveys gather information from only a portion of a population of interest-the size of the sample depending on the purpose of the study. In a bona fide survey, the sample is not selected haphazardly or only from persons who volunteer to participate… Information is collected by means of standardized procedures so that every individual is asked the same questions in more or less the same way. The survey's intent is not to describe the particular individuals who, by chance, are part of the sample but to obtain a composite profile of the population.

In a good survey, the sample that has been studied represents the target population, and the information that has been collected represents the concepts of interest. The standardised procedures with which data are collected are mostly, but not always, questionnaires which are either presented to the sample persons by an interviewer or completed by the sample persons themselves.

In the next section, surveys are classified according to a number of criteria. Underlying this classification is the following poem by Rudyard Kipling:

> I keep six honest serving-men
> (They taught me all I knew);
> Their names are What and Why and When
> And How and Where and Who.

2.2 Classification Criteria

2.2.1 Who: The Target Population

Groves (1989, Chap. 3) starts his theoretical overview of populations (of persons) with the *population of inference*, for instance American citizens in 2011. The *target population* is the finite set of the elements (usually persons) that will be studied in a survey. Generally excluded from the target population are those persons who cannot be contacted or will not be able to participate, such as persons living abroad and those living in institutions (residential care and nursing homes, prisons). The *frame population* is the set of persons for whom some enumeration can be made prior to the selection of the survey sample, i.e. who can be listed in the sampling frame. After the sample has been drawn, ineligible units have to be removed, such as incorrect addresses or persons who are not American citizens. Those who then respond to the survey are the *survey population*, the set of people who, if they have been selected for the survey, could be respondents. *Unit nonresponse* is the failure to collect data from units belonging to the frame population and selected to be in a sample.*The response rate* is the percentage of selected units who participate in the survey.

The population of inference may comprise businesses, households, individuals, days, journeys, etc. In a *business survey*, information is collected on establishments or branches. An informant, or several informants (see Box 2.1), provide(s) information on behalf of a business establishment. A survey among business owners can also be seen as a survey among individuals.

Box 2.1: Examples of business surveys

In two well-known surveys of workplaces, multiple instruments are fielded to different, specifically targeted interest groups.

The 2009 European Companies Survey was conducted using computer assisted telephone interviews (CATI). The companies to be interviewed were selected at random among those with ten or more employees in each country. A management representative and, where possible, an employee representative was interviewed in each company.

The UK's Workplace Employee Relations Survey (WERS) is one of the longest running of its type (since 1980). The most recent wave comprised five separate instruments—some face-to-face and others by self-completion—and the overall design was organised thus:

- An overall sample of 2,500 workplaces, combining 1,700 workplaces that are new

to the study and repeat interviews at 800 workplaces which were first surveyed in 2004.
- At each workplace, an interview with the most senior manager responsible for employment relations and personnel issues was conducted. A self-completion survey on financial performance was distributed to all trading sector workplaces.
- An interview with one trade union employee representative and one non-trade union representative where present (approximately 900 interviews).
- A self-completion survey with a representative group of up to 25 employees, randomly selected from each workplace participating in the study (approximately 23,000 completed surveys).

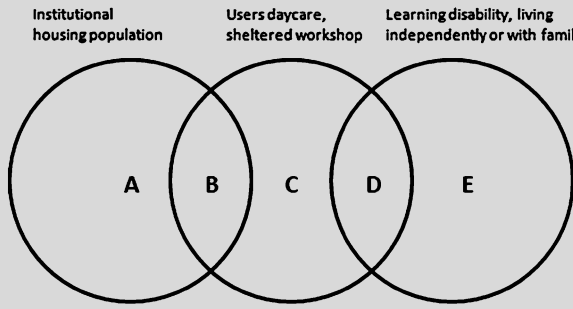
In a *household survey* a responsible adult can function as a household informant. In a *survey among individuals* the respondents usually provide information about themselves, but often also about their households. A respondent can also provide information about other household members, e.g. when providing information on the occupations and education of family members. In some cases the use of *proxies* is allowed, which means that the target respondent has someone else answer the questions for them. A special case of this would be a survey that includes (small) children. In such a case parents can answer questions instead of their children. It is also possible that *all members of the household* have to answer a questionnaire, as for instance in the European Labour Force Survey. In these cases proxies are often allowed. Finally, in *multi-actor* surveys several members of the same family are interviewed, but they will not necessarily be members of the same household. The UK's WERS (see Box 2.1) is also an example of a multi-actor survey. Another example is a Dutch survey among persons with learning disabilities (Stoop et al. 2002, see Box 2.2). A final example of a multi-actor survey is the multi-country survey described in Box 2.7 in Sect. 2.2.6.

Box 2.2: A survey among persons with learning disabilities (see Stoop et al. 2002)

Multiple sampling frames

The frame population consisted entirely of adults aged 18 years and older who had learning disabilities and who were living in an institution or institutionally supported housing arrangement (long-term care home, socio-home, surrogate family unit, supported independent living arrangement) and/or made use of a day-care facility or sheltered workshop. Preceding the fieldwork the frame population was constructed by listing the relevant institutions by completing and joining available address lists. A complication when using the available sampling frames was that the instability of the field: institutions change character, new residential arrangements appear, different residential facilities are hard to distinguish from each other. Additionally, institutions sometimes consist of main locations and satellite sites, which further complicates the sampling procedure.

The selected sampling frames showed overlap and also contained persons who did not belong to the target population (see also figure shown below). Two-thirds of the clients of sheltered workshops, for instance, had physical rather than learning disabilities (C in figure shown below) and were not included in the frame population. Secondly, an unknown number of persons used more than one facility, for instance daycare facilities and residential facilities or services (B in figure shown below). To overcome over coverage, the sampling frame of daycare centres and sheltered workshops was purged of those persons who also used some kind of institutional residential arrangement.



Sampling frame and target population

The sampling procedure was complicated by the fact that different types of institutions were selected and that the final sample would have to be representative according to type of institution and the extent of the learning disability. Firstly, institutions were selected (acknowledging type, size and geographical region) and subsequently clients within institutions, taking into account size and possible overlap between frame populations. The interviewer had to select potential sample persons from a list provided by the local management of the institution, in accordance with a strictly random procedure. In reality, however, this selection was often performed by the local management.

Multiple sources and instruments

Some persons with a learning disability can be interviewed in a survey, whereas others cannot. If possible, the selected sample persons were interviewed personally. They provided information on their daily activities and preferences, autonomy, social networks and leisure activities. Parents or legal representatives were asked about the family background and also, and in greater detail, about the issues in the sample person questionnaire. Support workers or supervisors answered questions on the type and duration of care received, coping abilities and daily activities. Finally, questions on services and facilities provided had to be answered by the local management of institutions providing residential facilities or support, daycare centres and sheltered workshops. The combination of sources was deemed necessary to obtain a complete picture of the quality of life and use of facilities of the sample person. It made the survey particularly complicated, however, because seven different questionnaires had to be used and everybody involved had to cooperate in order to obtain a complete picture.

The population of inference may be the general population of a country (citizens, or residents, which is by no means the same thing). A survey may also aim at representing a special group, such as older persons, members of a minority ethnic group, students, users of a particular product or public service, persons with a learning disability, drug users, inhabitants of a particular neighbourhood, gays and lesbians. In some cases a sampling frame is easy to construct (inhabitants of a particular neighbourhood), and in other cases the survey will have to be preceded by a screening phase to identify the frame population (lesbian and gay people).

Sometimes, sampling is complicated still further when the 'population' under investigation is not a set of individuals but a set of activities or events. In a time use survey, for example, a sample is drawn of households/persons and days (Eurostat 2009), and in passenger surveys the units are journeys (see Box 2.3).

Box 2.3: Passenger surveys

Passenger surveys attempt to establish the perceived quality of a journey. In the UK, this is complicated by the existence of

train operating companies with regionally based but overlapping franchises.

The UK's National (Rail) Passenger Survey (NPS) uses a two-stage cluster sample design for each Train Operating Company (TOC). The first-stage sampling unit is a train station and questionnaires are then distributed to passengers using that station on a particular day during a specified time period. Stations are selected for each TOC with a probability proportionate to size, using the estimated number of passengers as the size measure. A large station may be selected several times. Days of the week and times of day are then assigned to each selected station, using profiles for different types of station. Finally, the sampling points are assigned to weeks at random during the survey period. A completely new sampling plan is generated every two years, utilising data on passenger volumes provided by the Office for Rail Regulation (Passenger Focus 2010).

As mentioned in Sect. 2.1, good survey practises prescribe a survey sample to be selected at random from the frame population. Sampling frames can comprise individuals (a population register, list of students or census records), households, addresses, businesses or institutions. In many cases a two-stage sampling procedure is required, for instance first households, then individuals, or first institutions, then individuals.

There are many ways to draw a probability sample, and according to Kish (1997, see also Häder and Lynn 2007) they all suffice as long as the probability mechanism is clear, which means that every member of the target population has to have a known probability (larger than zero) of being selected for the sample. There are even more ways of selecting a non-probability sample. We will only give some examples here. In many countries, *quota sampling* is quite popular. In this case, a population is first segmented into mutually exclusive sub-groups. Interviewers then have to interview a specified number of people within each subgroup (for further and more in-depth discussion on survey sampling techniques and non-probability samples in surveys, see Hibbert Johnson and Hudson, Chap. 5). How these people are selected is untraceable.

Nowadays online panels, discussed at greater length by Toepoel in Chap. 20, are becoming quite popular (see also Sect. 2.2.4 and Box 2.5). In rare cases these are based on probability samples, as is the Dutch LISS panel (www.lissdata.nl), but the vast majority are not constructed using probability-based recruitment (The American Association for Public Opinion Research 2011). Online access panels offer prospective panel members the opportunity to earn money, make their opinion heard or take part in surveys for fun. In *river sampling* '… respondents are recruited directly to specific surveys using methods similar to the way in which non-probability panels are built. Once a respondent agrees to do a survey, he or she answers a few qualification questions and then is routed to a waiting survey. Sometimes, but not always, these respondents are offered the opportunity to join an online panel' (The American Association for Public Opinion Research 2011).

Rare populations are hard to identify, approach and survey. *Snowball sampling* relies on referrals from initial subjects to generate additional subjects. *Respondent-driven sampling* (RDS) combines 'snowball sampling' with a mathematical model that weights the sample to compensate for the fact that the sample was collected in a non-random way.

2.2.2 What: The Topic

In addition to representing the target population, a survey should represent the concepts of interest. Or, on a more practical note, the second main distinguishing feature of a survey is the topic. Survey topics can be anything, from victimisation to health, from bird-watching to shopping, from political interest to life-long learning and from alcohol and tobacco use to belief in God. There is ample evidence that the topic of a survey is a determinant of the response rate (see Chap. 9 by Stoop).

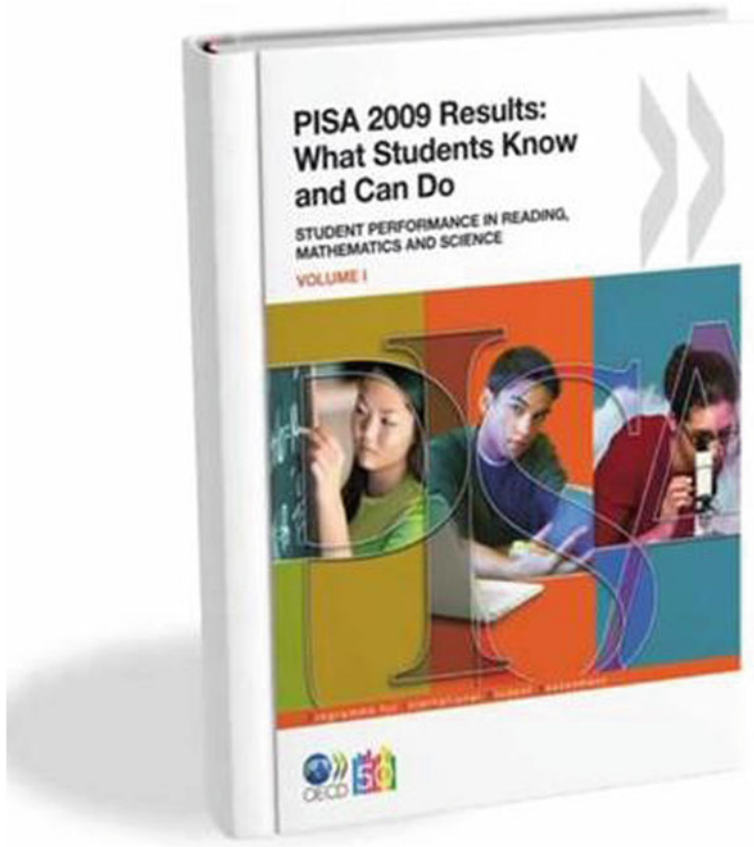
An *omnibus survey* has no specific topic at all: data on a wide variety of subjects is collected during the same interview, usually paid for by

multiple clients. Nowadays, omnibus surveys are increasingly being replaced by online access panels where clients pay for a particular survey while sharing background characteristics.

Often a distinction is made between objective questions and subjective questions. Objective questions are the home turf of official statistics and cover issues like labour situation, education, living conditions, health, etc. Subjective questions collect information on values, attitudes, and the like. In practise, this distinction cannot be sustained. Assessments of health and job preferences have a clear subjective aspect, for example. In addition, official statistics focus increasingly on issues such as satisfaction and even happiness. The UK Office for National Statistics (ONS), for instance, regularly collects data and publishes statistics on 'Measuring Subjective Wellbeing in the UK'. Finally, even objective, hard statistics have a subjective component (e.g. how many rooms are in your house, how much time do you spend on gardening?).

Many different types of organisations collect data on attitudes, values, preferences and opinions, but from a different perspective. For example, there is a big difference between opinion polls and surveys of attitudes and values (and opinions). Although *opinion polls* could be conducted according to the same quality criteria as academic surveys of values and attitudes, in practise they are often commercial, non-probability surveys focusing on one or a few questions, providing results in just a day or so, whereas academic surveys can take a year from data collection to first availability of results.

Appendix 1a presents an overview of comparative attitude surveys organised by different types of sponsors. Other well-known survey topics are behavioural patterns, lifestyles, well-being and social belonging and affiliation (see Appendix 1b). Also common are surveys on literacy and skills (Appendix 1c) and on voting behaviour (1d).



Market researchers study brand and media tracking, consumer satisfaction and advertisement effect. As mentioned above, governments too are interested in consumer satisfaction and use surveys to assess the need for public services. Both—as academics—are interested in factors that determine decision-making.

Some surveys require respondents to keep a diary, for instance time use surveys, travel surveys or expenditure surveys. Other surveys are increasingly supplemented (or even partly replaced) by data from other sources, such as GIS data or data from public registers and administrative records. As part of some surveys, data on bio-markers are collected, such as grip strength, body-mass index and peak flow in SHARE (see Appendix 1) or blood cholesterol and saliva cortisol in the LISS panel (Avendabo et al. 2010). Election polls predict the outcome of elections, as do exit polls, where voters are asked questions about their voting.

From this overview it will be clear that almost any topic can be part of a survey, but also that there is a relationship between the target population and the topic, and the survey agency and sponsor and the topic.

2.2.3 By Whom: Survey Agency and Sponsor

Surveys are commissioned by a wide range of organisations: governments, the media, local communities, labour unions, universities, institutions, NGOs and many other diverse organizations. Survey agencies can be roughly subdivided in four groups: national statistical institutes, universities, market research agencies and not-for-profit organisations. As with the topic, there is ample evidence that the type of sponsor has an impact on the response rate (see Chap. 9 by Stoop). Most studies in this area suggest that people are more likely to participate in an academic or government survey than in a commercial survey. In addition, the topic of a survey is clearly related to the type of sponsor: national statistical institutes do not run exit polls, and market research organisations conduct a lot of consumer research.

In practise, all kinds of combinations of sponsors and data collectors can occur. For instance, television networks can start their own online panels, and market research agencies collect data for national statistical institutes or universities. In the European Social Survey (ESS), an academic cross-national survey (see Chap. 15 on Repeated Cross-Sectional Surveys by Stoop and Harrison), each country selects a survey agency to collect data in that county. ESS data are therefore collected by each of the four types of survey agencies mentioned above (see www.europeansocialsurvey.org: 'Project information'—participating countries). It could however be argued that in the world of surveys, statistics, academia and market research are three different continents (and not-for-profit organisations a kind of island in between). In the world of (official) statistics, sampling is the key element of surveys (see for instance the history of the International Association of Survey Statisticians (http://isi.cbs.nl/iass/allUK.htm). Surveys run by national statistical institutes are almost always based on probability samples, whereas market research organisations increasingly use non-probability samples from online panels (see e.g. Yeager et al. 2011). An instructive overview of the differences between academia and survey research agencies is given by Smith (2009, 2011), summarised in Box 2.4. In the Netherlands and Flanders, a recent initiative is trying to bring together the different approaches to survey research in the Dutch Language Platform for Survey Research (www.npso.net).

Box 2.4: Survey research, academia and research agencies (based on Smith 2009, 2011)

Smith (2009) sees a major divide in the UK between two kinds of knowledge held by survey experts in research agencies and in academia, and feels that this is to the detriment of survey research. He contests that agency practitioners are strong on *knowing how* while academics are strong on *knowing that*. Market researchers have practical skills, but lack theoretical knowledge whereas academics know the theory

but lack practical skills and may therefore have unrealistic expectations about the sorts of data a survey can reasonably be expected to collect. Smith (2009, p. 720) points out three significant problems:

1. Practitioners make needless mistakes because they lack depth in their understanding of how survey errors work.
2. The bulk of surveys in the UK (those not using random probability samples for a start) receive almost no serious academic attention, and suffer as a result.
3. Academic commentary and expectations can be very unrealistic.

He also comes up with a number of possible solutions, although he is rather pessimistic about whether they will be picked up:

- Having academics take secondments in agencies and agency staff take academic secondments.
- Establishing formal links between agencies and academic departments with resource sharing.
- Encouraging academics and agency practitioners to coauthor papers.
- Improving the quality of formal survey training for both academics and practitioners.

In a subsequent paper, Smith (2011) discusses how academics' knowledge might be transferred more effectively, and how it might translate into better survey practise in research agencies. One conclusion he draws from attending an academic seminar on survey non-response and attrition is that he had to try to translate research findings into possible practical recommendations himself, and is not sure whether he drew the right conclusions. The second example he gives is a questionnaire training course taught by Jon Krosnick. This course presented the relevant evidence, but also highlighted some practical implications. Smith (2011) sadly realises that despite the vast question design literature, survey practitioners still write questions in the way they were taught long ago, resulting in questions that are simply bad. So, to improve survey quality, effective ways have to be found to translate academic knowledge into survey questions. Academics should focus on spelling out the practical implications of their findings, and survey agencies should change their practise in line with the results of the academic research.

2.2.4 How: Survey Mode

The best-known distinction between different types of surveys is the survey mode. Section 15.1.3 in Chap. 15 on Repeated Cross-Sectional Surveys describes the main types based on the distinction between interview surveys (face-to-face and telephone) and self-completion surveys (mail and online). Face-to-face surveys are usually rather expensive and thus most often used by academics and statisticians. Interviewers are especially helpful when the survey is long, more than one person in the household has to be interviewed or when additional information has to be collected. Recently, however, interesting experiments have been run in web surveys where respondents themselves collected blood and saliva samples and used online weighting scales (Avendabo et al. 2010).

In many surveys today, multiple modes are used. This might involve a drop-off self-completion questionnaire following a face-to-face survey, or a mixed-mode approach where web, telephone and face-to-face are deployed sequentially to maximise coverage and minimise costs. De Leeuw (2005) gives a useful overview of different modalities of mixing modes.

Commercial organisations make increasing use of online access panels. We use the term 'panel' here not to mean a single sample of people who are monitored over time—as in a longitudinal survey—but in the sense of being a permanent pool of respondents from whom repeated representative (quota) samples can be drawn. The UK organisation YouGov was a pioneer in this field (see Box 2.5).