Conducting a Survey

5

Abstract

When the questionnaire is in its final form, the researcher needs to determine what the sample and what the population of her study is. This chapter first explains both terms and further distinguishes between random, representative, and biased samples. Second, it discusses several sampling techniques such as quota sampling and snowball sampling. Third, it introduces different types of surveys (e.g., face-to-face surveys, telephone surveys, and mail-in or Internet surveys) the author of a survey can use to distribute it. As a practical component, students test their surveys in an empirical setting by soliciting answers from peers. While this procedure does not allow students to get representative or random samples, it nevertheless offers students the possibility to collect their own data, which they can analyze later. At the end of the unit, students are taught how to input their responses into an SPSS or Stata dataset.

5.1 Population and Sample

When the questionnaire is in its final form, the researcher needs to determine what the population of her study is and what type of sample she will take (see Fig. 5.1).

The **population** is the entire group of subjects the researcher wants information on. Normally the researcher or polling firm is not able to interview all units of the population because of the sheer size. To highlight, the United States has over 300 million inhabitants, Germany over 80 million, and France over 65 million. It is logistically and financially impossible to interview the whole population. Therefore, the pollster needs to select a **sample** of the population instead. To do so, she first needs to define a **sampling frame**. A sampling frame consists of all units from which the sample will be drawn. Ideally, the sample frame should be identical to the population or at least closely resemble it. In reality, population and sampling frame frequently differ (Weisberg et al. 1996: 39). For example, let us consider that the

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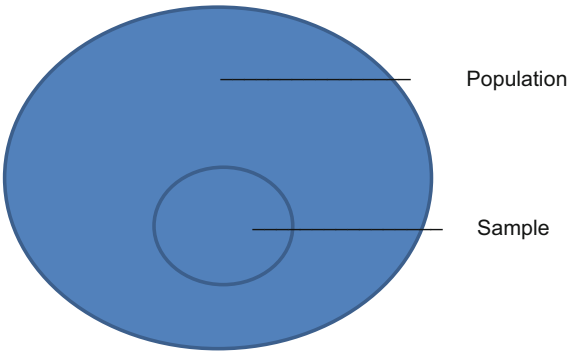

Fig. 5.1 Graphical display of a population and a sample

population are all inhabitants of Berlin. A reasonable sampling frame would include all households in the German capital, from which a random sample could be taken. Using this sample frame, a researcher could then send a questionnaire or survey to these randomly chosen households. However, this sampling frame does not include homeless people; because they do not have a fixed address, they cannot receive the questionnaires. Consequently, this sample drawn from the population will be slightly biased, as it will not include the thousands of people, who live on the streets in Berlin.

A **sample** is a subset of the population the researcher actually examines to gather her data. The collected data on the sample aims at gaining information on the entire population (Bickman and Rog 1998: 102). For example, if the German government wants to know whether individuals favor the introduction of a highway usage fee in Germany, it could ask 1000 people whether or not they agree with this proposal. For this survey, the population is the 82 million habitants of Germany, and the sample is the 1000 people, which the government asks. To make valid inference from a sample for a whole population, the sample should be either representative or random.

5.2 Representative, Random, and Biased Samples

Representative Sample A representative sample is a sample in which the people in the sample have the same characteristics as the people in the population. For example, if a researcher knows that in the population she wishes to study 55% of people are men, 18% are African–Americans, 7% are homeless, and 23% earn more than 100,000 Euros, she should try to match these characteristics in the sample in order to represent the population.

Random Sample In many social settings, it is basically impossible for researchers to match the population characteristics in the sample. Rather than trying any matching technique, researchers can take a random sample. Randomization helps to offset the confounding effects of known and unknown factors by randomly choosing cases. For example, the lottery is a random draw of 6 numbers between

1 and 49. Similarly large-scale international surveys (e.g., the European Social Survey) use randomization techniques to select participants (Nachmias and Nachmias 2008). Ideally, such randomization techniques give every individual in the population the same chance to be selected in the sample.

Biased Sample A biased sample is a sample that is neither representative nor random. Rather than being a snapshot of the population, a biased sample is a sample, whose answers do not reflect the answers we would get had we the possibility to poll the whole population.

There are different forms of biases survey responses can suffer from:

Selection Bias We have selection bias if the sample is not representative of the population it should represent. In other words, a sample is biased if some type of individuals such as middle-class men are overrepresented and other types such as unemployed women are underrepresented. The more this is the case, the more biased the sample becomes, and the potentially more biased the responses will be. Much of the early opinion polls that were conducted in the early twentieth century were biased. For example, the aforementioned Literary Digest poll, which was sent to around ten million people prior to the Presidential Elections 1916 to 1936, was a poll that suffered from serious selection bias. Despite the fact that it correctly predicted the presidential winners of 1916 to 1932 (but it failed to predict the 1936 winner), it did not represent the American voting population accurately. To mail out its questionnaire, *The Literary Digest* used three sources, its own readership, registered automobile users, and registered telephone users. Yet, the readers of *The Literary Digest* were middle- or upper-class individuals and so were automobile and telephone owners. For sure, in the 1910s, 1920s, and 1930s, the use of these sources was probably a convenient way to reach millions of Americans. Nevertheless, the sampling frame failed to reach poor working-class Americans, as well as the unemployed. In particular, during the Great Depression in 1936, rather few Americans could afford the luxuries of reading a literary magazine or owning a car or a telephone. Hence, the unrepresentativeness of *The Literary Digest*'s sample was probably aggravated in 1936. To a large degree, this can explain why *The Literary Digest* survey predicted Alfred Landon to win the presidential election in 1936, whereas in reality Franklin D. Roosevelt won in a landslide amassing 61% of the popular vote. In fact, for *The Literary Digest* poll, the bias was aggravated by non-response bias (Squire 1988).

Non-response Bias Non-response bias occurs, if certain individuals in your sample have a higher likelihood to respond than others and if the responses of those who do not respond would differ considerably from the responses of those who respond. The source of this type of bias is self-selection bias. For most surveys (except for the census in some countries), respondents normally have their entirely free will to decide whether or not to participate in the survey. Naturally, some people are more likely to participate than others are. Most frequently, this self-selection bias stems for

the topic of the survey. To highlight, individuals who are politically interested and knowledgeable might be more prone to answer a survey on conventional and unconventional political participation than individuals who could not care less about politics. Yet, non-response bias could also stem from other sources. For example, it could stem from the time that somebody has at her disposal. In addition, persons with a busy professional and private life might simply forget to either fill out or return a survey. In contrast, individuals with more free time might be less likely to forget to fill out the survey; they might also be more thorough in filling it out. Finally, somebody's likelihood to fill out a survey might also be linked to technology (especially for online surveys). For example, not everybody has a smartphone or permanent access to the internet, some people differ in their email security settings, and some people might just not regularly check their emails. This implies that a survey reaches some people of the initial sample, but probably not all of them (especially if it is a survey that was sent out by email).

Response Bias Response bias happens when respondents answer a question misleadingly or untruthfully. The most common form of response bias is the so-called social desirability bias; respondents might try to answer the questions less according to their own convictions but more in an attempt to adhere to social norms (see also Sect. 4.5). For example, social or behavioral surveys (such as the European Social Survey or National Election Studies) frequently suffer from response bias for the simple question whether individuals voted or not. Voting is an act that is socially desirable; a good citizen is expected to vote in an election. When asked the simple question whether or not they voted in the past national, regional, or any other election, citizens know this social convention. Some nonvoters might feel uneasy to admit they did not vote and indicate in the survey that they cast their ballot, even if they did not do so. In fact, over-reporting in election surveys is about 10–15 percentage points in Western democracies (see Zeglovits and Kritzinger 2014). In contrast to the persistent over-reporting of electoral participation, the vote share for radical right-wing parties is frequently under-reported in surveys. Parties like the Front National in France or the Austrian Freedom Party attract voters and followers with their populist, anti-immigration, and anti-elite platforms (Mudde and Kaltwasser 2012). Voting for such a party might involve some negative stigmatization as these parties are shunned by the mainstream political elites, intellectuals, and the media. For these reasons, citizens might feel uneasy divulging their vote decision in a survey. In fact, the real percentage of citizens voting for a radical right-wing party is sometimes twice as high as the self-reported vote choice in election surveys (see: Stockemer 2012).

Response bias also frequently occurs for personality traits and for the description of certain behaviors. For example, when asked, few people are willing to admit that they are lazy or that they chew their fingernails. The same applies to risky and illegal behaviors. Few individuals will openly admit to engage in drug consumption or will indicate in a survey that they have committed a crime.

Biased samples are ubiquitous in the survey research landscape. Nearly any freely accessible survey you find in a magazine or on the Internet has a biased sample. Such a sample is biased because not all the people from the population see the sample, and of those who see it, not everybody will have the same likelihood to respond. In many freely accessible surveys, there is frequently also the likelihood to respond several times. A blatant example of a biased sample would be the National Gun Owner's Action Survey 2018 conducted by the influential US gun lobbyist, the National Rifle Association (NRA). The survey consists of ten value-laden questions about gun rights. For example, in the survey, respondents are asked: should Congress and the states eliminate so-called gun free zones that leave innocent citizens defenseless against terrorists and violent criminals? The anti-gun media claims that most gun owners support mandatory, national gun registration? Do you agree that law-abiding citizens should be forced to submit to mandatory gun registration or else forfeit their guns and their freedom? In addition to these value-laden questions, the sample is mainly restricted to NRA members, gun owners who cherish the second amendment of the American Constitution. Consequently, they will show high opposition toward gun control. Yet, their opinion will certainly not be representative of the American population.

Yet, surveys are not only (ab)used by think tanks and non-governmental organizations to push their demands; in recent times, political parties and candidates also use (online) surveys for political expediency or as a political stunt. For example, after taking office in January 2017, President Trump's campaign sent out an online survey to his supporters entitled "Mainstream Media Accountability Survey." In the introduction the survey directly addressed the American people—"you are our last line of defense against the media's hit jobs. You are our greatest asset in helping our movement deliver the truth to the American people." The questionnaire then asked questions like: "has the mainstream media reported unfairly on our movement?" "Do you believe that the mainstream media does not do their due diligence of fact-checking before publishing stories on the Trump administration?" or "Do you believe that political correctness has created biased news coverage on both illegal immigration and radical Islamic terrorism?" From a survey perspective, Trump's survey is the anti-example of doing survey research. The survey pretends to address the American people, whereas in fact it is only sent to Trump's core supporters. It further uses biased and value-laden questions. The results of such a biased survey is a political stunt that the Trump campaign still uses for political purposes. In fact, with the proliferation of online surveys, with the continued discussion about fake news, and with the ease with which a survey can be created and distributed, there is the latent danger that organizations try to send out surveys less to get a "valid" opinion from a population or clearly defined subgroup of that population, but rather as a stunt to further their cause.

5.3 Sampling Error

For sure, the examples described under biased surveys have high sampling errors, but even with the most sophisticated randomization techniques, we can never have a 100% accurate representation of a population from a sample. Rather, there is always some statistical imprecision in the data. Having a completely random sample would imply that all individuals who are randomly chosen to participate in the survey actually do participate, something that will never happen. The sampling error depicts the degree to which the results derived from a sample differs from the results derived from a population. For a random sample, there is a formula of how to calculate the sampling error (see Sect. 6.6). Basically, the sampling error depends on the number of observations (i.e., the more observations I have in the sample, the more precision there is in the data) and the variability of the data (i.e., how much peoples' opinions differ). For example, if I ask Germans to rate chancellor Merkel's popularity from 0 to 100, I will have a higher sampling error if I ask only 100 instead of 1000 individuals.[1] Similarly, I will have a higher sampling error, if individuals' opinions differ widely rather than being clustered around a specific value. To highlight, if Merkel's popularity values differ considerably—that is, some individuals rate her at 0, others at 100—there is more sampling error than when nearly everybody rates her around 50, because there is just more variation in the data.

5.4 Non-random Sampling Techniques

Large-scale national surveys, measuring the popularity of politicians, citizens' support for a law, or citizens' voting intentions, generally use random sampling techniques. Yet, not all research questions require a random sampling. Sometimes random sampling might not be possible or too expensive. The most common non-probabilistic sampling techniques are convenience sampling, purposive sampling, volunteer sampling, and snowball sampling,

Convenience Sampling Convenience sampling is a type of non-probabilistic sampling technique where people are selected because they are readily available. The primary selection criterion relates to the ease of obtaining a sample. One of the most common examples of convenience sampling is using student volunteers as subjects for research (Battaglia 2008). In fact, college students are probably the most frequently used group in psychological research. For instance, many researchers (e.g., Praino et al. 2013) examining the influence of physical attractiveness on the electoral success of candidates for political office use college students from their local college or university to rank the physical attractiveness of the their study subjects (i.e.,

[1] Increasing the number of participants in the sample increases the precision of the data up to a certain number such as 1000 or 2000 participants. Beyond that number, the gains in increasing precision are limited.

political candidates running for office). These students are readily available and cheap to recruit.

Purposive Sampling In purposive sampling subjects are selected because of some characteristics, which the researcher predetermines before the study. Purposive sampling can be very useful in situations where the researcher needs information for a specific target group (e.g., blond women aged 30–40). She can purposefully restrict her sample to the required social group. A common form of purposive sampling is expert sampling. An expert sample is a sample of experts with known and demonstrable expertise in a given area of interest. For example, a researcher uses an expert sampling technique, if she sends out a survey to corruption specialists to ask them about their opinions about the level of corruption in a country (Patton 1990). In fact, most major international corruption indicators such as Transparency International, the World Bank anti-corruption indicator, or the electoral corruption indicators collected by the Electoral Integrity Project are all constructed from expert surveys.

Volunteer Sampling Volunteer sampling is a sampling technique frequently used in psychology or marketing research. In this type of sampling, volunteers are actively searched for or invited to participate. Most of the internet surveys that flood the web also use volunteer sampling. Participants in volunteer samples often have an interest in the topic, or they participate in the survey because they are attracted by the money or the nonfinancial compensation they receive for their participation (Black 1999). Sometimes pollsters also offer a high monetary prize for one or several lucky participants to increase participation. In our daily lives, volunteer surveys are ubiquitous, ranging from airline passenger feedback surveys to surveys about costumer habits and to personal hygiene questionnaires.

Snowball Sampling Snowball sampling is typically employed with populations, which are difficult to access. The snowball sampling technique is relatively straightforward. In the first step, the researcher has to identify one or several individuals of the group she wants to study. She then asks the first respondents if they know others of the same group. By continuing this process, the researcher slowly expands her sample of respondents (Spreen 1992). For example, if a researcher wants to survey homeless people in the district of Kreuzberg in Berlin, she is quite unlikely to find a list with all the people who live in the street. However, if the researcher identifies several homeless people, they are likely to know other individuals that live in the streets, who again might know others.

Quota Sampling As implied in the word, quota sampling is a technique (which is frequently employed in online surveys), where sampling is done according to certain preestablished criteria. For example, many polls have an implicit quota. For example, customer satisfaction polls, membership polls, and readership polls all have an implicit quota. They are restricted to those that have purchased a product or service for customer satisfaction surveys, the members of an organization or party for

membership surveys, and the readers of a journal, magazine, or online site for readership polls. Yet, quota sampling can also be deliberately used to increase the representativeness of the sample. For example, let us assume that a researcher wants to know how Americans think about same-sex marriage. Let us further assume that the researcher sets the sample size at 1000 people. Using an online questionnaire, she cannot get a random or fully representative sample, because still not everybody has continuous access to the Internet. Yet, what she can do is to make her sample representative of some characteristics such as gender and region. By setting up quotas, she can do this relatively easily. For example, as regions, she could identify the East, the Midwest, the West, and the South of the United States. For gender, she could split the sample so that she has 50% men and women. This gives her a quota of 125 men and 125 women for each region. Once, she reaches this quota, she closes the survey for this particular cohort (for the technical details on how this works, see also Fluid Survey University 2017). Using such a technique allows researchers to build samples that more or less reflect the population at least when it comes to certain characteristics. While it is cheaper than random sampling, quota sampling with the help of a survey company can still prove rather expensive. For example, using an online quota sampling for a short questionnaire on Germans' knowledge and assessment of the fall of the Berlin Wall in 1989, which I conducted in 2014, I paid $8 per stratified survey. The stratification criteria I used were first gender balance and second the requirement that half the participants must reside in the East of Germany and the other half in the West.

5.5 Different Types of Surveys

Questions about sampling and the means through which a survey is distributed often go hand in hand. Several sampling techniques lend themselves particularly well to one or another distribution medium. In survey research, we distinguish four different ways to conduct a survey: face-to-face surveys, telephone surveys, mail-in surveys, and online surveys.

Face-to-Face Surveys Historically the most commonly employed survey method is the face-to-face survey. In essence, in a face-to-face interview or survey, the interviewer travels to the respondent's location, or the two meet somewhere else. The key feature is the personal interaction between the interviewer who asks questions from a questionnaire and the respondent who answers the interviewer's questions. The direct personal contact is the key difference from a telephone interview, and it comes with both opportunities and risks. One of the greatest advantages is that the interviewer can also examine the interviewee's nonverbal behavior and draw some conclusions from this. She can also immediately respond when problems arise during the task performance; for example, if the respondent does not understand the content of a question, the interviewer can explain the question in more detail.

Therefore, this type of survey is especially suitable when it comes to long surveys on more complex topics, topics where the interviewer must sit down with the respondent to explain certain items. Nevertheless, this type of survey also has its drawbacks: a great risk with this type of survey stems from the impact of the interviewer's physical presence on the respondents' answers. For example, slight differences about the interviewers' ways of presenting an item can influence the responses. In addition, there is the problem of social desirability bias. In particular, in the presence of an interviewer, respondents could feel more pressured to meet social norms than when answering questions. For example, in the presence of a pollster, individuals might be less likely to admit that they have voted for a radical right-wing party or that they support the death penalty. In a more anonymous survey, such as an online survey, the respondents might be more willing to admit socially frowned-upon behaviors or opinions. Face-to-face surveys are still employed for large-scale national surveys such as the census in some countries. Some sampling techniques, such as snowball sampling, also work best with face-to-face surveys.

Telephone Survey In many regards, the telephone interview resembles the face-to-face interview. Rather than personal, the interaction between interviewer and interviewee is via the phone. Trained interviewers can ask the same questions to different respondents in a uniform manner thus fostering precision and accuracy in soliciting responses. The main difference between a telephone interview and a personal interview is logistics. Because the interviewer does not have to travel to the interviewee's residence or meet her in a public location, a larger benefit from this technique is cost. Large-scale telephone surveys significantly simplify the supervision of the interviewers as most or all of them conduct the interviews from the same site. More so than face-to-face surveys, telephone surveys can also take advantage of recent technological advancements. For example, so-called computer-assisted telephone surveys (CATS) allow the interviewer to record the data directly into a computer. This has several advantages: (1) there is no need for any time-consuming transfer process from a transcription medium to a computer (which is a potential source of errors too). (2) The computer can check immediately whether given responses are invalid and change or skip questions depending on former answers. In particular, survey firms use telephone interviews extensively, thus benefiting from the accuracy and time efficiency of modern telephone surveys coupled with modern computer technology (Weisberg et al. 1996: 112–113; Carr and Worth 2001).

Mail-in Survey Mail-in surveys are surveys that are sent to peoples' mailboxes. The key difference between these self-administered questionnaires and the aforementioned methods is the complete absence of an interviewer. The respondent must cope with the questionnaire herself; she only sees the questions and does not hear them; assistance cannot be provided, and there is nobody who can clarify unclear questions or words. For this reason, researchers or survey firms must devote great care when conceiving a mail-in survey. In particular, question wording, the sequence of questions, and the layout of the questionnaire must be easy to understand for respondents (De Leeuw et al. 2008: 239–241). Furthermore, reluctant "respondents"

cannot be persuaded by an interviewer to participate in the survey, which results in relatively low response rates. Yet, individuals can take the surveys at their leisure and can think about an answer as much time as they like.

A potential problem of mail-in surveys is the low response rate. Sometimes, only 5, 10, or 20% of the sample sends the questionnaire back, a feature which could render the results biased. To tackle the issue of low response rates, the researcher should consider little incentives for participation (e.g., the chance to win a prize or some compensation for participation), and she should send follow-up mailings to increase the participants' willingness to participate. The upside of the absence of an interviewer is that the researcher does not need to worry about interviewer effects biasing the results. Another advantage of mail-in surveys is the possibility to target participants. Provided that the researcher has demographic information about each household in the population or sample she wants to study, mail-in surveys allow researchers to target the type of individuals she is most interested in. For example, if a researcher wants to study the effect of disability on political participation, she could target only those individuals, who fall under the desired category, people with disabilities, provided she has the addresses of those individuals.

Online Survey Online surveys are essentially a special form of mail in surveys. Instead of sending a questionnaire by mail, researchers send online surveys by email or use a website such as SurveyMonkey to host their questionnaire. Online surveys have become more and more prominent over the past 20 years in research. The main advantage is costs. Thanks to survey sites such as SurveyMonkey or Fluid Survey, everybody can create a survey with little cost. This also implies that the use of online surveys is not restricted to research. To name a few, fashion or sports magazines, political parties, daily newspapers, as well as radio and television broadcasting stations all use online surveys. Most of the time, these surveys are open to the interested reader, and there are no restrictions for participation. Consequently, the answers to such surveys frequently do not cater to the principles of representativeness. Rather, these surveys are based on a quota or convenience sample. Sometimes this poses little problems, as many online surveys target a specific population. For example, it frequently happens to researchers who publish in a scientific journal with publishing houses such as Springer or Tyler and Francis that they receive a questionnaire asking them to rate their level of satisfaction with the publishing experience with the specific publishing house. Despite the fact that the responses to these questionnaires are almost certainly unrepresentative of the whole population of scientists, the feedback they receive might give these publishing houses an idea which authors' services work and which do not work and what they can improve to make the publishing experience more rewarding for authors. Yet, online surveys can also be more problematic. They become particularly problematic if an online sample is drawn from a biased sample to draw inferences beyond the target group (see Sect. 5.2).

5.6 Which Type of Survey Should Researchers Use?

While none of the aforementioned survey types is a priori superior to the others, the type of survey researchers should use depends on several considerations. First, and most importantly, it depends on the purpose of the research and the researcher's priorities. For instance, many surveys, including surveys about voting intentions or the popularity of politicians, nearly by definition require some national random telephone and face-to-face survey or online samples. Second, surveys of a small subset of the population, who are difficult to reach by phone or mail, such as the homeless, similarly require face-to-face interactions. For such a survey, the sample will most likely be a nonrandom snowball or convenience sample. Third, for other surveys more relevant for marketing firms and companies, an online convenience sample might suffice to draw some "valid" inferences about customer satisfaction with a service or a product.

There are some more general guidelines. For one, online surveys can reach a large number of individuals at basically no cost, in particular if there are no quotas involved and if the polling firm has the relevant email addresses or access to a hosting website. One the other hand, face-to-face and telephone interviews can target the respondents more thoroughly. If the response rate is a particularly important consideration, then personal face-to-face surveys or telephone surveys might also be a good choice. The drawback to these types of surveys is the cost; these personal surveys are the most expensive type of survey (with telephone surveys having somewhat lower costs than face-to-face surveys). For research questions where the representativeness or randomness of the sample is less of an issue, or for surveys that target a specific constituency, mail-in or online surveys could be a rather cost-effective means. In particular, the latter are more and more frequently used, because through quota sampling techniques, these surveys can also generate rather representative samples, at least according to some characteristics. However, as the example of the Trump survey illustrates, online surveys can also be used for political expediency. That is why the reader, before believing any of these survey results, in particular, in a nonscientific context, should inform herself about the sampling techniques, and she should look at question wording and the layout of the survey.

5.7 Pre-tests

5.7.1 What Is a Pre-test?

Questionnaire design is complex; hardly any expert can design a perfect questionnaire by just sitting at her desk (Campanelli 2008: 176). Therefore, before beginning the real polling, a researcher should test her questions in an authentic setting to see if the survey as a whole and individual questions make sense and are easily understood by the respondents. To do so, she could conduct the survey with a small subset of the original sample or population aiming to minimize problems before the actual data

collection begins (Krosnick and Presser 2010: 266 f.; Krosnick 1999: 50 f.) Such preliminary research or pre-tests make particular sense in five cases.

First, for some questions researchers need to decide upon several possible measurements. For example, for questions using a Likert scale, a pre-test could show if most individuals choose the middle category or the do not know option. If this is the case, researchers might want to consider eliminating these options. In addition, for a question about somebody's income, a pre-test could indicate whether respondents are more comfortable answering a question with set income brackets or if they are willing to reveal their real income.

Second, questions need to be culturally and situationally appropriate, easy to understand, and they must carry the inherent concept's meaning. To highlight, if a researcher conducts a survey with members of a populist radical right-wing party, these members might feel alienated or insulted if she uses the word radical right or populist right. Rather, they define themselves as an alternative that incorporates common sense. Normally, a researcher engaging in this type of research should already know this, but in case she does not, a pre-test can alert her to such specificities allowing her to use situationally appropriate wording.

Third, a pre-test can help a researcher discover if responses to a specific item vary or not. In case there is no variance in the responses to a specific question at all, or very little variance, the researcher could think about omitting the issue to assure that the final questionnaire is solely comprised of discriminative items (items with variance) (Kumar 1999: 132). For example, if a researcher asks the question whether the United States should leave NATO and everybody responds with no, the researcher might consider dropping this question, as there is no variation in answers.

Fourth, a pre-test is particularly helpful if the survey contains open-ended questions and if a coding scheme for these open-ended questions is developed alongside the survey. Regardless of the level of sophistication of the survey, there is always the possibility that unexpected and therefore unclassifiable responses that will be encountered during the survey arise. Conducting a pre-test can reduce this risk.

Fifth, and more practically, a pre-test is especially recommendable if a group of interviewers (with little experience) run the interviews. In this case, the pre-test can be part of the interviewers' training. After the pre-test, the interviewers not only share their experiences and discuss which questions were too vague or ambiguous but also share their experience asking the questions (Behnke et al. 2006: 258 f.).

After the pre-test, several questions might be changed depending on the respondents' reactions (e.g., low response rates) to the initial questionnaire. If significant changes are made in the aftermath of the pre-test, the revised questions should also be retested. This subsequent pre-test allows the researcher to check if the new questions, or the new question wordings, are clearer or if the changes have caused new problems (for more information on pre-testing, see Guyette 1983, pp. 54–55).

5.7.2 How to Conduct a Pre-test?

The creation of a questionnaire/survey is a reiterative process. In a first step, the researcher should check the questions several times to see if there are any uncertain or vague questions, if the question flow is good, and if the layout is clear and appealing. To this end, it also makes sense for the researcher to read the questions aloud so that she can reveal differences between written and spoken language. In a next step, she might run the survey with a friend or colleague. This preliminary testing might already allow the researcher to identify (some) ambiguous or sensitive questions or other problematic aspects in the questionnaire. Then, after this preliminary check, the researcher should conduct a trial or pre-test to verify if the topic of the questionnaire and every single question are well understood by the survey respondents. To conduct such a pre-test, researchers normally choose a handful of individuals who are similar to those that will actually take the survey. When conducting her trial, the researcher must also decide whether the interviewer (if he does not run the pre-test himself) informs the respondent about the purpose of the survey beforehand. An informed respondent could be more aware of the interviewing process and any kinds of issues that arise during the pre-test. However, the flipside is that the respondent may take the survey less seriously. The so-called respondent debriefing session offers a middle way addressing the described obstacles. In a first step, the pre-test is conducted without informing the respondent beforehand. Then, shortly after the end of the pre-test, the interviewer asks the respondent about obstacles and challenges the respondent encountered in the course of the pre-test (Campanelli 2008: 180).

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Further Reading

Constructing and Conducting a Survey

Kelley, K., Clark, B., Brown, V., & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in Health Care*, *15*(3), 261–266. The short article provides a hands-on step-by-step approach into data collection, data analysis, and reporting. For each step of the survey process, it identifies best practices and pitfalls to be avoided so that the survey becomes valid and credible.

Krosnick, J. A., Presser, S., Fealing, K. H., Ruggles, S., & Vannette, D. L. (2015). *The future of survey research: Challenges and opportunities*. The National Science Foundation Advisory Committee for the social, behavioral and economic sciences subcommittee on advancing sbe survey research. Available online at: http://www.nsf.gov/sbe/AC_Materials/The_Future_of_Survey_Research.pdf. Comprehensive reports on the best practices, challenges, innovations, and new data-collection strategies in survey research.

Rea, L. M., & Parker, R. A. (2014). *Designing and conducting survey research: A comprehensive guide*. San Francisco: Wiley. A very comprehensive book into survey research consisting of three parts: (1) developing and administering a questionnaire, (2) ensuring scientific accuracy, and (3) presenting and analyzing survey results.

Internet Survey

Alessi, E. J., & Martin, J. I. (2010). Conducting an internet-based survey: Benefits, pitfalls, and lessons learned. *Social Work Research*, *34*(2), 122–128. This text provides a very hands-on introduction into the conduct of an Internet survey with a special focus on recruitment strategies and response rate.

De Bruijne, M., & Wijnant, A. (2014). Improving response rates and questionnaire design for mobile web surveys. *Public Opinion Quarterly*, 78(4), 951–962. This research note provides some practical lessons how the response rate and data quality can be improved for Internet surveys especially constructed for smartphones.