

The chapters in this book describe many of the important considerations in conducting survey research, from sampling and questionnaire design to determining the most effective mode of data collection and analysis. But underlying all these considerations is the question of ethics in survey research. The most elegant data collection design or most sophisticated statistical analysis of survey data must take into account a variety of ethical concerns, including protecting human subjects from all forms of abuse, guarding the privacy of information, and presenting results that accurately reflect the information provided by respondents.

3.1 Ethical Considerations I: Historical Foundations

The concern over ethical considerations in survey research can be traced to reported abuses of human subjects in medical experimentation that took place during the Second World War. The Nuremberg War Crime Trials and the resultant Nuremberg Code established many of the principles that form the basis for various codes of research, including the voluntary consent of

human subjects, the requirement to avoid unnecessary physical and mental suffering, and the ability of subjects to end their participation in a study.

One study that is often cited as an example of the need for standards in the conduct of research is the Tuskegee Study of Untreated Syphilis in the Negro Male, often referred to as the Tuskegee Syphilis Study. In 1932, the Public Health Service, working with the Tuskegee Institute, began a study to record the natural history of syphilis in hopes of justifying treatment programs for blacks (<http://www.cdc.gov/tuskegee/index.html>). The study initially involved 600 black men and was conducted without any informed consent on the part of participants. This research was originally designed to last for 6 months, but actually went on for 40 years. Although the men agreed to be examined and treated, they were not given all the facts needed to provide informed consent. More importantly, the participants who had syphilis were never given sufficient treatment for their disease. In 1947, when penicillin became the widely accepted treatment for syphilis, the option of such treatment was not offered to these subjects.

Another set of studies that raised questions about the ethical aspects of social science research were those conducted by Milgram (1974). Milgram's interest, sparked by the actions of Nazi war criminals whose defense was that they "were just following orders," was in why so many people seemed to obey

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directions from an authority figure. Although Milgram's experiments involved a number of design variations, the central element of these studies was a "shock generator" with voltage switches ranging in 15 V increments from 15 to 450 V. These switches included labels such as "Moderate" (75–120 V) and "Strong" (135–180 V). The switches from 375 to 420 V were labeled "Danger: Severe Shock," while the 435 and 450 V switches were labeled "XXX" (Milgram 1974, p. 28).

Participants in these experiments were told that the study was about "memory and learning." The procedures involved having the subject "teach" a "learner"/"student" (who was described as another subject, but who in reality was working with the experimenter) word pairs on which the learner would then be tested. When the learner made a mistake, the subject would administer a shock and with each mistake would increase the shock level by 15 V. Although the results of these experiments were both controversial and somewhat surprising in terms of the percentage of subjects who administered the maximum voltage, the critical consideration from an ethical perspective involves the deception of subjects.

Subjects in these experiments were deceived in that they were led to believe that the "learner" was a subject like themselves and that it was only by chance that they were the one who was the teacher rather than the learner. They were also deceived into believing that they were administering a shock, when no such shock was actually delivered. In some cases, the lack of a response by the learner after the administration of a "shock" may have led the subject to believe that they had seriously injured or even killed the learner (Milgram 1974, p. 88).

As a response, the Department of Health, Education, and Welfare issued comprehensive regulations for the protection of human subjects—45 Code of Federal Regulations 46, subpart A. This set of regulations, commonly referred to as 45 CFR 46, forms the basis for protection of human participants in research, and its role in safeguarding the rights of human subjects will be noted throughout this chapter.

3.1.1 The Belmont Report

Another important event in reaction to these perceived abuses of human subjects was the 1974 formation of a National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The Commission's 1979 *Belmont Report* established the guidelines to be followed in conducting research with human subjects.

As noted in the *Belmont Report*, basic ethical principles refer to those general judgments that serve as a basic justification for the many particular ethical prescriptions and evaluations of human actions. Three basic cultural ethical principles particularly relevant to research involving human subjects are *respect for persons*, *beneficence*, and *justice*.

The *Belmont Report* explains that respect for persons means that individuals should be treated as autonomous agents who are capable of deliberation about personal goals and acting under the direction of such deliberation. Moreover, since not every individual—for example, children or the mentally incompetent—is capable of self-determination, the principle of respect for persons dictates that they be afforded special protection from harm when research involving such groups is considered.

The application of the principle of respect for persons leads to the requirement that researchers provide potential subjects with adequate information about what is involved in participation, including potential risks and benefits and the requirement that they obtain voluntary informed consent from participants. Information provided to participants should include the research procedures, their purposes, risks and anticipated benefits, alternative procedures, and a statement offering the subject the opportunity to ask questions and to withdraw at any time from the research. Agreement to participate should be given voluntarily, and such consent obtained without coercion, such as from a person in a position of authority urging cooperation or offering an excessive incentive to participate.

In sum, the subjects should understand clearly the range of risk and the voluntary nature of participation.

The *Belmont Report* describes beneficence as not only respecting people's decisions and protecting them from harm, but also making efforts to secure their well-being. In conducting research, investigators should not only do no harm but also maximize possible benefits while minimizing possible harms. In applying this principle, researchers should consider other ways of obtaining the benefits sought in the research. In addition, beneficence requires that the benefits of the proposed research outweigh the risks to subjects. Participation may involve risks of psychological harm, physical harm, legal harm, social harm, and economic harm, while benefits may accrue to individual subjects, their families, special population subgroups, or society at large. Although risk to subjects cannot be entirely eliminated, it should be minimized, and those designing and reviewing the conduct of research must carefully consider the balance of risks to benefits in studies involving human subjects.

The principle of justice requires researchers to show fairness in selecting participants. In designing a study, a researcher must consider what groups will receive the benefits of the research and which will bear its burdens. The *Belmont Report* identifies two levels of justice, the social and the individual. As noted in this report, individual justice requires that researchers "should not offer potentially beneficial research to some patients who are in their favor or select only 'undesirable' persons for risky research." Social justice requires that researchers not draw a distinction "between classes of subjects that ought, and ought not, participate in any kind of research, based on the ability of members of that class to bear burdens and on the appropriateness of placing further burdens on already burdened persons." In the context of research, justice does not imply that all groups are considered equally for participation in research. Classes of subjects, such as adults, may be preferred as research subjects over classes that are already burdened, such as children or

institutionalized populations, and researchers should avoid employing subjects from potentially vulnerable populations simply because they may be more readily available in settings where research is conducted.

As noted previously, the *Belmont Report* led to the development of the federal policy for the protection of human subjects, 45 CFR 46. Fifteen federal departments and agencies have adopted the same language—known as the Common Rule—for addressing this issue (<http://www.hhs.gov/ohrp/humansubjects/commonrule/index.html>). These regulations consist of four subparts: subpart A, which establishes the basic rules for conducting research with human subjects; subpart B, which provides additional protections for pregnant woman, fetuses, and neonates; subpart C, which provides additional protections for prisoners; and subpart D, which provides additional protections for children.

The Common Rule also requires that research conducted at any institution that receives federal support must be reviewed and approved by an Institutional Review Board (IRB), which is a committee responsible for reviewing the ethical aspects of proposed research. Although there are variations in how each institution's IRB operates, there are three general types of review conducted by these committees. (1) Full board review, which applies to research presenting possible risk to subjects, for example drug or medical device trials or surveys involving children or impaired populations. (2) Expedited review, which applies to studies that present minimal risk to subjects, defined as "the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those encountered in daily life or in the performance of routine physical or psychological examinations or tests" (<http://ohsr.od.nih.gov/guidelines/45cfr46.html>). For example, expedited review would apply to studies that involved the collection of blood samples or moderate exercise by healthy volunteers. (3) Exempt review, in which the involvement of human subjects does not involve children or "at risk" populations and in which participation involves, for example, the use of survey

procedures in which data are recorded in a manner in which subjects cannot be identified and for which any disclosure of an individual's responses would not place them at risk of criminal or civil liability or be damaging to their financial standing, employability or reputation. Many of the studies using survey research that are currently conducted in the United States meet the criteria for exempt review.

3.2 Ethical Considerations II: Data Collection and Human Subjects

45 CFR 46 establishes the formal rules under which investigators should conduct research involving human subjects. A number of practical implications for the ethical conduct of survey research follow from these general principles, including:

1. *Respondents Should Provide Willing and Informed Consent*

- Survey participants should understand that their participation is voluntary and that they are free not to answer any question they do not want to.
- Participants should also be aware that they can withdraw from the study at any time.
- Participants should be informed that declining to participate or withdrawing from the study will not have any negative consequences. This consideration is particularly important in situations where the respondent may have some type of relationship with the survey sponsor, such as in an evaluation of a service delivery program, in which a potential respondent may be concerned that failure to cooperate might adversely affect the services they receive.
- The request to participate should include a realistic description of potential benefits. Many survey projects provide benefits for society at large and provide minimal, if any, direct benefits to participants; potential respondents should be informed of this.
- Any costs to participants should be minimized. The survey should be designed so that participation does not result in any

additional expenses for subjects. One cost involved in any survey is the time required to complete the interview, and ethical design considerations dictate that data collection procedures strive to minimize the time required of subjects. Any potential costs to participants, including the time required to complete the interview, should be made clear when making the request for participation.

- In conducting research with populations in which comprehension may be limited, such as children or persons with a mental disability, potential participants should be given an opportunity to choose to participate, and assent obtained. Permission to participate should also be obtained from a third party who understands the potential subject's situation and is able to act in their best interest.

2. *Do No Harm to Participants*

- Survey participants should understand that they are free not to answer any question they do not want to. All participation is voluntary, and if respondents choose not to answer a question—for any reason—it is their right as research participants.
- Survey participation should involve minimum disruption to respondents. Interviews should be conducted at a time—and for face-to-face interviews, in a place—that is convenient for respondents. Participation also should not require respondents to retrieve extensive records or background materials. Survey designers should also be aware of the time that subjects are giving in providing information, and not make the questionnaire longer than required to test their hypotheses and address the purposes of the research.
- Any potential risk to participants should be minimized. Physical harm is rarely an issue in survey participation, although in some health surveys blood samples may be taken that could result in physical discomfort. Emotional harm may be caused by asking sensitive questions or about situations, such as physical abuse, that cause respondents to become

uncomfortable. The researcher's obligation is to make respondents not feel embarrassed, ridiculed, belittled, or generally subjected to mental distress (Sudman 1998).

- In many ways, the principle of "doing no harm to participants," may be summarized as minimizing overall respondent burden, that is the length of the instrument and the difficulty of the task (Singer and Presser 2008). Researchers should strive to limit what they request of participants, both in terms of the amount of information requested and the difficulty involved in accessing and providing such information; they should conduct data collection at a time and place that is most convenient for respondents; and should avoid situations that may pose any physical harm or mental distress to participants.

3. *Minimize Deception*

- Individuals who are asked to participate in a survey have the right to know about the study and not be deceived. Participants should be provided with (a) information on the purpose of the research; (b) the sponsor of the research; and (c) the approximate length of the interview.
- While the integrity of the research sometimes requires deception of the respondent, such deception should be kept to a minimum. If it is absolutely necessary to use deception to test the hypothesis under consideration, a rationale for such deception must be included in the materials reviewed by the IRB, which will carefully scrutinize any such requests.
- In those instances in which survey respondents are deceived as part of the research, they must be thoroughly debriefed at the end of data collection, with an explanation provided as to how they were deceived and why this was necessary for the purposes of the research.

4. *Protect Respondent Confidentiality*

Individuals who participate in a survey have the expectation that they are doing so in confidence and that the information in the reports and data files from the survey will be

produced in a way that will not allow any individual's responses to be identified. There is a distinction between anonymity and confidentiality. Anonymous responses are those obtained from survey participants when there is no way to link answers to the individual respondent. In many survey situations, the investigator has data that could potentially identify the respondent such as a telephone number and information on background characteristics such as age, race, and sex, or even the person's name in studies based on list samples. Ethical survey practice requires that such information be treated in a way that assures that individuals cannot be linked to their responses. To protect confidentiality, survey researchers should:

- Require that all personnel working on a project, from the principal investigator through all interviewers, coders, and data managers, sign a pledge of confidentiality that explains the purpose and importance of keeping all information confidential, and makes clear that any breach of confidentiality is grounds for termination of employment.
- In studies in which electronic files that are used for sampling or contacting respondents contain identifying information, they should be password protected. If such files are stored on a network, the location on which they are stored should also be password protected so that only authorized personnel can access them. Any electronic sharing of such files should also be protected to prevent any unintentional disclosure of information related to study participation.
- Any information, such as name, address, or telephone number that could potentially link survey responses to an individual should be removed from the data files used in analysis. In some studies it is necessary to link the survey results to other information. For example, in a program evaluation in which survey information on program satisfaction is collected from respondents it may be necessary to link these data with administrative records, such as length of time in the

program, types of services received and how they were delivered, and the reason why such services are needed. In such cases, a unique identifier should be created for each individual that allows the data from these multiple sources to be linked. Information on how data from multiple sources are linked should be limited to a few people (for example, the principal investigator and the data processing manager) in order to minimize the potential for violating confidentiality.

For some studies in which researchers consider that violation of confidentiality may produce a high risk for participants, the investigator may seek a *Certificate of Confidentiality* from the Department of Health and Human Services or the Department of Justice. Such a certificate helps researchers guard the privacy of respondents by protecting against compulsory legal demands, such as court orders and subpoenas, for identifying information or identifying characteristics of a research participant. Even with a Certificate of Confidentiality a researcher may disclose information such as child abuse, reportable communicable diseases, or possible threat to the participant or to others, provided that the potential for such disclosure is provided to respondents in the process of obtaining informed consent.

5. *The Issue of Refusal Conversions*

One problem of continuing concern to survey researchers is that of declining response rates in surveys of all types (Curtin et al. 2005; Singer 2006). The effect of non-response on the representativeness of survey results has been extensively investigated and various approaches for minimizing the potential bias have been proposed (Groves and Couper 1998; Keeter et al. 2006; Olson 2006). One technique that has been fairly widely adopted—at least among academic survey researchers—is to attempt refusal conversions; that is, to contact households that initially refuse to participate and attempt to persuade them to cooperate (Tarnai and

Moore 2008, p. 381). Refusals can be classified as “hard” [“If you contact me again, I’m calling my attorney;” “Don’t call this (expletive) number, you (expletive)] or “soft” (“I’m not really interested in your study;” “We don’t have the time for any survey”; or a refusal by a person who is potentially not the respondent). In the case of soft refusals, it is believed that contacting the household at a different time (e.g., when they may not be quite so busy), with a different interviewer (generally a more experienced person trained in refusal conversion techniques), and with a different approach (e.g., emphasizing the importance of the study) will lead to a successfully completed interview. Such conversion attempts are successful in obtaining a completed interview between 10% and 40% of the time (Tuchfarber et al. 1979; Miller and Wedeking 2003; Lavrakas 2010).

The ethical question is one of whether such conversion attempts should be made. Most informed consent procedures include a statement to the effect of, “Your cooperation is voluntary, and you may stop at any time ...,” and as a result some researchers have raised ethical concerns about refusal conversion attempts. While conversion attempts with hard refusals should not be made (and, in any case, are unlikely to be productive), the situation with soft refusals is more ambiguous. In many cases, such refusals are not reflective of an unwillingness to participate in the study, but more a reaction to the conditions at the time of the contact, for example, immediately after a disagreement with another member of the household, when respondents are eating dinner or engaged in some other family activity, or when the individual is particularly busy. As noted previously, in many cases where respondent selection within households is used, the person initially contacted is not the person who would be the selected respondent. In these situations, there is general agreement that the improvement in the quality of the data resulting from refusal conversion attempts outweighs the potential harm to participants,

and refusal conversion attempts are frequently included as part of the survey protocol, particular those done by academic survey researchers.¹ For further discussion on refusal conversion see Stoop and Harrison, Chap. 9.

6. *The Use of Incentives*

Another reaction to the issue of declining survey response rates has been the increased use of incentives to foster cooperation (Singer and Bossarte 2006). The ethical question is whether, and under what conditions, the use of monetary incentives to induce participation might be coercive. As noted by Berry et al. (2008), while incentives can be seen as a useful approach that is consistent with the goal of encouraging social cooperation, which is valuable (so perhaps payment should be unrestricted), it may also undermine the requirement that research participation be voluntary. The prospect of economic reward may lead people to take on risks that are not consistent with their true values and preferences. Furthermore, providing incentives may undermine the principle of fair treatment if it leads to disadvantaged persons participating in research at a higher rate than wealthier subjects. They also note a concern that incentive payments may have undue influence on IRBs, in that to the extent they consider the payment as an intrinsic benefit of the research, they may allow higher levels of risk than they should. While there does not appear to be a generally accepted approach to the payment of research incentives to participants, any compensation should not be of a nature that it interferes with the ability of potential subjects to give informed consent, without the possibility of coercion or undue influence, and any study that involves the payment of direct compensation to minors should be reviewed with great scrutiny. Toepoel in Chap. 13 discusses the effects of incentives in survey

participation, completion, and reliability of results with further detail.

In sum, the principles of respect for persons, beneficence, and justice established in the *Belmont Report* provide the framework for survey researchers to follow in their interactions with human subjects. Adherence to these principles is essential to the ethical conduct of survey research.

3.3 Ethical Considerations III: Survey Design

To this point the discussion of ethical considerations in survey research has focused on aspects of the survey process involving interaction with human subjects. We next focus on ethical considerations in the design of research.

Many of the factors considered in the ethical design of research could be thought of as “best practices,” in that the ethics of conducting a survey demand that it be well designed, and much of the discussion in this section relies on the American Association for Public Opinion Research’s (AAPOR) “Best Practices for Survey and Public Opinion Research” (<http://www.aapor.org/Content/aapor/Resources/ForResearchers/BestPractices/default.htm>).

1. *Mode of Data Collection.* One of the initial considerations in any study using a survey is choosing the mode of data collection. The basic modes of data collection—face-to-face; telephone; mail; other self administered; and the Internet—each has advantages and disadvantages related to factors such as cost, population coverage, and amount and types of data that can be collected. Many surveys use a mixed-mode, employing different approaches in attempting to collect data from respondents (Dillman et al. 2009). Since all surveys have budgetary and other resource constraints, choosing a mode of data collection generally requires some consideration of minimizing survey errors versus minimizing survey costs (Groves 1989).
2. *Sample Selection.* Once the mode of data collection has been established, the next step

¹ For more information on how one survey organization handles refusal conversion attempts, see the University of Indiana’s Survey Research Center website at http://www.indiana.edu/~csr/phone_surveys.html.

in the survey process involves sample selection (see Hibberts et al. Chap. 5). Since surveys are used to collect information from some small fraction of a population in order to make inferences about this population, a key element in sample selection is *representativeness*. Selecting a representative sample involves the use of some form of *random or probability sampling*, such as simple random sampling, stratified sampling, cluster sampling, or random-digit dialing, and the type of sample used is largely dependent on the mode of data collection, the information available on potential respondents, and the resources available for conducting the study. The results of a survey in which the sample has been selected using probability methods can be reliably projected to the larger population with a known level of precision. It is critical that the sampling frame (the list from which the sample is selected) is complete; to the extent that it is not, those individuals who are not included have no possibility of being included in the sample, and the potential for bias is increased. Any “sample” that depends on volunteers or on individuals who select themselves into the study cannot ethically be reported as representing some larger population. For further discussion on the limitations of each sampling technique see Chap. 5 by Hibberts, Johnson and Hudson.

3. *Questionnaire Design*. In designing a survey questionnaire there are a myriad of factors to be considered, including whether a question should be asked as an open- or closed- item, whether it should include a filter question or not, the type of response format, the number and order of alternatives, the tone of wording, and the context in which the question is asked (Schuman and Presser 1981). Much research has shown that even slight variations in question wording or the context in which a question is asked can affect the results of a survey (Bishop et al. 1978, 1984). Both Chap. 6, by Stalans, and Chap. 7, by Gideon provide a thorough account of the importance of introduction, framing, and questionnaire designs on response rate, response accuracy, and response quality.

Survey researchers are aware of the impact that question wording can have on respondents and can use this information to influence results (Bishop 2004). The ethical challenge is to design a questionnaire that is unbiased and does not present questions in a way that will provide support for the hypothesis the researcher is testing or produce results that are desired by a research client. More than 60 years ago, Payne (1951) developed a “concise” checklist of “do and don’ts” for constructing survey questions, and the theme of these suggestions is that the question should reflect the substantive issue being addressed. Techniques such as presenting both sides of issue, providing balanced alternatives, considering the context in which the question is presented, and not using response choices that may increase response set bias are some of the elements that a survey researcher should consider in the development of a questionnaire. Cognitive methods, such as “think-aloud” interviews, can be used to evaluate the questions and a thorough pretest of the questionnaire and field procedures should be done in order to identify questions that are being misunderstood or are difficult for respondents, and to detect any potentially biasing effects in the questionnaire.

4. *Data Collection*. The well-designed survey will not produce quality results if the design elements are not executed properly. For face-to-face and telephone interviews, the first step involves interviewer training. Interviewers should be instructed in how to select respondents for the study and to foster their cooperation. They should also be given an item-by-item review of the questionnaire to learn how the questions should be read, what probes, if any, should be used and what definitions or explanation of terms can be provided to respondents. This review should be followed by a mock interview, practice interviews, and a debriefing session, with the goal of minimizing interviewer-to-interviewer variation in the administration of the survey.

The declining response rate for all types of surveys was mentioned previously, and a key consideration in the data collection process is

achieving a high response rate. From an ethical perspective, if you choose a sample from a complete sampling frame, select the sample using strict probability methods, but then collect information from a relatively small percentage of the respondents selected, can you substantively (and ethically) maintain that the results are representative of the population? This concern over response rate has led survey organizations to put more emphasis in interviewer training on gaining respondent cooperation and to implement strategies, such as pre-notification letters, multiple contact attempts, multi-mode approaches, the use of incentives, and customized survey introductions that should produce a higher response rate. But such techniques must be employed in the context of the protection of human subjects, who voluntarily participate in the research and who have the right to refuse to be included in a study and to terminate their participation at any time.

An additional consideration in data collection is the possibility of faked or fraudulent interviews, in which an interviewer fabricates all or part of an interview. The rate of falsification is generally considered to be quite low and can be minimized by observational methods or monitoring of interviewers, recontacting a sample of respondents for verification and through data analytic methods (Groves et al. 2004). Even more troubling from an ethical perspective is the fabrication or manipulation of survey results, as was alleged in a case involving surveys conducted for the *Daily Kos* (http://www.pollster.com/blogs/daily_kos_research_2000_a_trou.php?nr=1; http://www.huffingtonpost.com/2011/05/27/daily-kos-research-2000-lawsuit_n_867775.html). In addition to the obvious violation of ethical principles that fraud entails, the revelation of such fabricated research may raise questions among the public concerning the integrity of survey research and lead to increased public mistrust of survey results.

Over the past decade, the number of surveys conducted using the Internet has increased substantially and this mode of data collection presents several ethical challenges beyond those found with other modes (Nosek et al. 2002).

Since Internet surveys typically do not involve subject interaction with a researcher, how is informed consent obtained? Should special procedures be developed or—as is the case with many mail surveys—should the information needed for informed consent be provided in the invitation to participate, with consent consisting of the individual's completion of the survey? Relatedly, how does a researcher ensure that the person selected to participate is the one who actually provides the responses? Requiring identifying information for participation involves a tradeoff with anonymity and the confidentiality of responses and does not completely eliminate the problem. More specifically, how does an Internet-based survey assure that minors are not participating, since this group is provided with additional human subject protections that cannot readily be verified on the Internet? In addition, Internet-based surveys should provide selected respondents with a username and/or password for accessing the survey, and allow the survey to be completed only once by each user, to prevent an individual from participating multiple times. In Internet surveys that are “open subscription” or which use uncontrolled instrument distribution in recruiting respondents there is a possibility that an individual or group may participate more than once, potentially biasing the results.

Since information that is provided in an Internet survey must be transmitted between the devices on which the participants are entering their responses and the server on which the information is being stored, they should be encrypted so that they would be meaningless to anyone who would intercept them during transmission. Data should be transmitted to and stored on a secure server, with access password protected and limited to a small number of research personnel.

3.4 Ethical Considerations IV: The Reporting of Results

The effort involved in collecting data using ethical principles involving human subjects and ethical design principles to assure the validity of

the data can be undermined by reporting the results in a manner that does not match these standards. In analyzing and reporting the results of surveys there are a number of ethical principles that should be followed.

An excellent summary of these principles is provided in AAPOR's "Best Practises," which states that, "...excellence in survey practice requires that survey methods be fully disclosed and reported in sufficient detail to permit replication by another researcher and that all data (subject to appropriate safeguards to maintain privacy and confidentiality) be fully documented and made available for independent examination" (<http://www.aapor.org/Content/aapor/Resources/ForResearchers/BestPractices/default.htm>). In effect, ethical reporting of survey results requires that information be provided that will allow other researchers to evaluate and replicate the research and enable consumers to understand how the data were collected and what conclusions the study reached.

Among the elements that should be included in survey reports are the sponsorship of the survey, the questionnaire or the full text of the questions asked, and a description of the sample design (a complete list of the recommended elements to be included in survey reports can be found at (<http://www.aapor.org/Content/aapor/Resources/ForResearchers/BestPractices/default.htm>)).

One key component of any reporting—and one that is often missing—is the response rate. Organizations, such as AAPOR and the Council of American Survey Research Organizations, have developed standard definitions and procedures for calculating response rates. Given the concern over response rates described previously, the availability of comparable measures of response rates across surveys provides one indicator of survey quality or the extent to which researchers were able to obtain cooperation from those selected to participate. Despite the importance of this measure many surveys, particularly those that are Internet-based or telephone surveys that use the interactive voice response (IVR) method of data collection, fail to report this information.

A technique that survey researchers frequently employ to adjust for potential bias resulting from non-coverage or non-response is

weighting the data, generally in an attempt to have the characteristics of survey respondents match more closely some known characteristics of the population (Battaglia et al. 2006). Any weights used in the analysis should be reported, as should information on the characteristics on which the respondents differed from the population and any analysis the researchers performed to try to account for these differences.

Ethical survey reporting also requires that the findings and conclusions are consistent with the information provided by respondents. Data should be analyzed using statistical techniques that are appropriate for the type of data collected. The number of cases on which any analysis is based should be provided, together with the sampling errors associated with the reported statistics.

In extensive surveys it may not be feasible to report completely on all aspects of the study, but the results should be presented in a way that represents a balanced picture of the findings; investigators should not report only those findings that support their hypothesis or highlight those that are most favorable to the sponsor of the survey.

Any limitations of the data, including those related to non-coverage of the population, measurement error, non-response bias, and other factors that may affect the quality of the data should be acknowledged. Any potential conflicts of interest that may influence the interpretation of the results should be reported. When study results are released, ethical survey researchers should be willing to provide detailed descriptions of the procedures used in the study and to answer questions about the study that other researchers or interested individuals may have.

3.5 The Role of Professional Organizations in Ethical Survey Research

In terms of the ethical treatment of human subjects, survey researchers are subject to the oversight of Institutional Review Boards that review research protocols and assure that the rights of survey participants are protected. With respect to

the ethical design of a survey, however, no similar review group exists. While the findings of survey researchers are certainly subject to peer review when submitted for publication in an academic journal, this review process is distinct from the type of standards that we have described as constituting ethical survey design.

To some extent, this function is performed by professional associations, such as AAPOR, CASRO, the American Sociological Association, and the Market Research Association. Professional associations such as these have developed codes of ethics to cover a variety of issues (Kennedy 2001). Although these codes vary significantly in terms of the specific issues they address, they each serve to establish guidelines for the conduct of research to which their members should adhere.

In general, these codes address the conduct of research with human subjects. A section of the AAPOR code, for example, establishes principles of professional responsibilities in our dealings with people, including doing no harm to subjects, the voluntary nature of participation, and the confidentiality of information. Beyond this, the AAPOR code addresses principles of professional practice, such as developing research designs and using analytic methods that assure the reliability of results, and establishes standards for disclosing results, including reporting the sponsor of the survey, the sample design, the questions used, and the precision of the results (http://www.aapor.org/AAPOR_Code_of_Ethics/4249.htm).

In comparison to the AAPOR code, the Code of Ethics of the American Sociological Association (ASA) is much more extensive. In addition to addressing issues related to the protection of human subjects, the conduct of research, and the disclosure of results, the ASA code addresses issues related to, among other things, nondiscrimination, non-exploitation, harassment, employment decisions, plagiarism, and authorship credit (<http://www.asanet.org/images/asa/docs/pdf/CodeofEthics.pdf>).

The CASRO Code of Standards and Ethics for Survey Research establishes four fundamental ethical principles for research: respondents

should be (1) willing participants; (2) informed about the survey's intentions and how their personal information and survey responses will be used and protected; (3) sufficiently satisfied with the survey experience; and (4) willing to participate again in survey research (<http://www.casro.org/pdfs/10CodeOfStandards.pdf>). The CASRO code places a great deal of emphasis on privacy and the confidentiality of information, and gives particular importance to Internet research and data security, especially e-mail solicitation and the use of "active agent technology," or software or hardware devices that capture the behavioral data about subjects in background mode.

Different professional associations also vary in the extent to which they have power to enforce the provisions of their codes. Some have no enforcement procedures and have codes that serve as guidelines to the conduct of research. Others have provisions that are enforceable, but have few sanctions, while others have potential sanctions that may include private or public reprimands, denial of association privileges, or termination of membership.

Differences among the codes of these professional organizations illustrate the varying interests of their membership and the different concerns that are considered to be most important to the type of research in which members are typically engaged. Despite these differences, these codes have a common goal: to provide guidance on the conduct of research. Such codes play a valuable role not only in reinforcing the principle underlying regulations for the ethical conduct of research involving human subjects but in establishing professional standards for designing research and the reporting and dissemination of the results from these investigations.

3.6 The AAPOR Transparency Initiative

In addition to codes of ethics, one approach to fostering the ethical conduct of research is the transparency of research procedures. The use of questionable ethical procedures is less likely—or at least more likely to be detected—if

information about the conduct of a study is readily available to other researchers as well as to the public. In November 2009, AAPOR launched a transparency initiative for reporting and disclosing information for public access. Among the goals of this initiative are improving and advancing survey methods and enhancing the cooperation of the public, upon whom survey research depends. By providing transparency about the methods used in collecting survey information this initiative hopes to reduce public skepticism about how surveys are conducted and the results reported.

3.7 Summary

The various uses of polls and surveys play an important role in modern society. From extensive investigations that gather information to track the correlates of disease and those that provide surveillance of public health to polls that examine the factors underlying electoral support or those that are used in the evaluation of programs, surveys provide information that is of great interest to researchers, policy-makers, affected populations, interest groups, and the general public. As this handbook's description of the various components that comprise a well-done survey have made evident, producing quality survey information is a demanding task. To do so ethically, treating survey respondents with respect and dignity and reporting research results in a manner that most faithfully addresses the underlying substantive concerns of a study, is the obligation of all those who engage in the survey process.

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