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## *Providing Information About Survey Methods*

Researchers reporting survey estimates have a scientific obligation to provide a full description of the details of the procedures they used that could affect those estimates. In addition, they should perform and report calculations relevant to the precision and accuracy of their figures. This chapter discusses the material that should be included in a full methodological description of a survey.

There are few methodological decisions that a researcher could make that could be labeled categorically as wrong. There are some research situations in which any of the compromises discussed in this book might be appropriate and cost-effective for gathering information. Although research design decisions cannot be criticized out of context, the failure to describe fully procedures by which data were collected can be criticized. It is essential for readers and users of survey data to have access to a full and complete description of the data collection process.

There are two general functions of a good methodological description. The first is to provide a good understanding of how well sample estimates are likely to describe the population from which the sample was drawn. It is not enough simply to state the author's conclusions on this matter; detailed calculations relevant to precision and bias should be presented that will permit readers to make their own assessments. The second function

is to provide the procedural details needed to replicate a data collection effort and/or detect procedural differences between surveys that would affect comparability.

It is not unusual to find only the sample size reported about a survey; more conscientious researchers will include a description of their sampling strategies and response rates. Although the appropriate level of detail will vary with the way the data are being used, the following is a brief outline of information that should be provided about any survey:

- The sample frame (i.e., those people from whom the sample was drawn), together with an estimate of the percentage of the population studied that had a chance of selection from that frame and anything that is known about the way in which the excluded people differ from the population as a whole
- The sampling procedure, including any deviations from simple random sampling such as clustering, stratification, or unequal rates of selection among subgroups of the population
- Field results, the disposition of the initially designated sample; the number of respondents; the number of nonrespondents; and the major reasons for nonresponse. If the rate of response cannot be calculated exactly because the sample frame included ineligible units (e.g., telephone numbers not associated with occupied housing units), the researcher should report the number of units for which eligibility was not ascertained and an estimate of the most likely response rate. The American Association of Public Opinion Research (2000) has published a good monograph on the reporting of response rates to improve the consistency of reporting and the terminology that researchers use when reporting their results.
- The exact wording of questions analyzed; for a major report, the entire survey instrument should be reproduced in an appendix.

In addition to factual description of the data collection process, there are five other "desiderata" in a methodological appendix.

First, most reports are intended for audiences that go beyond survey research methodologists. Therefore, a brief overview of the possible kinds of error in surveys usually is an appropriate introduction to a methodological section of a survey report.

Second, numerical estimates of the amount of sampling error associated with the particular design of the sample should be included. If the sample design was stratified and clustered, or if different rates of selection were used, the effects of those design features will be different for

different measures in the survey. Typically, researchers calculate these design effects for a number of measures in the survey, including some they expect to be most and least affected by the sample design. They then either present the design effects for these items or report the range of the design effects, with some generalizations about the kinds of items that are affected most by the sample design.

Third, information about interviewers relevant to their likely effects on the data is desirable. The minimum description would be the number of interviewers used; the number of newly trained and experienced interviewers; how much training interviewers received; and whether or not a sample of their work was monitored. Age, gender, and ethnicity of interviewers are useful if those characteristics are relevant to the survey content.

As discussed in Chapter 7, interviewer effects cannot be calculated reliably if respondents are assigned to interviewers on the basis of convenience. There is a growing body of data on the size of interviewer effects, however, summarized by Groves (1989), which can be used to tell readers about the likely range of interviewer effects on estimates. In addition, telephone surveys from central facilities make it possible to manage interviewer assignments so that reasonable estimates of interviewer effects can be made. It would be desirable if more studies were done so that interviewer effects could be estimated, and if the resulting estimates became a common feature of methodological reports of surveys.

Fourth, a researcher should tell readers as much as is known about the effect of nonresponse on sample estimates. If the researcher sampled from a source that provides information about those from whom responses were not obtained, that information can be presented. Interviewers should be encouraged to get at least some information about people who refuse, so the researcher can say something about ways in which nonrespondents may differ from respondents. If there are statistics from other sources about the population from which the sample was drawn, such as relatively recent census figures, the researcher can compare the sample with such independent aggregate figures to estimate some effects of nonresponse on the sample.

Finally, a good methodological appendix should include some information about the reliability and validity of the major measures used in a survey. There are three kinds of relevant information that can be reported.

First, if questions were subjected to cognitive laboratory testing or systematic pretesting, that fact and the results can be reported. Simply reporting the kind of question evaluation that was done can be useful to users of the results. It is valuable to be told that questions were found to be

comprehensible and that coding of behavior during pretests revealed that questions were asked as worded and usually could be answered readily. Also, sometimes pretesting indicates a problem with a question that, nonetheless, is retained. Such information obviously is also very helpful to users of the resulting data.

Second, researchers can present analyses that assess the validity of the question answers. To the extent that answers correlate in predictable ways with the answers to other questions, there is evidence that they are measuring what the researcher was hoping to measure. Ware (1987) presents a good outline of the kinds of analyses that a thorough assessment of reliability and validity should entail.

Third, although the accuracy of reporting of factual data seldom can be assessed directly in a survey, citing the results of record-check studies of the reporting of similar items can provide readers with one basis for estimating the amount and direction of error in a survey-based estimate.

To date there has been a relative dearth of systematic data about how well questions measure what they are intended to measure. It probably is fair to say that the majority of survey reports assume face validity—that answers mean what the designer of the question thought they would mean. It would be desirable if the collection of data and analyses directed at assessing questions and answers became a more routine part of reports of survey methodology.

There will be reports of survey data for which all the information outlined here would be too detailed. There is always pressure to shorten journal articles. All of the information, however, is decidedly relevant to the assessment of the likely quality of a survey-based estimate. In a full report of a survey analysis, a full methodological appendix should be included. When shorter works are published, a methodological report covering the details of the data collection process at least should be available on request.

It should be noted, in conclusion, that the list of desiderata is as much about the importance of gathering and analyzing information about measurement as it is about reporting it. It obviously is desirable to take steps to minimize error, but error-free surveys are not possible. Documenting how well the measurement was done, and estimating the amount and type of error in the results, is a critical part of ensuring appropriate use of survey data. It also is an important part of constructing the knowledge base on which to build better survey measurement in the future.

Therefore, when survey results are reported, there is an obligation to report the information needed to assess the quality of the data, as well as

to replicate the results. The latter goal can be achieved by carefully describing the procedures used; the former goal requires special effort to measure error as well as to communicate the results. When a report is silent about some kind of error, such as whether questions are intelligible or whether interviewers affected the results, the implicit assumption made by most readers is that there is no problem. At the least, researchers can make sure readers know about the various sources of error that can affect survey estimates (desiderata number 1). In the longer run, however, it is to be hoped that the steps required to provide specific estimates of error will become increasingly routine in reporting survey results.

### EXERCISE

Using the standards presented in this chapter, systematically evaluate the adequacy and completeness of the methodological section of a published book or report that was based on a survey.