Design and Evaluation of Survey Questions

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The quality of data from a survey depends on the size and representativeness of the sample from which data are collected; the techniques used for collecting the data; the quality of the interviewing, if interviewers are used; and the extent to which the questions are good measures. Methodologists have a concept that they call total survey design (e.g., Groves, 1989). By that, they refer to the perspective of looking at all sources of error, not just a single source, when making survey design decisions. The quality of data from a survey is no better than the worst aspect of the methodology.

When Sudman and Bradburn (1974) looked at sources of error in surveys, they concluded that perhaps the major source of error in survey estimates was the design of survey questions. When Fowler and Mangione (1990) looked at strategies for reducing interviewer effects on data, they, too, concluded that question design was one of the most important roads to minimizing interviewer effects on data. Moreover, whereas the design of surveys often involves important trade-offs, improving the design and evaluation of survey questions is one of the least expensive components of the survey process. Compared with significantly increasing the size of a sample, or even the efforts required to improve response rates significantly, improving questions is very cost-effective. Thus, from the perspective of total survey design, investing in the design and evaluation of questions is a best buy, one of the endeavors that is most likely to yield results in the form of better, more error-free data.
What Is a Good Question?

A good question is one that produces answers that are reliable and valid measures of something we want to describe. Reliability is used here in the classic psychometric sense of the extent to which answers are consistent. When the state of what is being described is consistent, the answers are consistent as well (Nunnally, 1978). Validity, in turn, is the extent to which answers correspond to some hypothetical "true value" of what we are trying to describe or measure (Cronbach & Meehl, 1955).

There are five basic characteristics of questions and answers that are fundamental to a good measurement process:

1. Questions need to be consistently understood.
2. Questions need to be consistently administered or communicated to respondents.
3. What constitutes an adequate answer should be consistently communicated.
4. Unless measuring knowledge is the goal of the question, all respondents should have access to the information needed to answer the question accurately.
5. Respondents must be willing to provide the answers called for in the question.

A critical part of the science of survey research is the empirical evaluation of survey questions. Like measurement in all sciences, the quality of measurement in survey research varies. Good science entails attempting to minimize error and taking steps to measure the remaining error so that we know how good our data are and we can continue to improve our methods.

There are two types of question evaluation: those aimed at evaluating how well questions meet the five standards above, which can be thought of as process standards, and those aimed at assessing the validity of answers that result. In order to assess the extent to which questions meet process standards, we can take a number of possible steps. These include (a) focus group discussions; (b) cognitive interviews, in which people's comprehension of questions and how they go about answering questions is probed and evaluated; and (c) field pretests under realistic conditions. Each of these activities has strengths and limitations in terms of the kinds of information they provide about questions. However, in the past decade there has been growing appreciation of the importance of evaluating questions before using them in a research project, and a great deal has been learned about how to use these techniques to provide systematic information about questions.

I begin this chapter by describing what we know about how to design survey questions. The discussion is separated by whether the focus is on measuring objective facts or subjective states of respondents, such as knowledge, opinions, or feelings. The latter part of the chapter is devoted to the objective evaluation of survey questions. My overall goal in this chapter is to describe how to design survey questions that will be good measures.