DEVELOPING A QUESTIONNAIRE

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> The scientific mind does not so much provide the right answers as ask the right questions.
>
> —*Claude Levi-Strauss, anthropologist*

LEARNING GOALS

In this chapter, you will read about the strengths and weaknesses of different types of survey methods. You will also learn how to design a questionnaire: how to write attitude, behavior, and demographic questions and format a survey. Coding responses and preparing data for computer analysis are important skills discussed as well. By the end of the chapter, you should be able to critique poorly written surveys, write a good questionnaire for distribution in a small study, and understand the different ways of designing questions and formats for surveys and interviews.

Some years ago, a solicitation letter (i.e., junk mail) arrived in the mail asking for money to "clean up television." I strongly agree that there's much on television that I would like to see changed, but my list would be to eliminate stupid reality shows and vapid local news programs. This letter had a different focus, though. Attached to the donation card was an "official poll" asking the following questions and expecting only a "yes" or "no" answer:

- Are you in favor of cable television now bringing hard-core pornography into your living rooms?
- Are you in favor of television programs which major in gratuitous violence such as murder, rape, beatings, etc.?

- Do you favor the showing of obnoxious and edited R-rated movies on network television?
- Are you in favor of your children being subjected to the presentation of homosexuality as an acceptable lifestyle in prime-time television?

You don't have to believe that the content of contemporary television shows is free of problems to acknowledge that these four questions are slanted in a particularly biased direction. The wording all points to the answer "no," with little room for disagreement. Who would say "yes" to *gratuitous* murder (are other kinds of murder then OK?) or favor *obnoxious* movies on television? You can readily see the problems in orienting the questions in a certain direction through the use of specific words and phrases. This "survey" is a prime example of the kinds of biases that often show up in questionnaires, sometimes even in the most professional kind. The reliability and validity of information gathered with questions like these would be highly suspect and unscientific.

USING QUESTIONNAIRES IN SURVEY RESEARCH

A key element in the achievement of reliable and valid information in survey research is the construction of well-written and manageable questionnaires or interview schedules. Sometimes we are asked to fill out a survey that barely asks enough questions to make clear what we really believe or limits the way we can respond. Other times, we get a questionnaire that is too long and inquiring about too many personal behaviors or private thoughts. No one form or set of guidelines is going to meet everyone's goals, but there are steps that can be taken to minimize the frustrations and noncompliance that can result from biased, wordy, and poorly designed questionnaires.

Before discussing the techniques and ideas that contribute to a reliable and valid questionnaire, let's first consider the pros and cons of using a questionnaire format for collecting data. As mentioned in the previous chapters, a research topic and set of questions or hypotheses, along with the costs and time frame, must determine the choice of methods. Survey research using questionnaires is not ideal for every kind of study. Whether the questionnaires are designed for self-administered surveys, face-to-face interviews, telephone surveys, or computer-assisted forms on the Internet or in an e-mail raises additional considerations in deciding to use survey methods.

Self-Administered Questionnaires

Designing questionnaires for respondents to complete on their own is one of the most common methods of data collection. Questionnaires can be mailed and returned at a later time in person or by mail; distributed to large groups of people in one location

at one time, such as in a classroom or at a meeting; or sent in an e-mail or placed on a website.

Self-administered questionnaires are best designed for (a) measuring variables with numerous values or response categories that are too much to read to respondents in an interview or on the telephone, (b) investigating attitudes and opinions that are not usually observable, (c) describing characteristics of a large population (like demographics), and (d) studying behaviors that may be more stigmatizing or difficult for people to tell someone else face to face. The anonymity of self-administered questionnaires permits respondents to be more candid, yet researchers do not always know if those responding are who they say they are and if they are answering honestly.

Questionnaires are more efficient tools for surveying large samples of respondents in short periods of time than interviews or other research methods. And because they are more suitable to probability sampling (see Chapter 5), generalizing to a larger population is one of the strengths of survey research. However, response rates can vary depending on the distribution method. It is not unusual for researchers to receive only 20 to 30 percent of mailed questionnaires at first. Face-to-face and phone surveys can achieve as high as 80 percent response rates, while e-mailed and *online surveys* can have response rates as low as 30 percent (SurveyMonkey 2012). Low response rates seriously affect how accurately researchers can generalize the results to a larger population. Follow-up postcards or phone calls, e-mail messages, monetary or gift incentives, attractive graphic design, ease of completing the survey, and other techniques increase the percentage of people who return their questionnaires, sometimes bringing online and mailed surveys over a 50 percent response rate. Dillman's Total Design Method (Dillman et al. 2014) provides ideas for increasing response rate through a series of follow-up contacts by postcard or e-mail and by resending surveys. For example, after one week, send a reminder notice, then at week three and week seven, include the questionnaire again with the reminder. Chapter 5 provides more discussion about sample size and techniques for distributing self-administered surveys.

It is less likely that researchers would affect the outcome of a self-administered survey when respondents read the items on their own, compared with a face-to-face interview. This allows for more standardization of the questions and increased reliability, because the researchers are not influencing the responses by clarifying or explaining the items in varying ways to different respondents. However, respondents can answer the questions out of order, jump to the end, or skip around, and thus alter the results by knowing what comes later or by allowing later questions to suggest answers to earlier ones. Online surveys have more control over the way respondents take the survey and the ordering of the questions.

Uniform questions and fixed responses (called *closed-ended* items) also limit how much researchers can adjust for cultural differences in respondents, clarify misunderstood items, or explain ambiguously worded questions. How many times have you tried to answer a question that has response categories that do not reflect how you really behave? Are you being asked to agree or disagree about a controversial topic for which you don't already have an opinion or even know anything about? How valid then are these items in measuring what they are intended to measure?

Minimally, respondents must be able to read the survey, so self-administered questionnaires are not suitable for young children, the visually impaired, anyone with learning and reading disabilities, or people with limited fluency in the language of the survey. In such cases, face-to-face interviews are preferable.

Computer-Assisted and Web-Based Surveys

A popular way of creating and distributing self-administered questionnaires is with computers. Questionnaires (especially short ones) can be sent to respondents by e-mail, or respondents can be directed by an Internet link to a website that hosts the survey, such as the popular SurveyMonkey platform. Researchers may create their own website or hire one of many commercial companies to host surveys. Often the programs used to construct the questionnaires are set up to allow for instant coding of the data, thereby eliminating a source of error that often occurs when researchers or their assistants manually enter data from a completed questionnaire.

In addition to knowing how to write a good questionnaire, researchers who do not have the funds to hire outside computer consultants must also become familiar with programming computers or learn software designed to create online surveys. The added time to do this, or the fees charged by commercial companies, may be offset by eliminating the costs of duplicating and mailing surveys or paying people to code and enter data.

However, one major limitation of computer-based surveys is the issue of access. Variations in computer ownership based on race/ethnicity, age, sex, income, and education can dramatically affect the generalizability of findings from computer surveys. Issues of access are a problem if the goal is to make inferences about larger populations. On the other hand, if your goal is to find out who uses a particular website, as marketing researchers do, or if you are interested in assessing satisfaction levels of workers at an organization in which everyone has free access to a computer and the Internet, then using online surveys or e-mail questionnaires is less of a problem.

Tips for designing online surveys are presented later in the chapter.

Interviews

Surveys are often conducted by interviewers who read the questionnaire items to respondents in a face-to-face situation or over the telephone. One version is an *unstructured* or *in-depth interview*, which is ideally suited for exploratory and qualitative research. These can be conducted with one person at a time or in focus groups, which involve multiple people being interviewed simultaneously in a group discussion. Although there may be a set of queries used to initiate the unstructured interview, interviewers tend to create questions in reaction to respondents' comments in an interactive format. These *open-ended* questions do not allow for standardization of items with fixed responses and can result sometimes in interviewers biasing the data collection. But unstructured interviews are a good way for exploring how people respond to complex topics for which you do not yet have enough specific information. This information can be used to develop a questionnaire for a more structured interview or self-administered study.

This chapter focuses on designing questionnaires that can be used for *structured interviews*. These take place face to face or over the telephone using a questionnaire, often called an *interview schedule*. A central issue for interviews is the role of the interviewer, whose style and personal characteristics (such as gender, race/ethnicity, sexual orientation, age) can affect the respondents' answers. Interviews are reactive situations of social interaction in which discussions about personal behavior and opinions with a stranger are influenced by the interview process itself.

Reading standardized items from a questionnaire involves tone of voice, body language, and other styles that may create a different meaning for various respondents. Interviewers are permitted to *probe* (ask for clarification or elaboration when a response is incomplete or ambiguous), especially for questions without a set of fixed responses. Interviewers should be trained to follow the wording and write down the responses, or record them in a computer program designed to host the survey, as comprehensively and accurately as they are capable, without adding, modifying, or deleting information.

Structured interviews are in the hands of the researchers who control the flow and ordering of the questions asked (respondents can't skip around on their own), know who is completing the survey, and can employ various visual aids such as charts, cards with lists of responses, and even some self-administered sections for the more controversial questions, which are sealed in separate envelopes. One of the most respected structured interviews, the General Social Survey (GSS) from the National Opinion Research Center (NORC) at the University of Chicago, uses many of these methods.

Response rates tend to be the highest with face-to-face interviews. Not including interviews that occur when stopped on a street corner or in a shopping mall (those

must be short and quick), respondents tolerate longer face-to-face interviews than self-administered surveys. However, finding respondents and interviewing them takes more time, results in smaller sample sizes, and costs more than it does to distribute self-administered questionnaires. Agreeing to participate in an interview varies by location (such as cities or rural areas), time of day, number of people working at home or away, educational level, and other characteristics of the household and its members.

Telephone Surveys

Interviewing people by telephone is one of the most popular ways of doing survey research. It is less costly and time consuming than face-to-face interviews and less subject to the characteristics of the interviewers. Many of these interviews are conducted with computers aiding the interviewers and creating a more standardized interaction.

Phone surveys have the advantage of face-to-face interviews in probing for information and getting more details through the use of open-ended questions. At the same time, phone surveys have some of the aspects of self-administered questionnaires by creating a more impersonal interaction. On the other hand, respondents might be reluctant to answer questions from a stranger who calls on their personal phone; yet for some questions, they may be comfortable in providing information they would not give when face-to-face with an interviewer whose characteristics (such as age or race/ethnicity) could impact the responses. If they do consent, short phone surveys of around 20 minutes duration appear to be the maximum many will tolerate. With the increase in use of mobile phones—which in some cases are replacing traditional landline phones—generating representative samples could be a potential problem. Sampling issues are discussed in Chapter 5.

Regardless of the method used, questionnaires should be constructed in ways that allow respondents to provide answers candidly, accurately, and consistently. And they have to address the goals and hypotheses of the research clearly and efficiently. Although there are some differences in questionnaire design, depending on the type of survey chosen, what follows in this chapter is applicable to most questionnaires.

CONCEPTUALIZING THE TASK

It often seems like a daunting task to write a questionnaire. Where do you even begin? How long should it be? What kinds of questions do you need to write? How do you go from the concepts and variables in the research questions and hypotheses to a

reliable and valid questionnaire? It can be overwhelming, especially if you have never written one before.

One way of beginning is to list the set of research questions and hypotheses proposed and the variables in each of them. Keeping in mind the way in which others may have measured these concepts when you reviewed the literature, begin to extract the key themes, goals, and concepts of the study. Be sure you have at least one questionnaire item for each of the variables in your hypotheses. Operationalizing the concept—that is, making it into a variable and specifying how it can be measured—is the process of developing the questionnaire item. Creating clear and accurate operationalizations for your concepts and variables is the focus of most of this chapter.

Next, make an outline of what you want to cover. Begin by writing down the following categories: behaviors, attitudes/opinions, and demographics. These are the main components of a questionnaire, although your study might not require all of them. Depending on the goals of the research (describe, explain, explore, or predict), you might be interested in learning the respondents' feelings and opinions about a set of topics (*attitudes*), what they actually do (*behaviors*), or who they are (*demographics*). Each of these main areas should generate a list of specific topics related to the variables in your research questions and hypotheses. Remember, once your questionnaire is written and distributed, it is too late to add new items, so try at this stage to think about as many ways to measure the variables and concepts as you can, even if they are not likely to make the final cut. Sometimes just writing down crazy ideas stimulates thinking about more relevant ones!

Now comes the difficult part: cutting out what you don't need and cannot measure. Is it really important to include zodiac signs in a list of demographics for a study of GPA and study hours? Can you actually measure how many times respondents drank a particular brand of soda two months ago? Do you really need to ask those questions about eye color and favorite food for a study on political views? Are these linked to any previous research or your own hypotheses?

In other words, you need to start winnowing the list to reasonable items that are clearly relevant to the variables of your topic. As discussed in Chapter 2, a review of the literature provides ideas for important variables to consider, topics that have been underdeveloped, and ways of writing questions similar to the ones you want to ask. In your library, look for PsycTESTS (2017) and the *Handbook of Research Design and Social Measurement* (Miller and Salkind 2002) for various scales and items used by other researchers. But don't be limited to what has been done before. Writing a good questionnaire is an art, and your task is to be creative and make an engaging survey that people are willing to fill out.

A frequent concern is how long a questionnaire should be. There is no simple answer to this, since length depends on the amount of time you have to write one,

how long it takes for a typical respondent to complete a self-administered survey or for an interview to be finished in person or on the phone, how dense or clear you want the format of the form to look, how much money you have to print and distribute the questionnaires, formatting and financial limits imposed by online Web-hosting services, and how many variables and concepts you are trying to measure. The survey should not appear crowded, have a small typeface, or be intimidating. Clear spacing and visually appealing fonts and format also affect the length and can help improve response rates.

Finally, if you have writer's block and can't seem to get beyond a blank computer screen or piece of paper, consider that what you are about to do when writing the questionnaire is similar to what goes on in any social interaction. The process of developing a questionnaire is, in a way, a conversation between you and the respondents. Before you start to write items, picture yourself in a discussion with a friend about the topic you are studying. Like a conversation, there are often misunderstandings, vague pronouncements, and confusing instructions. Your goal, of course, is to open up the channels of communication and have a clear and focused discussion.

How would you open up a conversation with someone about satisfaction with the programs provided by a local social services agency? You have some research questions that guide your project, so begin with those. Perhaps you would first want to know if a client uses the facilities and how often (behavior). So you might start by asking this imaginary person in your mind's conversation if he or she is familiar with the social services agency in the neighborhood, and so on. Then you probably want to learn his or her thoughts (attitudes) about the quality of the programs, staff, the resources, and the facilities. And eventually you need to know more about the person (demographics) completing the survey. Use this method to jot down concepts and variables that are relevant to the hypotheses you developed.

MEASURING ATTITUDES AND OPINIONS

Writing items for a questionnaire takes practice; experience eventually helps you learn what works best. Reading other surveys also provides a good source for developing your own. While many of the tips offered in the next several sections apply to most situations, the goals of your research questions and hypotheses ultimately determine the ideal format and wording of your items.

In our everyday lives, we often ask people to tell us their opinions about a movie or the food at some restaurant, how good a particular professor's class is, or what they think the meaning of life is. We are not asking them what they actually do, just what they believe. Sometimes we are interested in evaluating the relationship between

people's values and their behavior, or explaining why they acted a particular way using their beliefs about an issue. For example, lawyers may want to predict how jurors will decide a case knowing how these jurors feel about capital punishment, what they think are the reasons for crime, and their opinions about racial issues.

When we want to know what people believe about something, we construct a set of attitude questions. Questionnaires are ideally suited to assess what people report they believe because feelings and opinions are not readily observed and easily measured with other research methods. Keep in mind that what people say they believe is not a substitute for asking them what they actually do. Many times, behavior is a much better indicator of what people feel or think about a subject. Respondents might say they are religious and believe in going to services on a regular basis, but when asked to indicate how often they attend, the frequency might be much lower. Which, then, is a better indicator of religious fervor? In either case, you have to ask people directly what they are thinking or doing.

Open-Ended and Closed-Ended Questions

A good way of finding out what people think is to ask them *open-ended* questions. These require respondents to write out or, if doing an interview, to talk about their responses using their own words and ideas. For example, you can succinctly ask on a questionnaire, "Tell me what you think about the issue of gun control." A blank space is provided for their answers. Of course, you will later need to make sense out of these written comments (and the bad handwriting on self-administered written surveys) by doing *content analysis*, a technique that involves distilling key ideas, words, or phrases and coding them according to some system you developed. This raises issues about reliability and whether different people would interpret the content of respondents' answers similarly. Inter-rater reliability is required to establish some degree of consistency among those interpreting the open-ended responses.

Respondents often don't like to answer too many open-ended items, because it takes more time, despite the advantage of being able to put the issue into their own words. A more efficient method is to develop *closed-ended* items, although it allows for fewer variations in people's responses. These give respondents standardized answers to select from, similar to questions on a multiple-choice test. It's easier and quicker for the respondents to complete; coding responses is simpler for the researchers and more efficient than with open-ended items. However, many feel that closed-ended questions limit the responses people can give, impose on them the researchers' ideas and words, and frustrate those who prefer explaining their answers in more depth.

Filter and Contingency Questions

When we ask people to state their attitudes about a topic, we assume two things: They already have thought about the issue, and they are willing to share their feelings. In many cases, we end up forcing respondents to provide opinions when they do not have any about a specific issue. For this reason, some researchers prefer using *filtering* techniques in which respondents are first asked if they know anything about the issue; if they do, they are then asked their views. This gives a more accurate portrait of those holding opinions about a subject with which they are familiar, and it eliminates those who answer the question without having thought about it before.

For example, pollsters often ask if you know who the candidates are for the presidential race. Then those familiar with the candidates are asked a set of *contingency* questions, which are answered only by those people who responded in a particular way to a previous item, that is, contingent on answering "yes" to knowing the candidates. They were filtered toward questions applicable only to them, such as how well they know the candidates' positions. Of those who are familiar with their positions, they are now asked how strongly they agree or disagree with the candidates' views. Different outcomes in political polls have resulted when people were asked for whom they plan to vote in the next election compared with results from surveys where filtering occurred by first asking if they are registered to vote and have plans to vote, and then inquiring for whom they will vote.

Intensity Measures

If you are like many people, your feelings cannot simply be characterized in some dichotomous way like black/white, true/false, or yes/no. While we might indeed have a long list of clear preferences and opinions, a good deal of the time we may feel more or less strongly about them. For instance, you might solidly agree that gays and lesbians should not be discriminated against in the workplace, and you might also agree that gun control is not the solution to crime in the streets, but you may not feel as strongly about gun control as you do about equal rights. In other words, it is often not enough to have respondents choose "agree" or "disagree" or "yes" or "no" for a particular set of statements about various topics; you probably also want to know how *strongly* they agree or disagree. What we need is a measure of intensity.

Therefore, a good way of writing closed-ended questionnaire items is to assess people's attitudes and opinions with *intensity scales*. A common one is derived from the scaling technique devised in 1932 by Rensis Likert. A *Likert scale* typically makes use of a 1 to 5 rating scale (where 1 = strongly agree, 2 = somewhat agree, 3 = neutral, 4 = somewhat disagree, and 5 = strongly disagree) or sometimes a 4-point scale

without "neutral." Many researchers prefer even-numbered scales, thereby preventing respondents' tendency to select the middle neutral ground. However, this forces respondents to choose an opinion when, in fact, they may not really have one. Others like to mimic the original Likert format but with 3-, 7-, or even 10-point scales. Likert-type scales could also include response categories of "strongly approve" to "strongly disapprove" or "highly favor" to "highly disfavor" (or any such range of positive to negative opinions).

Regardless of the scale's size, remember to be consistent with the direction of the choices throughout a questionnaire: If 1 is "strongly agree" for one set of items, do not later on make 1 "strongly disagree" for another set of items. If 10 is to represent "high" or "very favorable," then 1 should not be equal to a high ranking for other questions. Keeping the direction the same throughout the survey minimizes errors and confusion.

Whether it is a 3-, 5-, or 10-point scale, respondents are answering in terms of not only agreement or disagreement (sort of a yes/no), but also how intensely they agree or disagree. By using such Likert-type scales, we minimize the number of times we fall into the trap of writing "do you" questions that simply result in yes/no or disagree/agree responses. They often don't tell us as much as we would like to know. For example, "Do you believe that television engages in gratuitous violence?" or "Do you agree or disagree that grades should be eliminated on our campus?" tend to yield simple either-or answers. To get much better information, inquire about how strongly respondents "agree or disagree with" or "believe in" some statement.

Some researchers prefer intensity scales that are in one direction, rather than the "disagree to agree" range, which allows three directions of positive, negative, and neutral feelings to be reported. Instead, they might ask respondents to evaluate a statement on a 7- or 10-point scale where 1 = low and 7 or 10 = high. The intensity scale goes in one direction without allowing negative or neutral responses. See Figure 4.1 for an example.

Figure 4.1   One-Directional Intensity Scale

On a scale from 1 to 7, where 7 is the highest and 1 is the lowest score, evaluate your supervisor in terms of the following:

My supervisor provides many opportunities for me to learn.

1   2   3   4   5   6   7

Figure 4.2   Matrix Format for One-Directional Intensity Scale

On a scale from 1 to 7, where 7 is the highest and 1 is the lowest score, evaluate your immediate supervisor on each of the following:

My supervisor …

a. encourages me to do my best at all times.	1 2 3 4 5 6 7
b. is too demanding with my time.	1 2 3 4 5 6 7
c. is easy to work with on projects.	1 2 3 4 5 6 7

Figure 4.3   Matrix Format for Two-Directional Intensity Scale

Indicate how strongly you agree or disagree with the following statements by circling the number that best represents your opinion.	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
My supervisor …				
a. allows me to set my own goals.	1	2	3	4
b. needs to develop better communication skills.	1	2	3	4
c. gets along well with his/her employees.	1	2	3	4

Matrix Format

Once you select the topics, writing attitude items and grouping them in a suitable format are the next steps. Rather than asking each item as a question, consider providing statements about which you want people to give their feelings. Instead of asking, "How strongly do you feel about . . . ?" over and over again, try a *matrix* format, which groups several statements together that all require the same responses. Figures 4.2 and 4.3 show two different examples, the first using a one-directional intensity measure, the other using a more typical Likert scale.

Wording Items

Sometimes the answers to an item depend on whose opinions are under scrutiny. If you ask respondents to agree or disagree with "Merit raises should be eliminated for all workers," you will get different results than if you asked, "I feel that merit raises should be eliminated for all workers." The first wording is more about a general belief; the

second puts the spotlight on the respondent who might be more reluctant to express his or her own personal view. While there is no simple solution to resolving this, try writing an occasional item in different ways and compare the results. In any case, be consistent throughout the questionnaire: If you start writing items with "I" or "you," don't switch later to more general, impersonal ones, unless you have a good reason to do so. If one goal is to compare your findings to what others have discovered in other surveys, then you should write your items using the same wording as they used.

A common mistake is wording questions about collective groups as if they held a unified opinion. It is difficult for people to answer a question that asks, "My family supports my choice of an occupation" when "family" does not hold one single opinion. Perhaps your mother approves of your goals, but your father doesn't. Does "family" include your brothers and sisters, aunts and uncles, and grandparents? Be specific in writing questions that seek respondents' attitudes about a large group made up of people who may hold various opinions or vary in their behavior.

Try to avoid *negatives* in sentences. It becomes hard for people to know whether agreeing with a negatively worded statement might actually mean they are disagreeing with it. For example, consider "It is not good to stay up late studying before an exam." Disagreeing that "it is not good" means you probably agree with staying up late before an exam, yet trying to figure this out and disagreeing with a negative statement can lead to errors in responses. Try an alternate way of getting at the same issue, like "It's best to avoid staying up late to study before an exam."

Direction of Statements

Mix the direction of your statements so that not all the answers for a particular set of opinions lead to "agree" or all lead to "disagree." For example, if you want to learn people's opinions about study habits, word the questions so that they must disagree with some and agree with others: "Getting a good night's rest before an exam is helpful" and "Staying up late studying the night before an exam helps a lot" are both worded without negatives but capture two different viewpoints. A respondent could not really agree or disagree to both of these items at the same time. This is often better than wording the second one in the same direction, such as "Staying up late studying the night before an exam can hurt your chances for doing well." Both items would be answered "disagree" if the person believes in cramming for exams.

Mixing the direction of the wording is a good technique to eliminate *response bias*, which is a tendency for respondents to answer most questions in the same way, such as simply checking "disagree" for all the questions. It also cuts down on the possibility of respondents providing answers that are *socially desirable*, that is, giving an answer perceived to be culturally acceptable and positive.

Always and Never

Always avoid the use of the word "always" and never use the word "never"! This statement is a good way of remembering the guideline. Unless you wanted to trap a respondent as someone who exaggerates or lies, do not use such loaded words in your questionnaire items. Very few people "always" do something or "never" feel something about a statement. How many people do you know who "never" or "always" feel happy when they enter a crowded room or believe in "never" telling a lie? Even if you are someone who does, there are many circumstances or situations in which your opinions change. It is much better to phrase questions with such terms as "most of the time" or "approximately" or "rarely" or "infrequently." For example, "Approximately how often in the past month have you felt in control of your time? 1 = almost always, 2 = frequently, 3 = rarely, 4 = almost never."

Double-Barreled Items

Avoid writing items that actually measure two things at the same time. These *double-barreled* questions often contain the word "and." When you ask people how much they like "ham and eggs," it may be difficult to answer for someone who likes one and not the other. In the fund-raising survey discussed at the start of this chapter, how do you answer whether you approve of obnoxious *and* edited R-rated films if you are opposed to the editing of movies for television, but don't mind obnoxious content?

Leading and Loaded Questions

It is not uncommon to start inadvertently writing items for a questionnaire in the direction of particular biases. If you ask, "Do you agree that using Facebook too often makes you feel more competitive with others?" you are leading respondents in a particular direction and suggesting that they should agree with you. This kind of *leading* question can be eliminated by writing it as a statement and, as mentioned previously, by including it in a set of items that have a range of viewpoints. Or if you want to keep it as a question, ask, "How strongly do you agree or disagree that using Facebook too often makes you feel more competitive with others?"

Another version of biasing is to write a *loaded* question, one in which you push in a particular direction by weighing it down with specifically charged words. Invoking authorities or majorities is one such technique to gain agreement: "Most doctors feel that a high-fiber diet is healthy. How strongly do you agree or disagree that we should be eating more fiber on a daily basis?"

People can be led to give different answers by loading the response categories with various phrases. In a CBS/*New York Times* poll, 70 percent of Americans said

they strongly or somewhat support "gay men and lesbians serving in the military," compared with 59 percent who said so when it was worded as "homosexuals serving in the military." When the statement was reworded as "homosexuals serving openly in the military," 44 percent strongly or somewhat supported it, compared with 58 percent when "gay men and lesbians" was used. Not only does "homosexual" result in lower support compared with "gay men and lesbians," but including the word "openly" reduces support even more (see Hechtkopf 2010).

Language

The wording of items should reflect the educational level and reading language abilities of those filling out a survey. Avoid jargon, acronyms, technical terms, and obscure phrases. For example, if you were to ask students, "How effective is the SSC in meeting your needs on campus?" not everyone will know what the SSC is. Write the item using the acronym as well as the full name: "How effective is the Student Senate Council (SSC) in meeting your needs on campus?" Similarly, an opinion question such as "Does the student newspaper obfuscate the truth?" might lead to lots of blank answers or incorrect responses, even though college students should know the meaning of "obfuscate." (Pause here while you look it up in your online dictionary.)

For many respondents, English may not be their first language. How central to your research is attracting diverse respondents? Perhaps translations are needed, or clarification of words that may be too difficult for those with limited English language ability.

Ranking

Sometimes it may be interesting to ask people to rank, or put into an order of preference, a set of items. A list of movie genres could be presented, and the task is to rank order the most favorite to the least favorite by placing the number 1 next to the type a respondent most likes and continuing to the type least liked. Be aware, though, that asking people to rank more than 5 to 10 items can be a difficult task. Furthermore, intensity is not measured, since ordinal measures tell you only which comes before another one, but they do not indicate how far the gap is between the ranks (see Box 4.1 for an example).

Knowledge Questions

Many times, the goal of a research project is to uncover how much people know about certain issues, and not just to find out their attitudes. One of the objectives of using filter questions is to discover who is more familiar with particular topics and then to proceed in asking them for more detailed opinions.

BOX 4.1
RANKING VERSUS RATING

Asking people to *rank* items seems like a good idea. We often go around telling people our favorite smartphone apps, movies, or books. But ranking tends not to tell you how intensely someone feels about a particular topic, only the order. It's the difference between an ordinal measure and an interval/ratio one. The latter always gives you additional information.

For example, if a questionnaire is filled in as follows, you might learn which is the favorite movie genre in your sample, but you don't learn how strongly respondents feel about each one. They might enjoy Comedy but hate all their other choices, even though Mystery and Drama are ranked second and third.

Please *rank* the following movie types beginning with 1 to indicate your favorite:

1	Comedy
3	Drama
6	Anime
2	Mystery
4	Horror
5	Western

A better approach is to *rate* each item on a scale of intensity. Then the respondents would select a number indicating how strongly they like or dislike each of the movie genres. When the ratings are completed, you know not only which one is the most favorite and the least favorite (just compare their ratings to get rankings), but also how intensely respondents liked or disliked it.

For each of the following movie types, indicate how much you like or dislike them by circling the relevant number:

	Like Very Much	Like Somewhat	Dislike Somewhat	Dislike Very Much
Comedy	1	2	3	4
Drama	1	2	3	4
Anime	1	2	3	4
Mystery	1	2	3	4
Horror	1	2	3	4
Western	1	2	3	4

However, be careful in trying to get people to answer questions that you could find out only with a larger survey of the population. Avoid "quiz" questions. Do not expect accurate answers when you test people about what others do or feel, unless it is the goal of your project to uncover what people perceive to be the extent of some particular opinions or behaviors. Usually, the purpose is to see how familiar people are with various issues or to assess their knowledge about some information. So it is not appropriate to ask such things as "What percentage of the population is made up of immigrants?" or "How many employees made a contribution to charity last year?" unless you want to know respondents' *perceptions* of how many people are immigrants or what they believe to be the generosity of their colleagues. These "quiz" questions are not substitutes for surveying the population directly.

MEASURING BEHAVIOR

Knowing how people feel about the next major election, for example, or what their opinions are of the latest political candidates is usually not enough. We might also want to know if these opinions translate into action and whether people actually vote what they feel. For many researchers, figuring out how to measure what people do is of major importance when they attempt to make policy, improve working conditions, or evaluate the outcomes of different innovative social service programs. In many cases, finding out what people *do* tells you as much about their values and beliefs as asking them to report their opinions.

We need to remember that measuring behavior with a questionnaire is actually a measurement of what people *say* they do. Unlike qualitative research methods that involve observations or other field methods techniques, a questionnaire can only indicate what people remember and what they are willing to tell you about their behavior. Selective memory, selective perception, and a willingness to be candid all play a role in the validity and reliability of the data collected.

Frequency and Quantity

When inquiring about behavior, we must develop questions people are willing to answer with accuracy and consistency. Many of the same suggestions for assessing opinions apply to measuring behavior: Avoid double-barreled questions, minimize the use of "always" and "never," be attentive to language barriers, and eliminate loaded and leading wording.

Your research goals and hypotheses provide direction for what you want to measure. For example, are you interested in the frequency of a behavior or just that it occurred? Do you want to know how many times in the past week your respondents

studied, and/or do you want to know how long they studied each of those times? You might erroneously conclude that someone saying he studied seven times this past week, in comparison to someone else saying she studied only twice, is preparing better and is a more serious student. But what if you found out that the person studying seven times a week read only for 10 minutes each of those times while the person studying twice put in two hours at each sitting? Who then prepared better for the exam?

Behavior could be assessed not simply for frequency but also for quantity. Similar to the Likert scales used for attitudes, measuring behavior can employ intensity measures. For example, "Approximately, how often in the past week did you post something on Instagram? 1 = frequently, 2 = sometimes, 3 = rarely, 4 = never." You could also get the same information with a more open-ended question and allow for a true interval/ratio measure by providing a blank space instead of a scale with ordinal categories.

Another version might inquire how many times you posted on Instagram this past week according to an ordinal scale of values, where 1 = 14 or more times, 2 = three to 14 times, 3 = once or twice, and 4 = never. Note that the options are no longer an interval/ratio measure and you could not calculate a mean number of times because the only data you have are numbers 1 through 4, which do not represent actual number of times. A 4 is not posting four times, and 1 could represent 14, 20, or even 70 times in a week. What you have created is an ordinal measure not useful for some of the more advanced statistical analyses that require interval/ratio data for their calculation (see Chapters 6 through 9).

Mutually Exclusive and Exhaustive

It is important to make the values on closed-ended items mutually exclusive and exhaustive. They are *mutually exclusive* when it is not possible for a respondent to select more than one category or value as an answer to the question. They are *exhaustive* when all possible values or categories are provided as responses to the item. All the choices for any given question or item on your questionnaire should offer the full range of possible answers and not overlap, unless the object is to find out, for example, "How many of the following activities have you participated in during the past year?" in which case you would ask the respondents to "select all that apply." But even in such cases, the list of items should be mutually exclusive and not include, for example, "played sports" and also "played basketball."

Or consider the following typical error: "How many days in the past week did you go to the gym? 1 = daily, 2 = four to seven, 3 = one or two, 4 = never." Both 1 and 2 could be selected if someone went to the gym each day for a week, so the options are not mutually exclusive. "Daily" in this case is the same as "seven." If respondents went

three days, which choice should they circle? Notice that these values are not exhaustive either; they do not provide all possible answers.

Forced Choice

One type of question that is sometimes used to get people to make a selection is called the *forced choice* question; respondents are asked to choose between two options, for example, "Do you go more often to action films or comedies?" Note that the choices are not exhaustive and they are not an indication about how intensely someone likes them or how frequently they see movies of these types. Since a choice is forced, you'll never know if respondents attend another type of movie more frequently or how strongly they like the one they did select. Some respondents may hate both choices, but they were forced to choose the lesser of two evils, not unlike many political elections! You wouldn't know this with a forced choice format.

Recalling Behavior

Some behavior is not easily remembered, so it is important to ask questions that respondents can actually answer. Do you really remember what you wore two weeks ago Tuesday, or how many times in the past three months you ate French fries? Unless you wore an unusual costume, never ate fries, or indulged every day, it's not likely that you can recall details about ordinary events.

One technique is to give a reasonable time frame in which the typical behavior occurred. Is it likely for respondents to remember how often in the past six months they did something that happens regularly, such as eating pizza or going to the movies? Does it make sense to ask respondents how often in the past week they did something that occurs occasionally, such as going to the dentist? In other words, choose a time frame that makes sense for the behavior you are studying. A good test is whether you can recall the number of times you did that particular activity in the time frame you decide to use. Pretesting questionnaire items is also an important step for uncovering problematic time frames.

Response Bias

As with attitudes, some respondents are prone to exaggerating the truth or giving socially desirable answers about what they do or how they acted in particular situations. To assess whether there is a response bias, researchers often build in "trap" questions that are likely to pick up those who tend to exaggerate, lie, or don't read the questions carefully. Purposely using words like "never" and "always" is one way

to catch social desirability. Another is to include unlikely choices among the closed-ended items. For example, if you are asking respondents how many of the following books they have read, be sure to include the name of a book that doesn't exist:

During the past year, which of these books have you read? (Circle all that apply.)

1.   *A Clockwork Orange*

2.   *Black Beauty*

3.   *The Scarlet Sweater*

4.   *The Color Purple*

Another technique to trap speedy readers who might simply be selecting responses randomly is to add an item like this one: "For this question, choose 'strongly agree' as an answer." When a questionnaire shows evidence of response bias, you need to decide whether to eliminate the exaggerated items or the entire survey from further analysis.

DEMOGRAPHICS

Critical to understanding human behavior is knowing how opinions and behavior vary across different categories of people. Demographic items are those that provide information about the respondents completing the survey. Typical are questions about gender, race/ethnicity, age, income, education, and occupation. Other relevant questions can include political affiliation, religious upbringing, sexual orientation, and city or country of residence.

Many people have the tendency to ask for personal demographic information at the start of a questionnaire. Some professionals recommend that these questions and any other easily answered ones come at the end of a self-administered questionnaire. After some fatigue or impatience in having to fill out a survey, most respondents prefer to end the session just checking boxes that are simple to answer. In the meantime, in case they don't complete the survey, at least you've gotten answers to many of the important behavioral and attitudinal items that came first on the survey. Others prefer asking these demographic questions first when conducting interview surveys as a way of easing into the main topics of the study.

Relevant Questions

Any list of possible demographic characteristics could get fairly long, so it is important to limit items to the ones most relevant for the project and for investigating the specific variables in your research questions. If you are researching the number of

hours students study and their grades, are political views really important to know? Do liberals and conservatives study at different rates? While that might be a fun and unusual thing to learn, is it central to your project, or have others found such a relationship in the past that needs replication? If not, then focus on the most important items as a way of maintaining a questionnaire of reasonable length.

When developing a list of relevant questionnaire items, be clear about what aspects of the characteristic you need to know. For example, asking respondents what their religion is does not indicate how religious they actually are. Do you want to know their religious opinions (such as belief in a higher being), their religious behaviors (how often they attend religious services), the religion they were raised in, or their current religion? These are four different questions that result in four different ways of characterizing respondents in your sample. Similarly, questions about political views (conservative, moderate, or liberal), political behavior (voting, signing petitions, attending protests, etc.), and political party affiliation (Democrat, Republican, Independent, Green, etc.) do not give you the same information.

The range of choices for a particular question should be appropriate for the sample. For a survey given to high school students, a measure of age that has the following values would no longer be a variable because almost everyone would circle the first option: 1 = under 18, 2 = 18 to 25, 3 = 26 to 33, 4 = 34 and over. Or a study of retirement could also result in a constant, because almost everyone would select the last choice. In these cases, the goal of describing or explaining differences in attitudes and behaviors by age could not be achieved.

Choosing Levels of Measurement

As with behavioral and attitudinal items, you can decide to word some questions as interval/ratio measures or as ordinal ones. For example, asking respondents' ages can be done in several ways. An open-ended question would result in an actual number that can be used to calculate a mean: How old are you? _____. During the data analysis phase, you could create an ordinal measure from this and collapse the ages into category ranges. This is called *recoding* when you instruct the computer data analysis program to take, for example, the numbers under 21 and assign them to category 1, to take the numbers 21 to 25 and recode them 2, and so on. But ordinal data cannot go the other way and be made into interval/ratio data.

You could also ask people to provide their birthdate and have the computer calculate the exact age to the day, resulting in a very specific interval/ratio measure. On the other hand, an ordinal version would have category ranges like this: 1 = under 21, 2 = 21 to 25, 3 = 26 to 30, 4 = 31 to 35, 5 = 36 and above. Notice in this last version that the categories are mutually exclusive and exhaustive. When providing categories of

numbers, such as age, weight, income, or height, each response should contain ideally the same range. This is better than writing the item in the following way: 1 = under 21, 2 = 21 to 25, 3 = 26 to 28, 4 = 29 to 33, 5 = 34 to 52, 6 = above 52. When the categories are of equal size, you can treat them as equal-appearing intervals and thus use some of the more advanced statistics that are normally restricted to interval/ratio measures.

Sensitive Items

People feel more comfortable answering certain sensitive questions if they are written in categorical ranges rather than as specific interval/ratio numbers. Some might not want to tell you their exact ages but would prefer saying "between 30 and 40" instead of 39; others might be more candid about how much money they earned last year if they could choose "between $45,000 and $55,000" rather than filling in a blank line with "$53,250." The more sensitive the demographic questions (and this depends on who is in the sample), the better it might be to measure these items using ordinal categories rather than trying to achieve specific interval/ratio numbers, even if these allow for more sophisticated statistical analyses. The ultimate goal is to minimize the number of people leaving answers blank, and the trade-off needs to be evaluated before constructing the final wording of the questions.

Mutually Exclusive and Exhaustive

Demographic questions also need to be mutually exclusive and exhaustive. Be sure to include the category "other" in questions for which you cannot anticipate all possible answers. It is not practical to list every religion, for example, but it is important to list those that you think will be most represented in your sample, including "none." Buddhism, Islam, or Hinduism might be relevant for some locations, but elsewhere "other" might be sufficient. If you get very large numbers of people choosing "other," this tells you that you may have left out a major category. Including a blank line after "other" helps you see common answers that can then be coded. Be sure the choices are mutually exclusive; for example, including "Protestant" along with "Christian" in the list of religions can result in both categories being checked.

FORMATTING THE QUESTIONNAIRE

Creating a readable, visually pleasing, and comprehensive questionnaire requires practice; this means making multiple drafts, pretesting items, conducting pilot studies, and fine-tuning the final format. And it requires making decisions and evaluating the trade-offs, such as balancing the desire to get lots of information with the need to

develop a questionnaire that does not take a very long time to complete and does not seem visually crowded.

Contingency and Branching Questions

The format of a questionnaire and the use of arrows, boxes, and other visual tricks to filter people in skipping questions or branching off to other sections help the respondents flow through a written survey smoothly. Online surveys are better suited for surveys with lots of skipping and branching. In general, too many contingency items in a questionnaire can create confusion and missed responses, but surveys need to plan for all possible outcomes and types of respondents.

Be sure to test out the branching or skip logic by taking the survey yourself as if you were multiple people, each with a different response. For example, the survey asks how often respondents drank an alcoholic beverage during the past month. If some answer "none," then they should not drop down to the next question asking which ones and how many. They need to be redirected around the next set of questions and told where to pick up the next relevant items. Read over these questions first as someone who answers "none" and then again as someone who answers one or more times. This way you can see if the branching is correct.

Without branching, people automatically go to the next numbered item, so it often is not necessary to say, for example, "If yes, skip to the next question." They will go there anyway. It is more important to tell respondents who answered "no" where they should continue the questionnaire.

When constructing an interview schedule, additional information and directions may need to be included. It's good to remind the interviewers what to do when respondents say "yes" or "no," even if the next step is to go to the next question. Branching directions in interviews are for the sake of the interviewer, not the respondent, as illustrated in Box 4.2. Here "ask only" and "skip to" instructions guide the interviewer.

With Web-based and other computer-assisted self-administered questionnaires, branching is smoother, and errors in completing irrelevant items are virtually eliminated. Those filling out the forms could not erroneously answer a section inappropriate for them because it would never appear on the computer screen. But in written questionnaires, branching can be done in words, such as "if none, skip to Question 3" (see Figure 4.4).

You can also do this visually with arrows and boxes and channel the flow where items in a box are contingent on particular responses to a question (see Figure 4.5). Those answering "none" to item 1 would go to the next question automatically, but those selecting the other choices branch out to a box applicable only to them.

BOX 4.2
EXAMPLES OF ITEMS FROM THE GENERAL SOCIAL SURVEY (GSS) INTERVIEW

The National Opinion Research Center at the University of Chicago conducts one of the most important ongoing studies of social behavior. Here are two examples from their interview schedule:

1. Are you currently married, widowed, divorced, separated, or have you never been married?

Married	(ASK A, B)	1
Widowed	(ASK A)	2
Divorced	(ASK B)	3
Separated	(ASK B)	4
Never married	(GO TO Q.18)	5

ASK ONLY IF CURRENTLY MARRIED OR WIDOWED:

A. Have you ever been divorced or legally separated?

Yes	1
No	2

IF CURRENTLY WIDOWED, SKIP TO Q.18; IF CURRENTLY MARRIED, SEPARATED OR DIVORCED, ASK:

B. Have you ever been widowed?

Yes	1
No	2

2. How often do you attend religious services?

Never	00
Less than once a year	01
About once or twice a year	02
Several times a year	03
About once a month	04
Two to three times a month	05
Nearly every week	06
Every week	07
Several times a week	08

Figure 4.4   Examples of Branching Questions

1. During the past month, how often did you drink alcoholic beverages?

None 0   (if none, skip to Question 3)

Once or twice 1

Three to five times 2

Six times or more 3

2. For each of the following beverages, please indicate approximately how many you drank during the past month.

         a. Beer _____

         b. Wine _____

3. How many days during the past week did you study for more than one hour?

None 1

One to three days 2

Four to six days 3

Daily 4

Figure 4.5   Example of Branching Question Format

1. During the past month, how often did you drink alcoholic beverages?
     none 0
     once or twice 1
     three to five times .. 2
     six or more 3

                             1a. For each of the following beverages, please indicate approximately how many you drank during the past month.
                             A) beer_____
                             B) wine _____

2. How many days during the past week did you study for more than one hour?
     none 1
     one to three days. . . 2
     four to six days..... 3
     daily............. 4

Ordering of Items

Begin a questionnaire with the most interesting topics in order to pull readers into the survey and provide an incentive to complete it. In interviews, it often is better to begin with simpler, more routine questions, including demographics, in order to break the ice and establish a positive interaction and conversation with the respondents. It would be a bit abrupt to begin an interview with the most sensitive and controversial questions. As you start to organize your items and group them accordingly, keep in mind that earlier questions can affect how people interpret or respond to later questions. The order of the response categories can also influence answers. A study found that when respondents were asked whether the country had a "health care problem" or a "health care crisis," 55 percent selected "crisis." However, when another comparable sample was surveyed and the order was changed to whether the country had a "health care crisis" or a "health care problem," 61 percent said "problem" (Budiansky 1995). The results demonstrate that order can make a difference.

Similarly, if you have a set of questions asking people, for example, about their views on a variety of problems in their community (such as unemployment, street cleaning, taxation, and related items), and then follow this section with a question about how well their political leaders are doing and their confidence in them, the results may be biased by having presented all the problems first. If you initially inquire about their attitudes toward politicians, and then seek their opinions about various problems, there could be a different outcome. It is important then to be aware of the order of your questions, which sections come before others, and how these might affect the responses. With time and money, some researchers pretest the order of items to see if there is a difference or develop reliable parallel forms using different ordering of questions and compare the results during the data analysis phase.

Sections and Numbering

Dividing your questionnaire into sections and numbering all of your items are important formatting considerations, especially for printed surveys, maybe less so for online ones. People will follow the numbers and know where to go next and will overlook any items that are not clearly numbered. It helps if the survey has numbered or lettered sections, each focusing on a particular set of questions and each with its own brief instructions or description of what is being asked.

For example, Section A might include the attitude questions, Section B the behavior items, and Section C the demographics, if all of these are relevant for the project.

Items could be numbered consecutively within each section or continue across the various parts of the survey. This latter style is easier to code and eliminates any confusion about which item number 4 you mean when you direct respondents in a contingency or branching question—the one in section B or C?

Questionnaires are interactions between the researcher and the respondent that should reflect the kind of conversational style you would use when talking with someone. Just as you try to avoid wandering from one topic to another, avoid jumping around in a questionnaire. The goal is to create a smooth flow between sections that does not confuse the respondents and result in incomplete or improperly filled out surveys.

Try to place items together on a questionnaire in sections that are about the same things or require similar kinds of responses. Respondents find it difficult to focus on a particular issue, then jump to another, only to return to the original topic. However, there may be times when it is necessary to mix together various issues and formats, in order to avoid having the respondents figure out the goals of the survey, or to alleviate repetition and boredom, thereby resulting in biased answers.

Be sure not to have page breaks in the middle of an item with the question at the bottom of a page and the response categories on the top of the next page or some responses on one page and the rest on the next.

In addition, each line should have only one question. It is easy to overlook items, especially if they are not numbered and they look like this:

How old are you?_____   Where do you live? City . . . 1 Suburb . . . 2 Rural . . . 3

Instructions

Begin a survey and each section with a brief and clear set of instructions. Avoid giving away everything about your study, since telling too much might affect the responses and the outcome of the research. However, ethically you need to disclose enough information for the respondents to arrive at an informed decision about whether or not to complete the survey.

For example, if you disclose in the instructions that you are studying the relationship between job satisfaction and salary, this could lead some people to answer with that in mind—some might think, "Because I have low income, I will say how dissatisfied I am." An alternative set of instructions could simply state, "We are interested in your candid responses about how you feel about your job."

Don't say, "Please be as honest as possible," since that implies respondents are dishonest people; the word "candid" invites people to be open without the baggage of the word "honest." Be attentive to other loaded words and phrases in the instructions.

It is ethical to inform respondents whether their answers are *anonymous* (no names or identification numbers are given that might be linked to individual respondents) or *confidential* (names or code numbers are given, but the responses will not be revealed about or connected to any one particular respondent).

If the surveys are not being completed in a group setting during a scheduled time and place, be sure to give respondents information about the *due date*, typically placed at the end of the survey, in a cover letter or e-mail, or in opening instructions. Do not make it a long time away, or the surveys might sit around for weeks and never get completed. And remind them how and where the surveys should be returned, such as sent back in the postage-paid envelope, dropped off at a box in front of the personnel office, or deposited in a mail slot. Reminder notices about due dates and how to return the survey should be scheduled and sent by postcard or e-mail. Each of these factors can impact response rates.

Try to be consistent in what you instruct people to do with items. If you have them circle their answers in one section, do not ask them to use check marks in another similar section, or to circle the number next to their answer in a later section. Fewer errors will occur if respondents are not confronted with numerous styles and response formats. However, used sparingly, different response styles can help relieve some boredom and inattentiveness when completing surveys.

Some researchers like to have respondents use brackets (with word-processing programs, actual boxes □ or other shapes ◇ can be created) in which an X or check mark is placed, whereas others prefer to have respondents circle the pre-coded number. Whichever the case, be clear in your instructions and consistent in the format. The key is to avoid a design that creates confusion for the participants and makes it difficult for the researchers to determine and code the selected answers.

Figure 4.6 shows several different styles that can be used, but note that the third example, the one with blank lines, is more susceptible to ambiguity and should normally be avoided. A check mark on one line hurriedly done might overlap the nearby lines and responses, resulting in confusion about which answer was selected. And the second example, with the brackets to be checked, is clear and easy to complete but is not numbered for easy coding. The precoded format in the first example is preferred by many researchers.

Figure 4.6   Formatting the Questionnaire: Three Styles

A. For each of the following questions, please circle your response.

1. I believe the governor is doing a good job running the state.

Strongly agree 1

Agree 2

Disagree 3

Strongly disagree 4

2. For each of the following questions, please indicate your response by placing an X in the appropriate box.

1. What is your current relationship status?

[   ] Single

[   ] Married

[   ] Separated/Divorced

[   ] Living with someone of the opposite sex

[   ] Living with someone of the same sex

3. For each of the following items, place a check mark next to those activities you did in the past two weeks.

_____ went to the movies

_____ surfed the Internet

_____ studied research methodology

ONLINE SURVEY DESIGN

Most of the ideas, tips, and examples provided throughout this chapter are also relevant for surveys designed to be taken on a computer, although you may be limited by the computer program in terms of how you format or what designs you can use for the questionnaire. Computer-assisted questionnaires are popular, especially because the tasks of having people code the data and enter the results into a program for data analysis are minimized. Potential errors are eliminated, and often instantaneous results are available. However, there are some added costs in purchasing and learning a commercial program to design the survey or in contracting with one of many available Internet companies that host and design online questionnaires for a fee. In addition, if you plan on developing your own survey from scratch, hiring computer specialists to write the code, compile the data, and produce statistical results requires funding. Several online survey-hosting sites are free but limit the number of

questions and respondents you can have. See http://lap.umd.edu/survey_design/ as one example for a guide to writing online surveys.

Central to developing online surveys is learning to create smooth and clear navigation through the pages of the questionnaire. Most of the branching or contingency questions automatically take respondents to another section without much notice or confusion. Skipping items should be done by the computer program and not by the respondent, as is typical with self-administered paper surveys. Writing questions and designing the survey to capture branching or skip patterns will not require the instructions described earlier in the chapter, such as, "If yes, skip to question 12," because the computer program will automatically bring respondents to that place in the survey.

Each page of questions and responses ideally should fit on a computer screen and require minimal scrolling. Items farther down on a computer screen may be missed if too much scrolling is required or if directions do not clearly tell the respondent to page down to see additional items. Lengthy online surveys should periodically give some visual information about how much of the questionnaire respondents have completed already and what they have yet to go. Unlike printed surveys, respondents cannot gauge how long the survey is or how much time they will need to complete it. Providing this information and estimated times as the survey is completed is helpful.

Some online programs allow respondents to complete the survey in stages and return at a later time. However, this option can lead to incomplete surveys when people fail to log back in, lose the code number some websites require to continue where they left off, or do not know when the date is to complete the questionnaire. Explicit instructions in an e-mail or on the online survey should provide these details to complete at a later time.

Various formats for entering data are available for designing computer-assisted surveys, including radio buttons, check boxes, and drop-down menus. *Radio buttons* are round dots, often appearing raised, which, when touched, change color and look pushed in. These pop back out if you select another answer, thus allowing only one answer for the question. These are best for mutually exclusive responses. *Check boxes* are better suited for questions that allow more than one answer, as in "Check all that apply." Selecting the box creates a check mark that remains, even if another box is checked. *Drop-down menus* are ideal for long lists of possible responses. Rather than trying to display every option for an item on a screen that cannot contain them all, use a drop-down menu format, which involves clicking on the response box that opens to show the many choices. For example, if you ask what U.S. state a person lives in, it's not good to list all 50 on the computer screen. Instead, use a drop-down box that displays them only when the respondent clicks on an arrow or symbol attached to the box.

Many programs allow the questionnaire designer to build in checks for data accuracy as responses are entered. For example, if you are asked to submit your birth year in four digits and only two are entered, the program should prompt you to reenter a four-digit number. Similarly, it's good to remind respondents that they failed to provide an answer for an item, thereby eliminating missing values. Prompts for missing answers or inaccurate entry of answers should be specific and direct the respondents clearly and politely in what they need to do. It's best to place the prompt near the missing or erroneous response. Remember, ethical issues also apply to online research, and respondents should have the option of not completing some items.

Especially for people not as familiar with computers, directions must clearly explain how to complete a survey online, for example, how to go through items on a screen by scrolling, where to click on a drop-down box, or to touch or double-click the mouse button for other items. The opening page of the online survey should display a welcoming message and lead into a set of questions that are easy to complete and engaging enough to entice the respondent to continue with the survey.

Buttons or symbols that need to be clicked or touched to continue or finish each page of the survey should be clearly marked and highlighted with colors that make them visible. Too many colors, though, can create both eye fatigue if it is harsh or glaring and confusion. Keep in mind how the creative features of computers such as colors, unusual fonts, graphics, sounds, videos, and other multimedia features can be misused. Not only do they slow down the process of loading and scrolling through the survey, especially for respondents with poor Internet connections, but also these features may not always work with different kinds of computers, tablets, browsers, smartphones, and other multimedia equipment. As with all surveys, it is essential to pretest items and formats and to pilot test the entire survey with different kinds of users and computer platforms.

Contact phone numbers, e-mail addresses, and help buttons should be provided to assist respondents who have concerns or questions while completing the survey. Issues of privacy must be addressed and displayed for respondents to read. Depending on your questions and whose computers are hosting the online survey, passwords might be needed for specifically chosen samples, and methods for encrypting transmission of responses might be necessary. Using passwords or some other codes also prevents people from responding more than once to the survey. Issues related to privacy, anonymity and confidentiality, information collected by online survey companies, and other ethical issues need to be addressed when administering computer-based questionnaires. Take a look at the extensive privacy policies that SurveyMonkey (2016), a leading online survey company, provides for both creators of their online questionnaires and respondents completing them (www.surveymonkey.com/mp/policy/privacy-policy/).

When deciding between paper and online questionnaires, remember that access to computers and limited computer abilities may affect the response rates and have a negative impact on the sampling design. Differences in computer usage can vary by sex, age, income, and education. Poor reading ability and language fluency, visual impairment, physical disabilities, and color blindness also may restrict the use of computer-based surveys, affect the sampling, and reduce the validity and reliability of the results. As with each research method or type of survey research discussed in this book, there are trade-offs; the pros and cons must be evaluated in the context of your research goals, respondents, ethical considerations, and available funds and time.

PILOT TESTING THE QUESTIONNAIRE

At this point, you have a completed draft of a questionnaire. Perhaps you have pre-tested some individual items, but now it's time to try out the entire survey. The best way of assessing whether the questionnaire flows, the instructions are adequate, the wording of the items and format are clear, and the survey takes a reasonable time to complete is to *pilot test* it—first with yourself and then with others. Like any writing, the first version is a draft, and it only gets better with revisions.

Give the questionnaire to people similar to those who will make up the sample you want to study. These people, however, should not be part of your final sample because they have already seen the questionnaire, and having them take the survey a second time could bias the results. Distribute the survey or conduct the interview with all the same procedures you intend to use in the actual data collection phase. Remember, you are also pilot testing the instructions and the procedures for distributing the survey. Pilot testing is also important for online surveys, especially to evaluate the flow of contingency and branching questions and the ease of using the computer, tablet, or smartphone.

When questionnaires are completed, read over the responses to the items to see if there is any confusion by looking for incorrect answers or, for printed surveys, marks left on the page by the respondents such as question marks or other annotations, for items consistently answered incorrectly or skipped, and for multiple responses that were selected when only one was expected.

You can also arrange to discuss the survey instrument with the respondents, asking them as they read each item to discuss what it means to them. Or you can wait until after they complete the survey and interview them in a focus group or individually about it. Encouraging them to say what they found confusing, how they reacted to the format and questions, and what they felt was missing will help you develop a final version. Some people give instructions to those participating in a pilot test of a printed survey to write comments on the questionnaire as they take it, although this makes it

less like the way the final sample will answer it. For online surveys, a final open-ended question could be added to the pilot testing version asking respondents to comment on the survey and suggest any problems they encountered.

CODING QUESTIONNAIRES

When your surveys are completed and returned, getting them ready for data analysis is the next step. Transferring information on a questionnaire to a computer program (such as Microsoft Excel, SAS, or SPSS) is accomplished by assigning a value to each response category of a question, that is, *coding* the variables. Of course, if you created an online survey, coding is usually done automatically, and you just need to follow the hosting site's directions to download the responses to your statistical program or to perform some online statistical analyses. Even so, you still need to create questions and response formats that are appropriate for coding even by these online survey companies.

Although many computer programs accept text (alphanumeric) answers for nominal and ordinal variables, some researchers find it more efficient to enter a numeral that stands in for the answer. In addition, when using words instead of numbers, the entered text must be exactly the same for each response: Typing in "anthropology" for a major is not the same as "anthro" or a misspelled "anthrapology." These entries would be tabulated as different majors. It takes fewer keystrokes to enter numbers, which are required when calculating certain statistics for many ordinal and all interval/ratio measures.

For example, if a question is how strongly respondents agree or disagree with a statement, it's much easier to enter a single-digit number such as "5" than to type out "strongly disagree" or even to enter "SD." This is why it is recommended that a number be assigned to each response. What helps greatly is to design your questionnaire so that every response to closed-ended items is already numbered, or *precoded*, such as "(1) Voted (2) Did not vote."

If the responses are based on interval/ratio measures, then the answer itself is its own coding. If you ask respondents to enter their age, the number they give is the number you enter. No coding is necessary. However, if you ask for height and some respond in inches (68″) and others give you feet and inches (5′8″), you must convert them into the same units for comparison.

In addition, a *codebook* is needed to provide a detailed list of questionnaire items with their complete wording, the names of all variables (sometimes abbreviated, for example, PAEDUC for father's education as in the example in Box 4.3), the relevant codes for each response category (such as 1 = strongly disagree, 5 = strongly agree, and so on), the location of the code in the data file (usually given in terms of which

BOX 4.3

EXAMPLES FROM THE GENERAL SOCIAL SURVEY (GSS) CODEBOOK

PAEDUC

   Highest year school completed, father

RESPONDENT'S FATHER'S (SUBSTITUTE FATHER'S) DEGREE

Response	Punch	Col: 106
Less than high school	0	
High school	1	
Associate/junior college	2	
Bachelor's	3	
Graduate	4	
Not applicable (no father/father substitute)	7	
Don't know	8	
No answer	9	

26. In what state or foreign country were you living when you were 16 years old?

REFER TO REGION CODES BELOW AND ENTER CODE NUMBERS IN BOX

Col. 112

1 New England = Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island
2 Middle Atlantic = New York, New Jersey, Pennsylvania
3 East North Central = Wisconsin, Illinois, Indiana, Michigan, Ohio
4 West North Central = Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas
5 South Atlantic = Delaware, Maryland, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, District of Columbia
6 East South Central = Kentucky, Tennessee, Alabama, Mississippi
7 West South Central = Arkansas, Oklahoma, Louisiana, Texas
8 Mountain = Montana, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico
9 Pacific = Washington, Oregon, California, Alaska, Hawaii
0 Foreign

column it can be found in on the spreadsheet, like Col. 112), and other guidelines for skipping responses or dealing with missing answers. Not only does a codebook serve as an aid to those doing the data entry, but it also is a reference guide for others using your data set later on.

Most programs (like SPSS or Excel) use a spreadsheet-style format for entering data into a file. Each row represents a unit of analysis, typically a respondent, but it could also be a school, a country, or a business, depending on what the study is about. Each column is a question, and what you put into each cell (the space where a row and column intersect) is the answer (the value) provided by the respondent.

Be aware, however, of a special case when dealing with a checklist of items for which respondents can select all that apply. Each item in the list essentially becomes a separate question. If you ask, "Which of the following activities did you engage in last week? (select all that apply): (1) playing a video game, (2) eating out in a restaurant, (3) doing aerobics, etc.," you will be coding each item separately. Remember, you cannot enter more than one answer in a cell. In essence, you are asking a series of yes/no questions, so you might enter a 2 if respondents watched television and a 1 if they did not. Then you move on to the next item, entering 2 if they ate in a restaurant, 1 if they did not, and so on. Some researchers prefer using 1 for "yes" and 0 for "no." Regardless of whether 0 and 1 or 1 and 2 coding is used, many suggest using the higher number for those who check the item "yes" and the lower number for "no." Each item on the checklist then becomes a separate variable and a separate column in your database.

Precoding the questionnaire and creating a codebook will result in fewer errors during data entry. If the coders have to remember whether male is 1 or 2, it is likely that some responses will be entered incorrectly. When the item is open-ended, more work and training are required in order to develop a set of coding categories. Issues of intercoder or inter-rater reliability must be considered so that consistency among different coders is ensured.

Content analysis is necessary for open-ended responses using a list of categories to summarize answers. For example, when a question asks people to describe their favorite leisure time activities, a coder needs to know what to do with such responses as "play sports," "watch TV," "read books," and "go to movies." Researchers must decide whether to code each possible answer with a different number (1 for sports, 2 for TV, 3 for reading books, etc.) or to create fewer categories by coding similar types of activities with the same value, such as 1 for active participation activities, 2 for passive/watching ones, or 1 for sports, 2 for entertainment, 3 for educational, and so on. Organizing responses using categories constructed before the questionnaires are completed is helpful, especially if these variables have been analyzed in other studies. Asking a native-born American to

name the state where she or he was born can be coded with standard regional breakdowns, such as East, West, North, and South. Consulting studies, such as the General Social Survey (GSS), can provide suggested ways of organizing states into these categories. On the other hand, you can wait until the questionnaires have been completed and then read the responses to help in the creation of meaningful categories. It's likely that you did not anticipate all possible answers, and by reading them through, you can develop more relevant coding schemes. Of course, you can combine both methods and have some prearranged categories and add to them as you discover new responses that don't fit those categories. For more details about doing content analysis, consult books on qualitative research methods and content analysis (such as Lune and Berg 2017).

Missing Answers

Inevitably, many respondents leave some questions blank because they missed them, refused to answer the question, didn't feel it applied to them, or didn't know how to answer the question. There are several ways of dealing with missing values. One way is to leave the response blank, and the data analysis program will treat it as simply missing and not use it to calculate any statistics. Or you can code the missing answer with a number not likely to be a real answer, such as −9 or 0 or 99. At some point, you have to instruct the software reading the data that the code entered is not to be used in the calculation of any statistics. You can imagine what would happen if you were trying to figure out the average age of your respondents and you include −99 or 0 as answers! By coding a missing answer instead of leaving it blank, you can later analyze which people left the question out by having the computer search for all answers coded −9 and seeing if they are mostly, for example, males or females. You won't be able to tell, however, whether they left the question blank because they didn't see it or because they refused to answer it.

Sometimes you do know the reason for a missing value. People were asked to skip some questions through filtering and were branched elsewhere. You can code these absent answers as "not applicable" and assign a number to that response. There is a difference between those who skipped over the question because it didn't apply and those for whom it did apply but who didn't answer the question. Some researchers code "don't know" responses with a number and treat them as missing for later data analysis or use them to see which respondents were less likely to know the answers. In short, you might want to create a coding scheme to distinguish those people who simply leave responses out by mistake, people who refused to answer the question, those who didn't know the answer, and those for whom it wasn't applicable.

ETHICAL CONCERNS IN QUESTIONNAIRE DESIGN

Given what you have learned about writing questionnaires, you can see there is some potential in designing surveys for intentionally manipulating the phrasing and order of questions to create biased results. Consider political opinion polls, which have a notorious reputation especially in highly contested elections. Each side will claim how inaccurate they are—that is, if they are behind in the polls! The next chapter discusses concerns about sampling, but the reliability and validity of data from surveys and polls are also strongly affected by the design of surveys, in particular, the ordering of questions and the way issues are framed and worded. Altering the wording, ordering of items, and the sampling of respondents to achieve biased outcomes introduces serious ethical concerns for the researcher.

One extreme unethical technique is the use of push polls. *Push polls* are typically used as a form of negative political campaigning to raise potentially harmful concerns about candidates. In some cases, businesses test new products by raising issues about the competition. For example, a poll might begin by stating political candidate A's opinions about abortion or immigration as a way of emphasizing a controversial wedge issue for the voters, reminding them about that politician's views, and pushing them away from that candidate toward their own. Often, the statement introduced in the push poll is not even accurate, as in the case of creating a negative impression by quoting a fake news story and asking people's opinion about it. Typically, these kinds of "surveys" are short, rarely ask demographic questions, and avoid other topics. They are essentially a form of political telemarketing solely designed to create false and negative impressions of the competition.

Yet one does not have to be so blatantly unethical to skew a set of questions for a survey. Any of the tips presented in this chapter can be subtly manipulated to achieve desired or biased results. For example, researchers found that about 25 percent of respondents say too little money is being spent on welfare, yet when the word "welfare" is replaced with another phrase, almost half (49 percent) feel too little is being spent on "assistance to the poor" (Santoso et al. 2016). Obviously, the word "welfare" generated less support and is a loaded word. Other polls show that attitudes toward gay rights issues also depend on whether the question is asking about gay marriage, same-sex unions, or domestic partner benefits. Knowing this, a researcher could easily alter the results by phrasing items that lead to particularly favorable results for or against an issue or political candidate.

Ordering items on a survey in different ways can also lead to alternative outcomes, although some researchers feel it is more pronounced in interviews or online surveys than in self-administered questionnaires where respondents can more easily go back

and change answers after reading ahead. Some researchers are concerned about the ethics of reporting results that may be affected by question order or wording, so they test various ways of phrasing items and try ordering them differently on parallel forms of a questionnaire. Consider an example from a Pew Research poll about bipartisan efforts to work together across political parties.

In a survey of Americans that asked whether Republican leaders should work with a Democratic president or "stand up to him on important issues" and "whether Democratic leaders should work with Republican leaders or stand up to them on important issues" (Pew Research Center 2017a), different responses resulted depending on which question came first. When asked first what Democratic leaders should do, 82 percent of people said they should work with Republican leaders. But if asked what Democratic leaders should do as the second question (after first asking about what Republicans should do), 71 percent responded that they should work with Republicans. That's 11 percent fewer people responding that they should work together. Similarly, when asked first what Republican leaders should do, 66 percent said they should work with a Democratic president, compared with 81 percent who answered that way when the question came second. So which is it? Do 81 percent or 66 percent of the people believe Republicans should work with a Democratic president? Do 82 percent or 71 percent feel that Democrats should cooperate with Republicans? This illustrates how context can make a difference in responses people give on surveys.

The ethics of questionnaire construction require researchers to eschew knowingly manipulating the order of items, the wording of questions, or the selection of a sample to achieve a desired outcome. Researchers are also obliged not to report results from questionnaire items that are discovered to be faulty after the data have been collected. Pretesting items and pilot testing surveys are good steps in preventing inadvertent bias or intentional manipulation that could lead to the unethical use of research findings.

Sampling bias is another ethical issue when determining who will complete your survey. When your questionnaire is ready for distribution, you need to find the appropriate people to take it. No matter how good your survey is, poorly chosen respondents can seriously affect your results. Hence, it is crucial to use the best possible ethical methods for selecting a sample of participants. Although you are very likely to have had in mind the kinds of people who will take your questionnaire in order to have written your hypotheses and constructed the items, finding such respondents requires many important considerations. The next chapter describes the strengths and weaknesses of various ways of generating a good sample for your study.

REVIEW: WHAT DO THESE KEY TERMS MEAN?

Anonymous versus confidential

Attitudes

Behaviors

Codebook

Coding and precoding

Content analysis

Demographics

Filtering (contingency items)

Forced choice

Format: check boxes, drop-down

menus, radio buttons

Intensity

Interviews (structured, in-depth, interview schedule)

Leading questions

Likert scales

Loaded questions

Matrix

Mutually exclusive and exhaustive

Online surveys

Open-ended and closed-ended items

Ordering of items

Pilot test

Probe

Push polls

Ranking versus rating

Recoding

Response bias

Social desirability

TEST YOURSELF

Consider these items from a questionnaire. Describe the main problems with the wording of these items and how you can improve the questions.

1. How often in the past week have you listened to news on the radio?

    a. 1 to 2 times

    b. 3 to 5 times

    c. 5 to 7 times

2. I enjoy watching sitcoms and drama shows on a regular basis.

    Strongly agree   Agree   Disagree   Strongly disagree

3. a. Are you currently enrolled in a science class?   Yes   No

    b. Which field of science is it (chemistry, physics, etc.)? _____

4. A recent analysis by a scientist from the Environmental Protection Agency concluded that global warming is affecting the sea level in countries that border the oceans. What is your opinion?

    Yes   No

INTERPRET: WHAT DO THESE REAL EXAMPLES TELL US?

1. Consider these interview questions from the General Social Survey (GSS), the leading national survey focused on the structure and development of American society and trends in its population's demographics, behaviors, and attitudes.
   - Discuss the strengths and weaknesses of the wording and suggest alternative formats.
   - How would these items be written differently if it were a self-administered questionnaire instead of a face-to-face interview, or could they stay the same?

   a. "Are we spending too much money, too little, or about the right amount of money on the environment?"
   b. "People have frequently noted that scientific research has produced benefits and harmful results. Would you say that, on balance, the benefits of scientific research have outweighed the harmful results, or have the harmful results of scientific research been greater than its benefits?"
   c. "Of all the telephone calls that you or your family receives, are (a) all or almost all calls received on cell phones, (b) some received on cell phones and some on regular phones, (c) very few or none received on cell phones, (d) don't know, or (e) refuse to answer."
   d. How much do you agree or disagree with each of these statements? (1 = agree strongly, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = disagree strongly, 6 = can't choose)
      (1) "It is just too difficult for someone like me to do much about the environment."
      (2) "Many of the claims about environmental threats are exaggerated."

2. Figure 4.7 shows two pages from the General Social Survey (2016). This is a face-to-face interview survey. Notice how complicated a simple question about parents' occupation can become (in this case a father; information about mothers is asked in the same way later on).
   a. Discuss the branching and contingency question format and instructions to the people conducting the interviews.
   b. What other formats are used?
   c. Discuss the strengths and weaknesses of the wording and suggest alternative formats.
   d. How important is it to train interviewers?

Figure 4.7   Sample Pages From the General Social Survey

7. Were you living with both your own mother and father around the time you were 16? (IF NO: With whom were you living around that time?)
IF RESPONDENT MARRIED OR LEFT HOME BY AGE 16, PROBE FOR BEFORE THAT.

Both own mother and father.........................**(GO TO Q-8)** 1

Father and stepmother.................................**(ASK A)** 2

Mother and stepfather.................................**(ASK A)** 3

Father–no mother or stepmother ....**(ASK A)** 4

Mother–no father or stepfather....................**(ASK A)** 5

Some other *male relative* **(NO FEMALE HEAD)**
(SPECIFY AND ASK A) 6

Some other *female relative* **(NO MALE HEAD)**
(SPECIFY AND ASK A) 7

Other arrangement with *both* male and female *relatives* (e.g., aunt and uncle, grandparents)..**(ASK A)** 8

Other **(SPECIFY AND ASK A)** 0

A. **IF NOT LIVING WITH BOTH OWN MOTHER AND FATHER:**
    What happened?

    One or both parents died...1

    Parents divorced or separated...2

    Father absent in armed forces...3

    One or both parents in institution..4

    Other **(SPECIFY)**..5

    Don't know...8

IQ-3 INTERVIEWER: CHECK Q.7 IS A FATHER, STEPFATHER, OR OTHER
                    FATHER SUBSTITUTE SPECIFIED?
                    YES, FATHER OR SUBSTITUTE IS SPECIFIED
                    (CODES 1, 2, 3, 4, 6, 8)
                    (ASK: QS. 8, 9, & 10 FOR THAT PERSON)..............1

                    NO FATHER, STEPFATHER, OR OTHER MALE IS SPECIFIED
                    (CODES 5 or 7)
                    (SKIP TO IQ-4)..2

Figure 4.7 (continued)

8. A. What kind of work did your (father/father substitute) usually do while you were growing up? That is, what was his job called?
OCCUPATION: _____
_____

B. **IF NOT ALREADY ANSWERED, ASK:** What did he actually do in that job? Tell me, what were some of his main duties?
_____
_____
_____

C. What kind of place did he work for?
INDUSTRY: _____
_____

D. **IF NOT ALREADY ANSWERED, ASK:** What did they (make/do)?
_____
_____
_____
_____

E. **IF ALREADY ANSWERED, CODE WITHOUT ASKING:** Was he self-employed, or did he work for someone else?
Self-employed...1
Someone else...2
Don't know 8

GSS 1998 #6
page 6

CONSULT: WHAT COULD BE DONE?

Figure 4.8 is an example of a poorly designed questionnaire. You are asked to review the survey and provide expert advice in making it better.

1. How many problems can you find with it?
2. How would you correct the errors and rewrite the questionnaire?

DECIDE: WHAT DO YOU DO NEXT?

For your study on how diverse people develop and maintain friendships, especially on social media, respond to the following items:

1. Use the hypotheses or research questions that you wrote in Chapter 3 and/or develop some new ones. Suggest ways to measure the variables in them.
2. Write five attitude questions, five behavior questions, and five demographic questions that could serve as a good start for a much longer questionnaire. These items should measure some of the variables used in your hypotheses.
3. Work with another person or two and combine your questions to form a questionnaire of a reasonable length. If you are engaged in a research project, write the questionnaire you plan to use for the study.
4. Design a codebook for your questionnaire to explain how each variable is measured and coded.

Figure 4.8   A Survey of Questionable Merit

Attitudes about Cafeteria Food Questionnaire

This is a survey assessing your opinions about the food in the cafeteria, in order to improve the quality of the service and the food. Please place a check next to the appropriate answer. Your honesty in answering the questionnaire is appreciated. Your responses are confidential.

How often do you eat in the cafeteria? _____

Are you male or female? _____   How old are you? _____

Did you eat in the cafeteria yesterday?   Yes ___   No ___

Did you eat breakfast, lunch, or dinner? (Circle correct answer.)

Which of the following did you eat?

____ cereal   ____ eggs   ____fruit
____ vegetarian meal   ____ hot meal   ____dessert

Do you like to eat ham and eggs for breakfast? _____

What is your opinion about the new policy concerning hot meals?

Strongly agree   Agree   Disagree   Strongly disagree

Please rate the quality of food on a scale from 1 to 10 _____

What is your height?   Under 5' ____   5'–5'5"____   5'5"–6' ____   over 6' ____

Some people feel that the quality of food is just one part of what is going on in the institution and is part of a larger problem about quality of life here. What is your opinion about the organization as a place to be?

Strongly agree   Agree   Disagree   Strongly disagree

A recent analysis by a nutritionist from the Department of Health concluded that the food served in the cafeteria is some of the healthiest she has seen in some time. Do you think she is wrong?

                    Yes   No

Why do you think she is not wrong?

Any other comments?

Thank you for completing this survey. Please return it to Mail Slot 999.