We invited our experts to write about their lines of inquiry in the spirit of exciting promotion of ideas and interesting, timely illustrations of these ideas. Rather than furnish comprehensive documentation of pertinent studies or theoretical intricacies, we invited our authors to provide a view of the big picture that will be engaging and accessible to the nonpsychologist. Should you wish to "read more about it," each chapter also provides an extensive bibliography of the authors' primary sources for research and theory in the area.

Scientific terms are used sparingly in this volume, and readers will probably be familiar with most of them. However, you may occasionally find it instructive to refer to the Glossary in the back of this book. It furnishes clear and complete definitions of words and phrases that are part of the language of persuasion research.

Persuasion processes are fundamental to democratic and free-market societies. Persuasion processes are the mechanism through which individuals make critical decisions about their government, their marketplace, their community, and their lifestyle. By providing this glimpse into the psychology of persuasion, our goal is to sharpen your understanding of its workings and strengthen your appreciation of its role in our society.

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2

ATTITUDE SCALES

How We Measure the Unmeasurable

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Weldon and Babbs were in a pickle. The test results were clear cut. Babbs was pregnant. It was early in their relationship; they were still trying to find out just how well they liked each other. They had not yet discussed the possibility of marriage, much less the idea of having children. What to do?

One of the options they discussed was abortion. Babbs favored it, but Weldon had serious misgivings. Both of them came into the relationship with fairly well-developed attitudes about abortion. Babbs's good friend Cindy had previously had an abortion. The two of them had talked it over at some length before Cindy decided to go ahead with it. Fortunately, all had gone well. Cindy had become a vocal advocate of abortion rights. Babbs was sympathetic with her friend's views and once had even helped Cindy prepare materials for a pro-choice fund-raising drive.

Weldon's experiences had been quite different. His sister had an abortion two years ago, despite strong opposition from her parents. As a consequence of their angry reactions, she had moved to her own apartment and eventually stopped attending church with the family. Even though she still lived in the same city, she did not talk with Weldon or her parents more than once or twice a year. Weldon blamed the abortion for the breakup of his family.

Life experiences can lead people to acquire very different thoughts and feelings about the world around them. Babbs and Weldon have developed opposite attitudes about abortion, differences that lead them to take very different approaches to their present dilemma. And they are now in the midst of a new life experience that may well lead them to reshape the attitudes they brought into their relationship, either through becoming harder and more extreme or through revision and accommodation.

You, the reader, now have a sense of the differences in views toward abortion held by Babbs and Weldon. Their attitudes differ in fundamental ways and yet are not completely incompatible or irreconcilable. With those subtle hues and shadings in mind, consider the problem of the scientist whose objective is to study the nature of human attitudes. As scientists, we must move from the more impressionistic, evocative, and cinematic portrayal of Babbs's and Weldon's attitudes to a more rigorous and precise description. We must devise concrete ways to measure how attitudes differ from person to person. In short, we want to assign numbers to attitudes.

How Can We Know Another Person's Attitudes?

How did Babbs and Weldon manage to learn about each other's attitudes toward abortion? No doubt, most of their information came as a natural result of being together and talking about the things that matter to them. When the pregnancy occurred, the discussions became soul searching and intense.

There are at least four sources of information we draw upon to know another person's attitude. At first blush, the most straightforward is simply to ask the person. But as this chapter will show, direct questions do not always lead to direct (or correct) answers. A second source of information comes through observing how the person reacts to the attitude topic when it is raised in conversation or in other ways. For example, how does Weldon react to television news about a fire bombing of an abortion clinic? Is he indifferent, does he shake his head in disgust, or does he have a secret smile of satisfaction? Nonverbal reactions can convey volumes of information. Third, we can learn what kinds of actions the person will take when presented with the opportunity to help or harm the attitude object. For example, Babbs's helping Cindy with the pro-choice fund-raising drive clearly conveys a positive attitude. Fourth, people tend to associate with others who share their attitudes. So we can look at the attitudes held by the friends and family of a person to get an idea of his or her attitude.

Babbs and Weldon had spent a lot of time with one another, and so they could draw upon all four of these kinds of information to come to know how the other felt about abortion. To the extent that all four sources of information about a person's attitude tell the same story, then we can have some confidence that we have understood the attitude. But gathering all this information takes time.

Attitude researchers do not have the luxury of spending months, weeks, or even hours with a person. We have had to devise ways of measuring attitudes that

can be administered in a very short time period. National surveys on political attitudes or consumer attitudes rarely devote more than a minute or two to measuring attitudes toward a particular political candidate or toward a new brand of toilet paper. Often such surveys will use just a single question to measure the attitude.

Why Measure Attitudes?

This book focuses on the persuasion process. It addresses the question of what leads people to change their attitudes. Persuasion occurs at the interpersonal level, such as when Babbs and Weldon struggle to come to some agreement about their abortion decision. It also occurs at the level of mass communications, as in the nationwide advertising campaigns of the pro-life and pro-choice groups. Mass media doubtlessly contributed to the development of Weldon and Babbs's current attitudes toward abortion.

Psychologists are striving toward a scientific understanding of attitudes and persuasion. We want to understand attitudes the way physicists understand molecules and neurophysiologists understand the brain. The starting point of any science is observation and measurement. We need to know what to look for and how to assign numbers to it.

There are two basic reasons why we need accurate and precise measures of attitudes. One is to test our theories of attitudes and persuasion. The primary way to evaluate the quality of a theory is through the accuracy of its predictions. Attitude measures provide the data we need to reveal the inadequacies of poor theories, confirm the quality of good theories, and (in the case of truly creative scientists) stimulate us to generate new theories.

The second reason we need measures of attitudes is for more practical, atheoretical purposes. You, the reader, have probably had some contact with applied attitude measurement. A phone call interrupting your dinner hour, a questionnaire in the mail, or a tap on the shoulder in the shopping mall often means that a list of questions will shortly follow. Consumer groups, political groups, government agencies, nonprofit organizations, the local zoo, the transit authority, and many other organizations inundate us with surveys designed to measure the public's attitudes. For example, research looks at political attitudes regarding policies and candidates, at consumer perceptions of different products, at employee morale in organizations, at levels of racial prejudice, and at college course evaluations. Political campaign strategies, product development decisions, supervisor salary raises, anti-discrimination legislation, and curriculum revision all depend on the accuracy of the techniques used to measure these opinions.

Three Fundamental Considerations

The measurement of attitude always involves three fundamental considerations (Davis & Ostrom, 1984). We will consider each in turn.

The Attitude Object

People hold attitudes toward all kinds of things. Abortion is just one example. We can have attitudes toward specific persons (e.g., our mother, a roommate, Marilyn Monroe, Bill Clinton, or even ourselves), toward social groups (e.g., African Americans, Baptists, Iraqis, or doctors), toward policy decisions (e.g., raising taxes, increasing military spending, or establishing diplomatic relations with Cuba), toward personal action decisions (e.g., having an abortion, going to a movie, or studying for an exam), toward abstract concepts (e.g., democracy, Christianity, or free private enterprise), and toward consumer products (e.g., Honda sedans, Ben and Jerry's ice cream, or Charmin toilet paper). Almost anything in our world can become the object of an attitude.

As is well documented in this book, attitude theories are assumed to apply equally well to all possible attitude objects, from persons to products. In the long run, this assumption may prove to be wrong, but for now, it vastly simplifies the measurement problem. The measurement techniques presented in this chapter are assumed to apply to all attitude objects.

Attitude Properties

Attitudes are complicated. People can have all sorts of thoughts and feelings toward the attitude object. And those reactions may well change over time. The first task of attitude measurement is to somehow simplify this complexity.

Asking a psychologist to measure an attitude is like asking a physician to measure a person. The physician is certain to say that this request makes no sense. It just is not specific enough. The physician needs to know what it is about the person you want measured. Is it the person's height or weight, the person's blood cholesterol level, the person's heart rate, or the body's chemical profile? A person has many such physical properties. Exactly the same problem exists if you ask an engineer to measure a car or ask a store manager to measure his or her supermarket. The measurement process cannot begin until the relevant properties are specified.

A psychologist faces a similar problem when asked to measure a person's attitude. Attitudes have a multitude of properties. However, there is one property that dominates attitude research and theory. Most of the time, when scholars use the term *attitude*, they are referring to the *evaluative* property. This is also what people in general think of when they use the term in their everyday lives. The evaluative property refers to how positively or negatively the person feels toward the attitude object. Measures of the evaluative property try to find out how pro versus con, favorable versus unfavorable, or supportive versus antagonistic people are toward the attitude object.

Weldon and Babbs, then, are each viewed as having an overall evaluative disposition toward abortion. Each person's overall attitude is the distilled essence of the many experiences, inferences, thoughts, and feelings he or she has had about the attitude object. Attitude is referred to as a *disposition* because it is thought to dispose people to react to the attitude object in an evaluatively positive or negative manner.

Each person's attitude can be located on the evaluative dimension. Attitudes can range anywhere on that dimension from extremely positive, through neutral, to extremely negative. That attitudinal point may vary from day to day (or even moment to moment), but at any given instant in time, the overall attitude is theoretically thought of as being fixed at one point on the evaluative dimension. The task of the researcher is to find a way to measure just where that point is located.

There is a diverse array of other properties of attitude that can be measured. Collectively, they are best thought of as being *nonevaluative*. Two people like Babbs and Cindy could actually hold the same overall evaluative disposition toward abortion (perhaps moderately in favor of it), but their attitudes might differ in a variety of other ways.

As one example, Babbs and Cindy could differ in the level of ego involvement (or importance) attached to their pro-choice attitudes. Babbs may be far less ego involved in her attitude than Cindy (at least during the period prior to her becoming pregnant). For Cindy, the attitude is linked to important social and moral values, whereas for Babbs, it is more an academic principle. Such differences in ego involvement could have important consequences. Babbs is probably more sympathetic to Weldon's persuasive arguments than Cindy would be. This is because, generally speaking, high ego involvement leads to high resistance to attitude change.

Another nonevaluative property is the dimensionality of the attitude. Attitudes usually have many beliefs associated with them. When we speak of *dimensionality*, we refer to the different dimensions (or belief clusters) that are present in a person's set of beliefs. Cindy's beliefs may contain a large number of dimensions, such as relevance to personal morality, freedom of choice, future responsibilities, women's liberation, and attitudes of intimate friends. Babbs's attitude, on the other hand, may be based on a far more impoverished set of beliefs. Her pro-choice stand may have been based solely on philosophical values regarding individual liberties. Dimensionality (or complexity of the underlying beliefs) can determine how people deal with persuasive communications, the kinds of arguments people raise when discussing the issue, and the kinds of life events that will make their attitude salient to them.

Many other nonevaluative properties have been explored by attitude researchers (e.g., ambivalence, intensity, and consistency). The reader should consult other sources if interested in more information about them (e.g., Scott, 1968; Smith, Bruner, & White, 1956).

Attitudes and persuasion researchers have been slow to investigate these nonevaluative properties in any systematic fashion. You will find very little treatment of them in this or other books in the field. Although we believe that nonevaluative properties will become an important area for future research activity, the present chapter nonetheless focuses on the more traditional evaluative measures.

Response Domain

The properties of an attitude, like evaluation, ego involvement, and dimensionality, are theoretical abstractions. That is, they cannot be directly observed. Instead, they must be inferred on the basis of observable (and therefore measurable) responses.

Researchers have identified three types of responses that people make when conveying their attitudes to others. They are referred to as the affective, cognitive, and conative components of attitude. This tripartite distinction has a long history in Western thought (Flemming, 1967; Ostrom, 1969). *Affective responses* refer to the emotional feelings and physiological consequences of encountering or thinking about an attitude object. These feelings vary from positive to negative on the evaluative dimension. *Cognitive responses* refer to the facts, knowledge structures, beliefs, inferences, and assumptions made about the attitude object. They vary from favorable to unfavorable on the evaluative dimension. *Conative responses* refer to behavioral intentions and overt actions taken in regard to the attitude object. They vary from supportive to hostile on the evaluative dimension. Different attitude measures give differential emphasis to the three components.

Multitude of Attitude Measures

The remainder of this chapter is devoted to illustrating the variety of attitude measures that have been developed over the years. We will not give step-by-step instructions on how to construct or administer each measure. For this kind of information, the reader is directed to other sources (e.g., Edwards, 1957; Fishbein, 1967; Summers, 1970; Mueller, 1986). Nor will the chapter offer a comprehensive examination of all the research that has been directed toward developing and improving the field of attitude measurement. For this, the reader is directed to the chapters on attitude measurement in the two most recent editions of the *Handbook of Social Psychology* (Dawes & Smith, 1985; Scott, 1968). There are a number of attitude topics for which scales have already been developed (exclusively dealing with the evaluative property). Collections of these scales are found in Robinson, Athanasiou, and Head (1969); Robinson, Rusk, and Head (1968); Robinson and Shaver (1969); Robinson, Shaver, and Wrightsman (1991); and Shaw and Wright (1967).

Verbal Measures of Attitude

As noted previously, more than one property of attitude can be measured. However, most researchers are interested in the evaluative dimension. When people speak of attitude, they most frequently refer to this evaluative, favorable-unfavorable property.

Two general approaches have been developed for measuring this evaluative property. By far the most popular is through direct questions put to the respondent. We call these *verbal measures*. This is the approach used in questionnaires and surveys. The second approach is for the researcher to avoid directly talking to the respondent but rather to observe the overt actions, facial expressions, and physiological responses of the respondent. We call these *observational measures*. Using product purchases as an index of packaging attractiveness and channel switching as a measure of attitude toward soap operas are illustrations of this approach.

Direct Reports of Attitude

The simplest approach to discovering a person's attitude is to directly ask how he or she feels about the attitude object. This is what Weldon and Babbs are doing when they discuss their thoughts and feelings about abortion with one another.

Direct verbal measures can be divided into two categories: structured scales and unstructured scales. The main difference is that in *structured scales*, the respondent is given a limited number of answers to select from when responding to the question. For example, Babbs might ask Weldon to answer simply "yes" or "no," is abortion against his religious principles? *Unstructured scales* have an open-ended quality where respondents can elaborate their thoughts as fully as they wish when answering each question. For example, after Weldon said, "Yes, abortion is against my religious principles," Babbs might have asked him to explain more fully the kinds of inconsistencies that bothered him.

Structured Measures: Surveys and Single-Item Scales

People are generally most familiar with structured measures. This is the kind that is used most often in telephone surveys and "person-on-the-street" interviews. You are asked to think about your attitude and report it as accurately as you can. For example, the Gallup polls frequently measure Americans' attitudes toward the president's job performance. Gallup respondents have been asked: "Do you approve or disapprove of the way Clinton is handling his job as president?" Respondents who say "approve" presumably have positive attitudes toward President Clinton's performance, and those who say "disapprove" presumably have negative attitudes.

Structured scales have several advantages over unstructured scales. Since they can be printed in a booklet, they are easy to administer. Since they have a limited number of response options, they are easy to score. They have the additional advantage that they allow the investigator to focus on specific parts of an attitude that may be of special interest. For example, they can highlight specific beliefs related to the attitude object, or they can differentially highlight the affective, cognitive, or conative response domains.

The single-item, self-rating scale is the most widely used approach in attitude measurement. The scale acquired enduring fame when the movie *10* was released. Bo Derek came to define (or anchor) the top of Dudley Moore's 10-point scale of feminine pulchritude. This type of scale has been extensively adopted in both laboratory experimentation and nationwide surveys, for several reasons: It is quick and easy to construct, and it usually does the job as well as any of the multiple-item scales discussed later in this chapter.

A great deal of laboratory research uses seven-category rating scales. For many attitude topics, especially ones that people have thought about before, people seem to be able to identify about seven shades of attitude on the pro-to-con scale. More categories are meaningless, and fewer categories do not allow people to convey distinctions they know exist.

Some scales describe the pro-to-con dimension and ask people to check the category that best describes their overall attitude (see Figure 2-1, Panel A). Other scales provide a single statement of attitude or belief and ask how much the person agrees or disagrees with it (see Figure 2-1, Panel B). The scoring of these scales is simplicity itself. A number from 1 to 7 (or sometimes −3 to +3) is assigned to the person, depending on which category he or she checked.

Researchers feel that sometimes the respondent needs some help in visualizing attitudes as falling on a dimension. This is especially true for national surveys that may include a large number of respondents with poor reading skills. So the researchers try to create analogies between the attitude scales and other, more familiar concepts. Figure 2-2A shows a stair-step scale, and Figure 2-2B shows an opinion thermometer. Gradations in attitude parallel gradations in height or temperature. Some investigators feel that the use of such analogies allows a person to make more than seven distinctions on the attitude dimension. Typically, the thermometer scale provides 11 gradations of "temperature" (from 0 to 100).

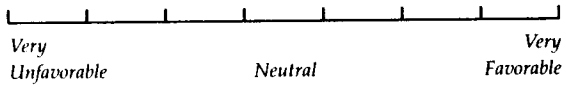
Sometimes surveys are administered to groups that differ in their native language or to children too young to have good reading skills. In this case, rating scales may use pictorial ways of conveying gradations of positive to negative affect. Figure 2-3 illustrates one such scale.

Special Problems with Single-Item Measures of Attitudes. The data provided by single items can sometimes be misleading. This is especially so in cases where the items are presented in oral form rather than in written form. During the last 20 years, researchers have identified many *biases in single-item measures*. These hidden biases have been identified by showing that seemingly trivial variations in the

FIGURE 2-1 Categorical single-item rating scales

Panel A: Favorability Scale

Question: How favorable or unfavorable do you feel toward legal abortion?
Instructions: Place a checkmark in one of the following categories.



Panel B: Agree-Disagree Scale

Question: How much do you agree or disagree that abortion should be legal?
Instructions: Please circle one of the following numbers.

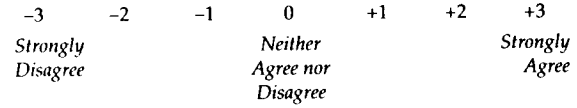
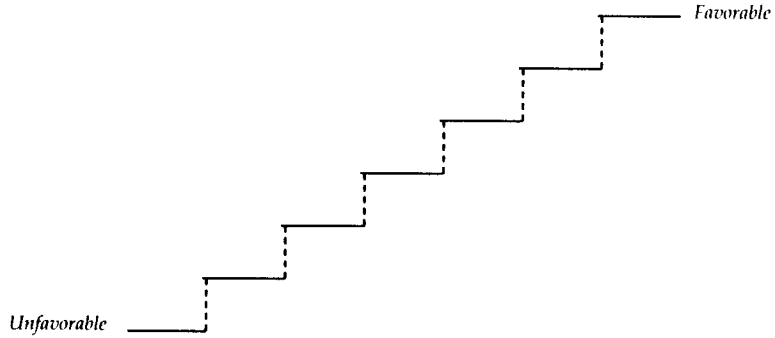


FIGURE 2-2 Single-item scales with analogical formats

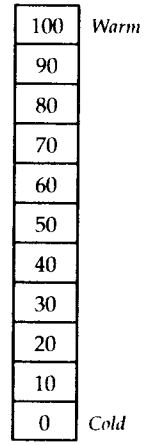
Panel A: Stair-Step Scale

Question: What is your attitude toward the pro-choice supporters of abortion rights?
Instructions: Place a check mark on the stairstep that best describes your attitude.



Panel B: Opinion Thermometer

Question: How do you feel toward the pro-choice supporters of abortion rights?
Instructions: Circle the number on the thermometer scale that best describes your feelings.



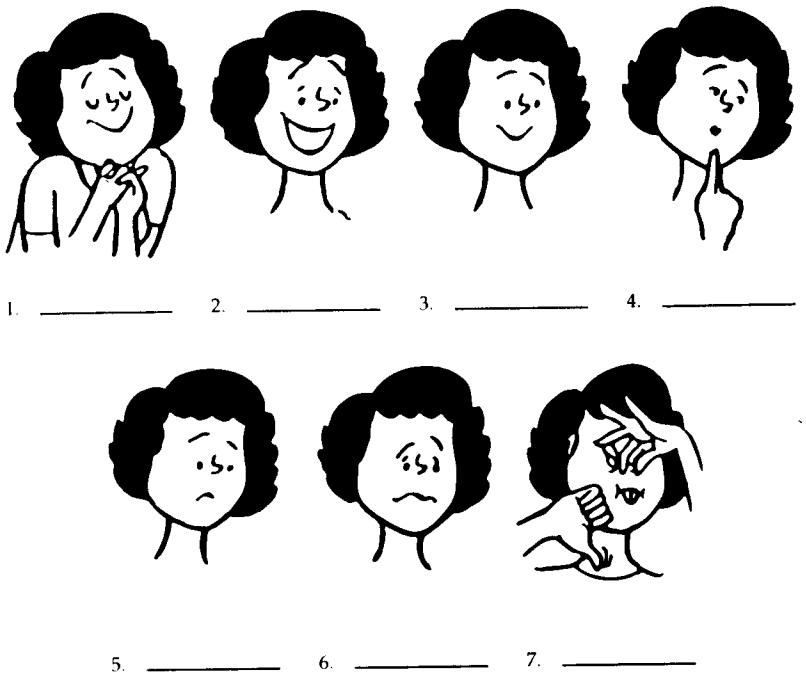


FIGURE 2-3 Pictures are sometimes better than words.

wording, format, and order of survey questions can have dramatic effects on the answers people give to them.

Before we explain these biases, we would like you to answer a few short questions:

1. Do you agree or disagree with the following statement: "The civil justice system in the United States works very well and is in no need of repair."
2. Do you favor a law that would make abortion illegal, or do you believe that such a law would interfere too much with the rights of women to control their own bodies?
3. Which of the following do you consider to be the most important problem facing the United States today: unemployment, inflation, the threat of war, the government budget deficit, or crime?
4. Do you favor or oppose the Metallic Metals Act?
5. Do you think that the Japanese government should be allowed to set limits on how much U.S. industry can sell in Japan?

6. Do you think that the U.S. government should be allowed to set limits on how much Japanese industry can sell in the United States?

Do you think these questions would provide unbiased measurements of your opinions on the issues being addressed? Each one illustrates a particular type of bias, and we will discuss each below.

The problem with the first question is that some people seem to agree with everything, regardless of what a question asks. This tendency has come to be called *acquiescence bias* (see Schuman & Presser, 1981, ch. 8). This can be a problem when a statement is read to respondents and they are asked whether they agree or disagree with it.

Agree/disagree questions like this one about the civil justice system are often used in surveys. However, researchers have known for many years that the acquiescence bias can produce misleading results. In the case of the civil justice system question above, it would lead to overestimation of the number of people who have positive attitudes toward the civil justice system, since the statement is phrased positively. However, if the statement said instead, "The civil justice system has many serious problems and is greatly in need of repair," acquiescence response bias would lead to an overestimation of the number of people with negative attitudes.

Researchers are not yet certain about why some people show acquiescence response bias, though we have a number of theories. One possibility is that the tendency to acquiesce to any kind of social pressure is a part of these people's personalities (Couch & Keniston, 1960). According to this theory, these respondents listen to the interviewer read the statement about the civil justice system and infer that the interviewer believes it to be true; after all, she just said it, and she sounded like she believed it. This is not such an odd inference to make, in fact, because survey interviewers are trained to read statements in ways that make it sound as if they really do believe what they are saying. Respondents who think the interviewer believes the statement to be true and who have acquiescent personalities presumably say they agree with it because they feel social pressure from the interviewer (see Figure 2-4).

Because of this problem with agree/disagree questions, many survey researchers now believe that they should be avoided whenever possible. One is almost always able to rewrite an agree/disagree question in another format. For example, the civil justice system question above could be asked as follows:

> Some people believe that the civil justice system works very well and needs no repairs. Other people believe the civil justice system has many problems and that many changes need to be made in it. Which point of view do you agree with more?

Unfortunately, you cannot be certain that you have eliminated the influence of acquiescence response bias just because a question does not ask respondents to agree or disagree with a statement. For example, consider the following question: "Do you favor a law that would make abortion illegal?" This question does not ask

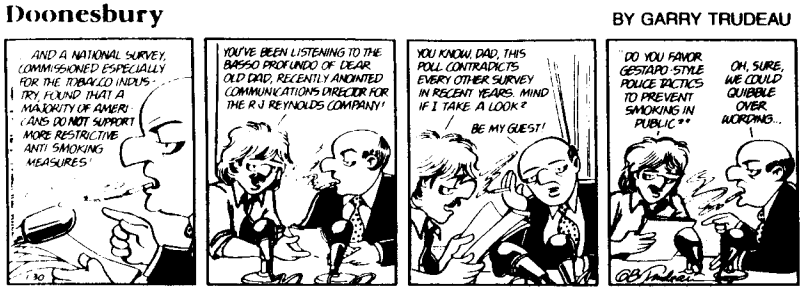


FIGURE 2-4 The socially desirable wording of questions can produce acquiescence among respondents.

respondents to agree or disagree with a statement, but people who are especially acquiescent might perceive the interviewer to favor the law and might therefore lean in the direction of saying "yes." Sure enough, some people say "yes" when asked whether they favor a law outlawing abortion and also say "yes" when asked whether they oppose a law outlawing abortion!

Researchers have therefore concluded that it is preferable to ask balanced questions. The abortion question above is unbalanced because it offers only one point of view. A simple way to make it balanced would be to say, "Do you favor or oppose a law that would make abortion illegal?" This presumably makes it more difficult for a respondent to infer the interviewer's attitude on an issue and therefore reduces the likelihood of acquiescence.

Asking a favor/oppose question like this one is probably the best way to balance an unbalanced question. Sometimes, though, researchers go a little too far in trying to do so. Consider question 2 earlier about abortion: "Do you favor a law that would make abortion illegal, or do you believe that such a law would interfere too much with the rights of women to control their own bodies?" The intention of this question is presumably to offer two contrasting points of view and to legitimize both of them.

However, there are two problems with this question. First, it offers a persuasive argument supporting the pro-choice point of view and offers no such argument supporting the pro-life point of view. This argument might persuade some respondents to express positive attitudes toward abortion (Bishop, Oldendick, & Tuchfarber, 1982). Because surveys are intended to measure attitudes and not to change them, this possibility could lead to misleading results. Second, the question actually makes it difficult for some pro-choice persons to express that point of view. Imagine that you believe abortion should not be made illegal because you feel there are too many laws and that no new laws should be passed. But you also do not believe that outlawing abortion would interfere too much with women's

right to control their own bodies. How do you answer the question? Neither answer choice would express your views! Clearly, it is a badly written question. The lesson to be learned is that attitude questions work best (1) when they are balanced, (2) when they do not include persuasive arguments, and (3) when they offer points of view that cover all the opinions that people might have on an issue.

A second problem with single items can result from *omitting important response choices* from closed-ended questions. One of the most frequently asked questions in survey research is, "What do you consider to be the most important problem facing the United States today?" This is called an *open-ended question* because it allows respondents to give any answer they wish. When researchers analyze answers to such a question, their first step is to code the answers into categories and to tabulate the number of respondents who give each type of answer. This coding process can sometimes be quite difficult because rarely do two people give exactly the same answer. For example, one respondent might say "inflation" and another might say "high prices." Are these respondents saying the same thing? This is a judgment call that researchers must make.

Because these judgment calls are difficult to make with any confidence, many survey researchers advocate letting the respondent code his or her own answers into a category. This is done by asking closed-ended questions. Question 3 above is an example: "Which of the following do you consider to be the most important problem facing the United States today: unemployment, inflation, the threat of war, the government budget deficit, or crime?" This question asks respondents to choose among a set of offered alternatives and therefore does not require any coding by the investigator.

If a respondent's preferred answer to a question is not included among the alternatives, how will he or she answer? Some may rebel and state their preferred answer. But others will typically select one of the offered choices. So, for example, even if a man believes that drug abuse is the nation's most important problem, he may not insist on that answer. Rather, he may pick the one of the five mentioned problems he considers most important (Schuman, Ludwig, & Krosnick, 1986). It is therefore extremely important that the list of responses to a closed-ended, forced-choice question be as complete as possible.

Once a researcher has determined which answer choices should be offered in a closed-ended question, he or she must make another important decision: In what order should the response alternatives be read to the respondent? As it turns out, reading response alternatives in different orders can lead respondents to give different answers, even though the question seems to ask the same thing. This is called a *response order effect*.

Consider again the question about national problems: "Which of the following do you consider to be the most important problem facing the United States today: unemployment, inflation, the threat of war, the government budget deficit, or crime?" Which answer would you choose if an interviewer read it to you over the phone? Now, imagine that the interviewer instead read the list of choices to you in the reverse order: "crime, the government budget deficit, the threat of war, inflation, or unemployment?" Would you have given a different answer?

Survey researchers have shown in many studies that you may well have given a different answer. Two sorts of effects can occur—primacy effects and recency effects (Krosnick & Alwin, 1987). *Primacy effects* occur when respondents are biased toward choosing one of the first answer choices they hear. One reason why primacy effects occur is laziness: Respondents simply choose the first answer choice that seems acceptable. *Recency effects* occur when respondents are biased toward choosing one of the last answer choices they hear. One reason why recency effects occur is memory: After hearing a long list of answer choices, it is sometimes easier for respondents to remember the last ones read.

Response order effects can appear in questions like the "most important problem" question described above, and they also can occur in much simpler rating-scale questions. So, for example, asking respondents to indicate whether they feel "extremely favorable, very favorable, somewhat favorable, neither favorable nor unfavorable, somewhat unfavorable, very unfavorable, or extremely unfavorable" toward an economic policy can lead people to give a different answer than reading the response choices in the reverse order, from extremely unfavorable to extremely favorable. It is impossible to simply read a question and predict whether it has a response order bias built into it. The only way to be sure is to see whether respondents give different answers when the response alternatives are read in different orders.

How did you respond when answering question 4 above about the "Metallic Metals Act"? A particularly tricky problem with survey attitude measures is *nonattitudes* (Converse, 1964). Nonattitudes are opinions that people express that really do not reflect a pre-existing view they had on the issue. Rather, they concocted a response on the spot, based on little or no information about the issue. Some people who have no opinion on an issue tell interviewers that explicitly, but other people pretend to have an opinion instead. They do this, presumably, because they feel some pressure to portray themselves to the interviewer as thoughtful and knowledgeable. Unfortunately, some evidence suggests that the responses people whip up on the spot do not reflect meaningful opinions at all but rather are purely random choices from among the answer choices offered by a question. Consequently, these respondents would probably give a completely different answer if they were asked the same question a week or two later. (See Chapter 7 by Wood and Stagner for further discussion.)

When the results of polls are reported in the media, they usually ignore the possibility of nonattitudes completely. The usual practice is to report the proportion of citizens who favor or oppose a particular political candidate or government policy. These proportions are typically not based on the nation as a whole but rather on only those survey respondents who offered an opinion in response to the relevant survey question. The people who said "don't know" are not mentioned at all.

The proportion of people who say "don't know" can vary a great deal, depending upon exactly what attitude is being measured. Almost everyone offers opinions about abortion, gun control, and race relations policies, and very few people offer opinions about U.S. relations with Central American nations. Therefore, a

poll report claiming that 60% of people oppose U.S. government aid to El Salvador and that 40% favor aid is likely to be misleading in its indication that a majority of Americans oppose aid. In fact, a majority of Americans might have said they had no opinion at all on the issue! For some attitude issues, therefore, it is a mistake to interpret the results of attitude surveys without knowing the proportion of respondents who offered opinions on each issue asked about.

It is hard to identify nonattitudes conclusively, but some studies have provided pretty convincing evidence that they exist. For example, in one study (Schuman & Presser, 1981), respondents in a national survey were asked whether they favored or opposed the "Agricultural Trade Bill." This was an obscure bill being considered by Congress that had received no national publicity at all and that the researchers believed no Americans would know about. Despite this likely ignorance, only 69% of respondents in the survey said they had no opinion toward the bill. Nineteen percent said they favored it, and 11% said they opposed it! When these people were asked why they favored or opposed it, their answers revealed that they did not know anything about the bill, that they had tried to guess what it was about, and that they had concocted an evaluation of it on that basis. Similar results have been produced when surveyors have asked Americans about other obscure pieces of legislation and, in some cases, about nonexistent pieces of legislation that the survey researchers made up, such as the "Metallic Metals Act" (Bishop, Tuchfarber, & Oldendick, 1986).

The *order in which questions are asked* can have a substantial effect on answers. One type of question order effect that is well-understood involves the norm of evenhandedness: the belief that all parties in a dispute should be treated equally (Schuman & Ludwig, 1983). Consider question 5 above: "Do you think that the Japanese government should be allowed to set limits on how much U.S. industry can sell in Japan?" Many Americans oppose such limits and say so when asked this question. However, the proportion of people who say so goes down substantially when this question is preceded by question 6 above: "Do you think that the U.S. government should be allowed to set limits on how much Japanese industry can sell in the United States?" Most Americans favor such limits and say so in response to this question. When it is followed by the question about allowing Japan to limit U.S. imports, many respondents realize that they ought to be evenhanded. Consequently, many who would have opposed allowing Japan to limit imports say they favor that right.

Question order effects have also been shown to occur in measures of public attitudes toward legalized abortion. Since the early 1970s, the University of Chicago's National Opinion Research Center has been asking Americans whether they favor or oppose legalized abortion under a variety of circumstances. A series of questions asks respondents whether it ought to be legal to get an abortion if there is a strong chance of a serious defect in the baby or if a woman is married and does not want any more children.

People's answers to the question about a married woman who does not want any more children are very different, depending on whether they are first asked about the case in which there is a strong chance of a birth defect (Schuman, Presser,

& Ludwig, 1981). Fewer people say they favor abortion for the married woman if they are first asked the birth defect question. One possible explanation for this question order effect is that the "married woman" reason seems less convincing when compared to the "defect" reason. Another explanation focuses on the possibility that many respondents may have ambivalent feelings about abortion. According to this explanation, most people favor legalized abortion in the case of a birth defect. However, because they feel some ambivalence about this, they say they oppose abortion in the case of the married woman in order to convey their mixed feelings to the interviewer. These examples make it clear that the answers people give to an attitude question in a survey can be partly influenced by the questions that came before it.

Structured Measures: Multiple-Item Scales

All of the biases discussed in the last section make it difficult to take a person's answer to a single question as a perfect indicator of his or her opinion on the issue. One way that researchers have learned to overcome these biases is to use *multiple-item tests*. The primary motivation for constructing multiple-item scales is to improve the reliability and accuracy of the testing instrument. It is common practice in other fields, such as the measurement of personality, intelligence, and scholastic achievement, to include a number of different items in the test. No teacher would ever give just one multiple-choice question as the entire final exam. The more items that are included, the more accurately test performance reflects students' knowledge.

The same principle holds true in attitude measurement. Where single-item scales ask for feelings in general, multiple-item scales include items that cover a variety of different feelings and beliefs the person may have toward the attitude object. Averaging across 5 or 10 separate items should provide a more valid index of the underlying attitude because the bias affecting any single item will have a relatively small effect on a person's total test score.

One of the earliest of the multiple-item scales was developed by Likert (1932). The Likert scale is probably the most used attitude measurement technique other than the single-item self-rating. To develop a Likert scale, the researcher begins by generating a large pool of belief statements for pretesting. The entire set of items is given to a sample of pretest subjects to indicate how much they agree or disagree with each item (see Figure 2-5). Each subject is presented with the statements and instructed to check only one of (usually) five possible responses for each statement (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree).

A provisional attitude score is computed for each of these subjects based on their answers to the entire item set. Only those individual items that correlate highest with the provisional score are selected for inclusion in the final scale. Usually, half the selected items are positive beliefs and half are negative beliefs. This minimizes distortions due to acquiescence bias (described in the previous section).

A great deal of the research reported in this book employs a variant on the Likert technique. These "message-based" Likert scales bypass the usual first step of pretesting a large group of items. This approach is taken when the researcher

FIGURE 2-5 Examples of Likert scale items

Instructions: Please read each statement and circle the level of agreement that best describes your reaction.

1. Women should have control over their own bodies.

Strongly Agree	*Agree*	*Undecided*	*Disagree*	*Strongly Disagree*

2. Abortion should be legal throughout the United States.

Strongly Agree	*Agree*	*Undecided*	*Disagree*	*Strongly Disagree*

3. Abortion is not a civilized act.

Strongly Agree	*Agree*	*Undecided*	*Disagree*	*Strongly Disagree*

4. Abortion is no different than infanticide.

Strongly Agree	*Agree*	*Undecided*	*Disagree*	*Strongly Disagree*

Note: The overall attitude score is calculated by adding the four items. A value of +2 is given to the strongest pro-choice response (*Strongly Agree* for items 1 and 2 and *Strongly Disagree* for items 3 and 4). A value of -2 is given to the opposite end of each scale, and the intermediate responses are given values of +1, 0, and -1.

wants to know the respondent's reactions to the specific arguments and conclusions presented in a persuasive communication (e.g., several arguments may have been given in support of the conclusion that tuition should be doubled next year).

In such cases, the investigator will prepare a small number of belief statements, each of which relates to a different argument in the message. In this manner, a scale of only two to six items may be prepared. There is some risk to this approach, however, because for the scale to be reliable, all the items must show positive correlations with one another. And since this can only be calculated after the study is complete, the entire study may have to be redone, should the measure prove invalid.

Why is the Likert scale so popular? It is easy to construct and, most importantly, it works. To construct a message-based Likert scale, researchers have to come up with just a few attitudinal statements. The scale works because researchers use common sense: They know what a "pro," an "anti," and a "neutral" item is, and they know how to avoid irrelevant items. As a result, Likert scales routinely show high correlations with other attitude scales.

There are a wide variety of alternative approaches to the construction of multiple-item attitude scales. Some are developed to be consistent with particular theories of attitude (e.g., Fishbein & Ajzen, 1975; Rosenberg, 1956; Thurstone, 1928). Others involve statistical refinements of the Likert approach, making use of modern item response theory in test construction (e.g., Lord, 1980). However, these treatments are too technical for our present purposes. (See Ostrom, 1989, for a more detailed discussion of these issues.)

Unstructured Measures

Likert scales, along with all the single-item measures, share an important feature: They impose a structure on the attitude they measure. A psychologist first selects the attitude items and then selects a fixed set of response alternatives. Respondents are not given the opportunity to qualify or expand on their answers.

Imagine what an impoverished picture we would have of Babbs's and Weldon's attitudes toward abortion if all we knew was how they rated themselves on the scales portrayed in Figures 2-1, 2-2, 2-3, and 2-5. These scales capture little of the flavor and subtle nuances of their attitudes. For example, Weldon may partly agree and partly disagree with Likert item 2 (Figure 2-5). His acceptance of legalized abortion may be conditional on the woman receiving parental consent if she is under the age of 21. Such concerns about family solidarity would be difficult to capture with a limited set of structured items.

Unstructured approaches to attitude measurement have been developed to overcome these problems. In open-ended questions, subjects have the opportunity to express themselves in their own terms. The respondent must provide an answer using his or her own vocabulary of thoughts and feelings. One use of the open-ended approach is with *focus groups*. In this case, the researcher meets with a small group of people and asks them to discuss the issue among themselves. The focused interaction among the group members often brings out subtleties and nuances in attitude that would otherwise be missed.

In questionnaires and one-on-one interviews, respondents are asked broad questions like "How do you feel about abortion?" or more specific belief questions such as those that appear on a Likert scale (see Figure 2-5). Respondents are allowed to say whatever they wish. Indeed, they are usually encouraged to expand beyond mere expressions of agreement or disagreement.

Responses are tape-recorded or transcribed verbatim by an interviewer who tries not to influence the subject in any way. The product of an open-ended interview is a typed transcription (referred to as a *protocol*) of everything the respondent said in answer to the questions. These protocols can yield important information—particularly if the attitude is one the person has thought about a lot and so has lots to say about it (Ericcson & Simon, 1980).

Subjects' responses to open-ended questions may be quirky and unique, depending on the special experiences each person may have had. The respondent may voice a number of thoughts that are related to one another in intricate ways. Consider, for example, one pro-life activist's response to a sociologist, when questioned about abortion:

> *One of the problems of abortion, I think, is the further degradation of women in society. . . . I think having abortion as an alternative—as a way out, I guess—makes it easier for men to exploit women than ever before. I think they are less inclined probably to take responsibility for their actions or to anticipate the consequences of their actions as long as abortion is available. And I think it makes it harder for women who do not choose to engage in premarital sex to say no, or to be accepted in society, because there's always this consideration that there's something wrong with them. (An activist, in Luker, 1984, p. 162)*

As you can see, open-ended expressions of attitude are rich and diverse in the thoughts and feelings they express. There are two approaches to analyzing these protocols. One approach, called *content analysis*, tries to identify the variety of qualitative themes that are expressed. This involves thoughtful reading of all the protocols with the purpose of intuiting the underlying categories of religious, moral, practical, and psychodynamic concerns that are expressed there. It is like reading a novel and trying to analyze the motives of the main characters. One application (Shavitt & Brock, 1986) has examined people's reactions to advertisements and has identified categories of thoughts about the self, about the product, and about ad execution (i.e., how the ad was presented).

Once a set of categories is developed, it is taught to a small set of coders who then read through all the protocols and count the number of times each underlying category appears in each protocol. This way, we can analyze abortion attitudes to determine, for example, how the concerns of men differ from women, how the concerns of people who are affluent differ from those of people who are poor, or how the concerns of Blacks differ from those of Whites.

A second approach to analyzing protocols allows us to give each person an overall attitude score on the evaluative dimension. Cacioppo, Harkins, and Petty (1981) review a method for scoring open-ended responses to persuasive messages referred to as a *cognitive response analysis*. It is used in research reported elsewhere in this book (see Chapter 6 by Petty, Cacioppo, Strathman, and Priester).

The cognitive response procedure involves respondents' jotting down their attitude-relevant thoughts immediately after hearing or reading a persuasive message. They are asked to place their thoughts on separate lines in the thought-listing form. The kinds of beliefs and sentiments that people write turn out to be similar to the items that are used in Likert scales. However, people also write other things in their protocols, including comments about the communicator's credibility and about the accuracy of the arguments used in the persuasive message.

The key to scoring these protocols is to identify which of the listed thoughts are positive and which are negative toward the attitude object. Researchers have a choice of two ways to get this information. The simplest is to ask the respondent to go back and indicate whether each thought is positive or negative. The alternative is to have several independent raters read over the thoughts at a later point and code them as being positive or negative. The overall attitude score for each respondent is obtained by computing the proportion of the scored responses that are positive.

Indirect Reports of Attitude

Direct attitude measures are constructed and administered on the premise that participants are willing and able to give an accurate report of their attitudes. This assumption is probably valid in a large number of cases, especially where the

experimenter has established good rapport, the respondent is motivated to be helpful, and anonymity is guaranteed.

Indirect techniques were developed to overcome problems that arise when respondents are either too embarrassed or too paranoid about their answers being used against them. People are likely to misrepresent their attitudes when it is in their self-interest to do so. This is unlikely to happen in the case of Babbs and Weldon, since they are earnestly seeking to share their sentiments with one another. However, Babbs may not be nearly as forthcoming when talking with Weldon's parents. If a person is given an attitude test in the context of an employment interview or if the person holds an attitude that is considered repulsive by society, that person may well deliberately distort the way he or she answers a questionnaire (see Figure 2-6).

"Would you say Attila is doing an excellent job, a good job, a fair job, or a poor job?"

FIGURE 2-6 People know the truth can hurt.

Source: Drawing by Chas. Addams; © 1982 The New Yorker Magazine, Inc.

A number of indirect attitude measurement techniques have been developed to overcome these problems. They are all based on known ways in which attitudes affect normal human functioning. One approach uses the well-known Thematic Apperception Test pictures. This *projective* test works because powerful attitudes (e.g., racial prejudice) are known to influence the stories that respondents tell about the ambiguous pictures.

The *information error test* is based on people's known tendency to distort reality so that their perceptions agree with their attitudes (Hammond, 1948). The test capitalizes on that bias by looking at the direction of distortions. Do the distortions make the attitude object look good, or do they make the attitude object look bad?

The test presents respondents with a series of factual questions in a multiple-choice test format (see Figure 2-7). It is presented to the respondent as being a test of factual knowledge; no mention is made of the experimenter's interest in the respondent's attitudes. It appears to be an ordinary multiple-choice quiz of the type commonly used in educational settings.

FIGURE 2-7 Information error test

Instructions: This is a test of your factual knowledge about an important social issue. Please circle the correct answer for each of the following questions.

1. The number of pregnant women who die each year from legal abortions is:
   a. 376
   b. 704
   c. 1,875
   d. 5,397

2. The average annual donation to religious organizations by pro-choice advocates is:
   a. $520
   b. $318
   c. $280
   d. $78

3. The percent of pro-life supporters who approve of firebombing abortion clinics is:
   a. 1.6%
   b. 5.3%
   c. 9.6%
   d. 12.7%

4. The average month at which pregnancies are terminated by abortion is:
   a. 4.0 month
   b. 3.2 month
   c. 2.4 month
   d. 1.3 month

Note: The test is scored by assigning the numbers 1 through 4 to the selected answers. The most pro-choice response (alternative a for the first two questions and alternative d for the last two questions) is given a "4," and the most pro-life response is given a "1."

The trick here is that all the alternatives for each question are incorrect. In fact, the researcher may not even know what the correct answer actually is. The respondent is required to guess from among the several response options provided by the researcher. The set of alternatives vary in how flattering or unflattering they are toward the attitude object. Since exceedingly few respondents will know the correct answer, it is assumed that they will draw upon their attitude when selecting an alternative to each question. For example, the first item in Figure 2-7 refers to the number of pregnant women who die as a result of having an abortion. A low number of deaths is more likely to be selected by pro-choice persons, and a high number is more likely to be selected by pro-life advocates.

Persuasion researchers have not used indirect methods as much as direct methods. Techniques like the information error test are not as reliable as the direct measures. This is due in part to other factors (e.g., familiarity with the topic and amount of factual knowledge) contributing as much to the final score as does attitude. Another reason indirect methods are not used is because most persuasion research (like that in this book) is conducted in the context of nonsensitive attitude issues (e.g., consumer products, raising school tuition, and political candidates), where people are more willing to be forthright in reporting their attitudes.

We have now completed our review of verbal approaches to the measurement of the evaluative property of attitude. All these measures require the direct cooperation of the participants, and further, most require that the participants be able to read. This means that the participants have to be willing to give their time and also have to be cooperative. The literacy requirement means that these measures cannot be used with young children or people who are visually impaired or poorly educated.

Observational Measures of Attitude

Observational measures are designed to overcome the limitations inherent in verbal measures. The key difference between the two approaches is the question of who is doing the reporting. In all verbal measures, the participant whose attitude is being measured is providing all the evidence. The participant is the one who fills out the test or questionnaire. This is why verbal tests are sometimes referred to as *self-report measures*. In the case of observational measures, however, another person observes and records whatever data are needed to infer the participant's attitude. The person doing the observing is usually the experimenter, but it could be another person, like a parent, friend, peer, teacher, or supervisor. In contrast to the self-report nature of verbal measures, observational indices could be thought of as "other-report" measures.

Overt Behavior

One popular type of observational measure considers *overt behavior*. Here the investigator records whether or not certain activities are engaged in by the respondent. Social behaviors are selected that reflect either a favorable or unfavorable orientation toward the attitude object. As was noted by Ostrom (1969), these refer to the kinds of actions that are supportive of or antagonistic to the attitude object. As an example of social behavior in the case of abortion, we noted that Babbs had helped prepare promotional material for the pro-choice movement. Her friend Cindy may have contributed money or written her congressperson in support of pro-choice legislation.

Social psychologists have a long history of studying the relationship between attitudes and overt behavior (described in Chapter 4 by Fazio and Roskos-Ewoldsen). Some psychologists would take behavior as the "acid test" of all attitude measures and regard a person's actions as the only basis for inferring the person's attitudes. They would argue that "talk is cheap" and that one should "watch what people do, not what they say."

These psychologists seem to equate attitudes with behaviors. We do not. True, attitudes are defined as dispositions to respond (Campbell, 1950), but dispositions are just that—*dispositions*. Every behavior has multiple causes—of which an attitude is only one. The chapters by Fazio and Roskos-Ewoldsen (Chapter 4) and Cooper and Scher (Chapter 5) in this book detail the many complexities that arise in understanding the relation between attitudes and socially meaningful behaviors.

Although the relationship between attitudes and behavior is rarely one to one (Dawes & Smith, 1985), behavior can be used as an attitude measure: If Cindy demonstrates in favor of women's rights to abortion, we may infer that she supports those rights. Of course, our inference would be invalid if Cindy were only putting on a show for our benefit. More generally, behavioral measures may lack validity if the people who are exhibiting the behavior know that they are under observation by others who are important to them (Kelman, 1958; Roethlisberger, 1941).

The best behavioral measures are those that are unobtrusive. *Unobtrusive measures* are ones in which the respondents do not know they are being observed. People have no reason to distort their behaviors if they are unaware that others are watching and listening. For example, we may want to measure people's attitudes toward different art museum displays. Social desirability concerns may lead people to downplay their interest in erotic or obscene art when given verbal measures. Several behavioral options are available, including recording the average amount of time spent at each display or, more subtly, measuring the rate of wear on the carpet or floor tiles in front of the different displays. As another example, researchers might unobtrusively monitor the contents of a person's garbage can to estimate the household's attitude toward different food products or toward different reading materials (Webb, Campbell, Schwartz, Sechrest, & Grove, 1981). You might check the next time your own garbage is collected to see if one of the workers is carrying a clipboard!

It is often difficult to estimate a person's evaluative disposition on the basis of observing just one behavior (Fishbein & Ajzen, 1974; Ostrom, 1969). Babbs's helping her friend with pro-choice materials may have been nothing more than an act of friendship. This same problem of unreliability exists with single-item verbal measures. We would not want to construct a Likert scale with just one item. If all we knew was that Babbs agreed with the item "Abortions can lead to severe emotional

distress," we would erroneously conclude that she held a pro-life attitude. Just as we are better off with multiple questionnaire items when estimating a person's attitude, so, too, are we better off obtaining multiple instances of a person's behavior.

Nonverbal Measures

Sometimes people conceal controversial attitudes and even go to the extent of saying things they do not believe. Babbs, for example, was speaking to her grandmother just the other day, when the topic of abortion came up. Granny voiced opposition to "murdering babies" and then asked for Babbs's view. Hoping to spare Granny and wanting to show respect, Babbs hid her support for abortion and actually expressed some mildly antiabortion beliefs. Could Granny tell that Babbs was lying? Would she discover Babbs's true attitude?

Attitudes can be inferred from nonverbal responses that are independent of the content of speech. Through paralinguistic cues, facial cues, and bodily cues, people convey attitudes that may contradict their verbalizations.

Paralinguistic cues include all audible characteristics of speech other than verbal content. Research has shown that deceptive verbalizations have a distinctive sound. Lies are high pitched, they are punctuated by hesitations, and they contain many speech errors like mispronunciations and the use of "ums" and "ahs" (Zuckerman, DePaulo, & Rosenthal, 1981). These cues to deception were probably used by Granny when listening to Babbs's faint-hearted agreement with Granny's pro-life views. Even Babbs's voice tone could have given her away. This was illustrated in a study by Weitz (1972). White students who had previously "bent over backwards" in verbally denying racial prejudice used a cold tone of voice when speaking to a Black person. Their *paralanguage* revealed a level of hostility concealed (perhaps even unconsciously) in their surface language.

Attitudinal affect (including feelings of pleasure and disgust) can also be expressed through *facial cues*. The eyes, the nose, the mouth, and the brows all have a universal language of their own. Research has found that facial expressions carry similar meanings across a variety of cultures (Ekman, 1985). Because we know that our face can be a road map to our feelings, we sometimes try to "stage manage" our expressions to conceal our true reactions. Babbs certainly tried to do this when talking to Granny. But research has shown that attitudes will leak out, despite our best efforts at concealment. One study videotaped students as they smelled pleasant and disgusting odors (Kraut, 1982). The students were instructed to assume facial poses that contradicted their personal reactions to the odors. They tried to pretend that the pleasant odors were disgusting and the disgusting odors were pleasant. But these ruses did not work. Despite students' attempts at self-control, their true attitudes could be detected by others who viewed the videotapes.

Affect is also conveyed through *bodily cues*. Shrugs, gestures, foot tapping, self-touching, and self-scratching can all reveal attitudes. In fact, people may reveal more with their bodies than with their faces because they rarely bother to control bodily cues. For example, in one study, student nurses saw a gruesome medical film and then were asked to describe the film as pleasant (Ekman & Friesen, 1974).

From videotapes of these deceptive descriptions, judges were asked to infer the nurses' affective reactions to the film. Judges who saw the nurses' bodies were able to detect their true negative reactions. In fact, these judges were more accurate than were judges who saw videotapes of the nurses' faces.

Physiological Measures

Measures of physiological functioning might be used as indices of attitudes. The tripartite view of attitude argues that the affective component (versus the cognitive and conative components) consists of emotional feelings and their physiological underpinnings. As Weldon and Babbs discuss their abortion decision, they may experience tenseness and generalized anxiety during some moments and surprise and relief at other times. The measurement of these responses is described in some detail in Chapter 3 by Cacioppo, Petty, Losch, and Crites.

Accessibility

In our earlier discussion of verbal measures, we noted that there is a special problem when it comes to nonattitudes. (Remember our asking you about your attitude toward the "Metallic Metals Act"?) People are not always willing to say that they have no opinion on a topic. The *accessibility* approach provides one way to address this issue that does not depend on self-awareness of one's own attitudes. This approach measures just how long (in milliseconds) it takes a person to answer a question about his or her attitudes. Will Babbs answer the question "Are you pro-choice?" faster than her friend Cindy, and what are we to make of this difference?

Fazio (1986; Chapter 4 in this volume) uses the accessibility approach for determining the presence or absence of an attitude. On a computer screen, the subject sees an attitude question, like "Do you favor a woman's right to have an abortion?" and the subject must hit a button to signal an answer of "yes" or "no." Fazio does not focus on which choice the participant selected; rather, he focuses on how long it took the person to make the choice. Across several studies, Fazio has demonstrated that subjects who are slow to answer an attitude question do not have a well-developed set of preexisting beliefs. Rather, they are generating an answer for the first time when asked the question. It is not that they are indifferent or ambivalent. Rather, they lack a set of predeveloped thoughts about the attitude object that would have enabled them to respond quickly. People with a long delay are thought of as not having an attitude prior to the question being asked. Thus, this approach could be used to distinguish attitudes from nonattitudes.

Attitudes can differ in accessibility even if they are equivalent on the evaluative dimension (Fazio & Williams, 1986). Although Babbs and her friend are both pro-choice, Cindy's attitude may be more accessible than Babbs's. If asked her stance on abortion, Babbs might deliberate for a while before expressing her pro-choice position. Cindy, on the other hand, would deliver her views swiftly, spontaneously, and in a wide variety of circumstances. Cindy's attitude, being more accessible, is more likely to be a guide to action than is Babbs's. Accessibility, then,

is one of the factors that determine which attitudes are likely to affect behavior and which will not (see Chapter 4 for more details).

Summary

The attitudes held by Babbs, Cindy, and Weldon toward abortion differ from one another in many, many ways. That is the reality facing anyone who tries to measure attitudes on any topic. Our focus in this chapter has been to capture just one of those ways. Namely, we have focused on how people's attitudes differ in terms of their overall evaluative character. To *measure* attitudes is to assign a number to the attitude that reflects its evaluative character.

We hope that you, the reader, in having read our chapter are now convinced of two truths. One is that it is impossible to measure attitudes, and the other is that we manage to do the impossible pretty well. Attitudes have a quicksilver quality that allows them to change shape and makes them difficult to hold steady in the palm of your hand. They have a complexity due to the many thoughts, urges, and feelings they provoke. And they are intangible in the sense that they cannot be seen, heard, tasted, touched, or sniffed. Attitude researchers well understand that no single measure can ever capture attitudes in their full glory.

And yet the field has accepted the measurement challenge and has not done too badly. This chapter has provided you with a cafeteria of different methods. All have been shown to be valuable for studying some attitudes in some contexts. In fact, it may have been disappointing for you to learn that so many different approaches have been developed. Life would be a lot easier if there were just one technique that could be used for all purposes. However, one important lesson is that no single technique can be used for all purposes. Verbal techniques are better for some purposes, and observational techniques are better for other purposes.

In reading the other chapters in this book, you will note that different techniques are used by different researchers under different circumstances. Each has chosen a measurement approach that is best suited for the problems targeted by his or her research. Should you find yourself wanting to measure attitudes, we hope you will be equally thoughtful in your selection of measures.

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3

PSYCHOPHYSIOLOGICAL APPROACHES TO ATTITUDES

Detecting Affective Dispositions When People Won't Say, Can't Say, or Don't Even Know

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You have been recommended for a promotion to a position you have long coveted. Before making a final ruling on your promotion, however, you have been asked to submit to a lie detection test to ensure you are a person of good morals and are loyal to company and country. You suspected that refusing would be tantamount to admitting fault, but the wires, electrodes, and interrogative style of the examiner are more stressful than you anticipated. "Have you ever lied when filing your tax returns?" "Have you ever used any illicit drug?" "Have you ever considered having an extramarital affair?" "Have you ever considered violating a professional confidence?" "When filing your tax returns last year, did you overstate your deductions by approximately: $10? $100? $500? $1,000? $5,000? Over $5,000?" "Do you want this promotion because of: the vacation time? the money? the power? the creative opportuni-