15 Collecting Self-Report Data

Self-report is the most widely used data collection method by both qualitative and quantitative nurse researchers. Self-report data can be gathered either orally in an interview, or in writing in a written questionnaire. Interviews (and, to a lesser extent, questionnaires) vary in their degree of structure, their length and complexity, and their administration. We begin by reviewing various options and procedures for collecting qualitative self-report data.

QUALITATIVE SELF-REPORT TECHNIQUES

Unstructured or loosely structured self-report methods provide narrative data for qualitative analysis. Qualitative researchers usually do not have a specific set of questions that must be asked in a particular order and worded in a given way. Instead, they start with some general questions or topics and allow respondents to tell their stories in a narrative fashion. Unstructured or semistructured interviews, in other words, tend to be conversational.

Unstructured interviews encourage respondents to define the important dimensions of a phenomenon and to elaborate on what is relevant to them, rather than being guided by investigators' *a priori* notions of relevance. Researchers in virtually all qualitative traditions gather unstructured or loosely structured self-report data.

Types of Qualitative Self-Reports

Researchers use various approaches in collecting qualitative self-report data. The main methods are described here.

Unstructured Interviews

When researchers proceed without a preconceived view of the content or flow of information to be gathered, they may conduct completely **unstructured interviews**. Unstructured interviews are conversational and interactive. Unstructured interviews are the mode of choice when researchers do not have a clear idea of what it is they do not know. Researchers using unstructured interviews do not begin with a series of prepared questions because they do not yet know what to ask or even where to begin. In conducting unstructured interviews, it is critical to let participants tell their stories, with little interruption. Phenomenological, grounded theory, and ethnographic studies usually rely heavily on unstructured interviews.

Researchers using a completely unstructured approach often begin by informally asking a broad question (sometimes called a **grand tour question**) relating to the research topic, such as, "What happened when you first learned you had AIDS?" Subsequent questions are more focused and are guided by responses to the broad question. Some respondents may request direction after the

initial broad question is posed, perhaps asking, "Where should I begin?" Respondents should be encouraged to begin wherever they wish.

Van Manen (1990) provides suggestions for guiding a phenomenological interview to produce rich descriptions of the experience under study:

- "Describe the experience from the inside, as it were; almost like a state of mind: the feelings, the mood, the emotions, etc.
- Focus on a particular example or incident of the object of experience: describe specific events, an adventure, a happening, a particular experience.
- Try to focus on an example of the experience which stands out for its vividness, or as it was the first time.
- Attend to how the body feels, how things smell(ed), how they sound(ed), etc." (pp. 64–65).

Kahn (2000), discussing unstructured interviews in hermeneutic phenomenological studies, aims for interviews that resemble conversations. If the experience under study is ongoing, Kahn suggests obtaining as much detail as possible about the participant's daily life. For example, a question that can be used is, "Pick a normal day for you and tell me what happened" (p. 62). Repeated interviews over time with the same participant are essential in this prospective approach. If the experience being studied is primarily in the past, then Kahn (2000) uses a retrospective approach. The interviewer begins with a general question such as, "What does this experience mean to you?" (p. 63), and then probes for more detail until the experience is thoroughly described.

Example of unstructured interviews in a hermeneutic study:
Cohen, Ley, and Tarzian (2001) explored the experience of isolation in 20 patients who had bone marrow transplantation. Unstructured interviews were conducted in the patients' hospital rooms. The opening question for each interview was "What was it like to have a bone marrow transplant?" Common follow-up questions included, "What did that mean to you?" and "How did you feel about that?" (p. 595).

In grounded theory, the interviewing technique changes as the theory is developed. At the outset, interviews are similar to open-ended conversations using unstructured interviews. Glaser and Strauss (1967) suggested researchers initially should just sit back and listen to participants' stories. Later, as the theory emerges, researchers ask more direct questions related to categories in the grounded theory. The more direct questions can be answered rather quickly, and so the length of an interview tends to get shorter as the grounded theory develops.

Ethnographic interviews are also unstructured. Spradley (1979) describes three types of question used to guide interviews: descriptive, structural, and contrast questions (Spradley, 1979). **Descriptive questions** ask participants to describe their experiences in their own language, and are the backbone of ethnographic interviews. **Structural questions** are more focused and help to develop the range of terms in a category or domain. Last are **contrast questions,** which are asked to distinguish differences in the meaning of terms and symbols.

Example of ethnographic interviewing:
Bannister (1999) conducted an ethnographic study of midlife women's experience of their changing bodies using Spradley's method. An example of a descriptive question was, "I wonder if you could tell me about your experience of your changing body?" (p. 524). An example of a structural question was, "Corinne, you said, 'I see myself getting older.' Are there other phrases you might use to describe this?" (p. 524). Last, an example of one of Bannister's contrast questions was "Mary, how would you describe the difference between your comments, 'How others view me' and 'How I view myself?'" (p. 524).

Semistructured Interviews

Researchers sometimes want to be sure that a specific set of topics is covered in their qualitative interviews. They know what they want to ask, but cannot predict what the answers will be. Their role in the process is somewhat structured, whereas the participants' is not. In such focused or **semistructured interviews**, researchers prepare in advance a

written **topic guide**, which is a list of areas or questions to be covered with each respondent. The interviewer's function is to encourage participants to talk freely about all the topics on the list, and to tell stories in their own words. This technique ensures that researchers will obtain all the information required, and gives respondents the freedom to respond in their own words, provide as much detail as they wish, and offer illustrations and explanations.

In preparing the list of questions, care needs to be taken to order questions in a logical sequence, perhaps chronologically, or perhaps from the general to the specific. (However, interviewers need to be attentive because sometimes respondents spontaneously give information about questions that are later on the list.) The list of questions might include suggestions for follow-up questions or **probes** designed to elicit more detailed information. Examples of such probes include, "Please explain what you mean by that," "What happened next?" and "When that happened, how did you feel?" Care should be taken not to include questions that require one- or two-word responses, such as "yes" or "no." The goal is to ask questions that give respondents an opportunity to provide rich, detailed information about the phenomenon under study.

In deciding whether to use a semistructured or unstructured interview, it is important to consider not only the research tradition, but also the state of knowledge on a topic. Gibson (1998) conducted a study of the experiences and expectations of patients discharged from an acute psychiatric hospital using, and compared the richness of data yielded by the two approaches. Gibson found that unstructured interviews resulted in greater depth and detail than semistructured interviews, and that respondents preferred unstructured interviews.

Example of a semistructured interview: Åsbring and Närvänen (2002) studied women's experiences of stigma in relation to chronic fatigue syndrome and fibromyalgia. Their topic guide for semistructured interviews with 25 women included questions about such issues as the women's views of the illness, encounters with health care providers, and the consequences for daily life of encounters with health care providers.

Focus Group Interviews

Focus group interviews are becoming increasingly popular in the study of health problems. In a focus group interview, a group of four or more people is assembled for a discussion. The interviewer (often called a **moderator**) guides the discussion according to a written set of questions or topics to be covered, as in a semistructured interview. Focus group sessions are carefully planned discussions that take advantage of group dynamics for accessing rich information in an efficient manner.

Typically, the people selected for a group (usually through purposive or snowball sampling) are a fairly homogeneous group, to promote a comfortable group dynamic. People usually feel more at ease expressing their views when they share a similar background with other group members. Thus, if the overall sample is diverse, it is usually best to have people with similar characteristics, in terms of race/ethnicity, age, gender, or experience, participating in separate focus groups.

Several writers have suggested that the optimal group size for focus groups is 6 to 12 people, but Côté-Arsenault and Morrison-Beedy (1999) advocate smaller groups of about 5 participants when the topic is emotionally charged or sensitive. Groups of four or fewer may not generate sufficient interaction, however, particularly because not everyone is equally comfortable in expressing their views.

TIP: In recruiting group members, it is usually wise to recruit one or two more people than is considered optimal, because of the risk of no-shows. Monetary incentives can help reduce this risk. It is also important to call the recruits the night before the group session to remind them of the appointment and confirm attendance.

The setting for the focus group sessions should be selected carefully and, ideally, should be a neutral one. Churches, hospitals, or other settings that are strongly identified with particular values or expected behaviors may not be suitable, depending on the topic. The location should be one that is comfortable, not intimidating, accessible, and easy to find. It should also be acoustically amenable to audiotape recording.

Moderators play a critical role in the success of focus group interviews. Nurses often already possess the skills and abilities needed to lead focus groups effectively. For example, they are able to elicit detailed and sometimes sensitive information from clients, and often understand the intricacies of group processes. An important job of moderators is to solicit input from all group members, and not let a few vocal people dominate the discussion. It is sometimes useful to have more than one moderator, so that particular cues can be followed up by more than one listener. Researchers other than the moderator should be present, to take detailed notes about each session.

A major advantage of a group format is that it is efficient—researchers obtain the viewpoints of many individuals in a short time. Moreover, focus groups capitalize on the fact that members react to what is being said by others, thereby potentially leading to richer or deeper expressions of opinion. Also, focus group interviews are usually stimulating to respondents. One disadvantage is that some people are uncomfortable about expressing their views in front of a group. Another possible concern is that the dynamics of the session may foster a group culture that could inhibit individual expression as "group think" takes hold. Studies of focus groups have shown, however, that they are similar to individual interviews in terms of number or quality of ideas generated (Kidd & Parshall, 2000).

Focus groups have been used by researchers in many qualitative research traditions, and can play a particularly important role in feminist, critical theory, and participatory action research.

Example of focus group interviews:
Freeman, O'Dell, and Meola (2000) studied the needs of families of children with brain tumors during six stages of the illness. Data were collected in 11 focus group sessions with 4 homogeneous groups: parents and guardians, siblings, affected children younger than 10 years, and affected children age 10 years and older. The moderator asked questions from a topic guide while an assistant moderator took detailed notes. All group meetings were audiotaped and transcribed.

Joint Interviews

Nurse researchers are sometimes interested in phenomena that involve a relationship between two or three people, or that require understanding the perspective of more than one person. For example, the phenomenon might be the grief that mothers *and* fathers experience on losing a child, or the experiences of AIDS patients *and* their caretakers. In such cases, it can be productive to conduct **joint interviews** in which two or more parties are simultaneously questioned, using either an unstructured or semistructured format. Unlike focus group interviews, which typically involve group members who do not know each other, joint or dyadic interviews are done with people who are often intimately related.

Joint interviews usually supplement rather than replace individual interviews, because there are things that cannot readily be discussed in front of the other party (e.g., criticisms of the other person's behavior). However, joint interviews can be especially helpful when researchers want to *observe* the dynamics between two key actors. Morris (2001) provides some useful guidelines and raises important issues in the conduct of joint interviews.

Example of joint interviews:
The purpose of Kalischuk and Davies' (2001) study was to develop a substantive grounded theory to explain how family members heal after a youth suicide. The researchers conducted a total of 44 interviews: 33 individual interviews and 11 family interviews. The family interviews were aimed at engaging participants in joint discussions about their experiences.

Life Histories

Life histories are narrative self-disclosures about individual life experiences. Ethnographers frequently use individual life histories to learn about cultural patterns. A famous example of this is Oscar Lewis' (1959, 1961) life history of poor families in Mexico, which gave rise to the controversial concept of *culture of poverty*.

With a life history approach, researchers ask respondents to provide, often in chronologic sequence, a narration of their ideas and experiences,

either orally or in writing. Life histories may take months, or even years, to record, with researchers providing only gentle guidance in the telling of the story. Narrated life histories are often backed up by intensive observation of the person, interviews with friends or family members, or a scrutiny of letters, photographs, or other materials.

Leininger (1985) noted that comparative life histories are especially valuable for the study of the patterns and meanings of health and health care, especially among elderly people. Her highly regarded essay provides a protocol for obtaining a life health care history.

Example of life histories:
Abrums (2000) studied the meaning of death and the experience of grieving among deeply religious members of a store-front church. Life history interviews were used to explore these concepts.

Oral Histories

Researchers use the technique known as **oral history** to gather personal recollections of events and their perceived causes and consequences. Oral histories, unlike life histories, typically focus on describing important themes rather than individuals. Oral histories are a method for connecting individual experiences with broader social and cultural contexts.

Oral histories are an important method for historical researchers when the topic under study is the not-too-distant past, and people who experienced the event can still be asked about those experiences. Oral histories are also a tool used by feminist researchers and other researchers with an ideological perspective because oral histories are a way to reach groups that have been ignored or oppressed.

Depending on the focus of the oral history, researchers can conduct interviews with a number of persons or concentrate on multiple interviews with one individual. Researchers usually use unstructured interviews to collect oral history data.

Example of oral histories:
Rafael (2000) collected contemporary oral history data on public health nursing in southwestern Ontario. Rafael interviewed 14 public nurses and asked them about the period of 1980 to 1996, when dramatic changes in public nursing were taking place. The findings debunked the myth that public health nurses were resistant to change.

Critical Incidents

The **critical incidents technique** is a method of gathering information about people's behaviors by examining specific incidents relating to the behavior under investigation (Flanagan, 1954). The technique, as the name suggests, focuses on a factual incident, which may be defined as an observable and integral episode of human behavior. The word *critical* means that the incident must have had a discernible impact on some outcome; it must make either a positive or negative contribution to the accomplishment of some activity of interest. For example, if we were interested in understanding the use of humor in clinical practice, we might ask a sample of nurses the following questions: "Think of the last time you used humor in your interactions with a hospital patient. What led up to the situation? Exactly what did you do? How did the patient react? Why did you feel it would be all right to use a humorous approach? What happened next?"

The technique differs from other self-report approaches in that it focuses on something specific about which respondents can be expected to testify as expert witnesses. Usually, data on 100 or more critical incidents are collected, but this typically involves interviews with a much smaller number of people because each participant can often describe multiple incidents. The critical incident technique has been used in both individual and focus group interviews.

Example of a critical incident study:
Mårtensson, Dracup, and Fridlund (2001) used the critical incident technique to explore decisive situations influencing spouses' support of patients with heart failure. Interviews with 23 spouses yielded 193 critical incidents. An example of questions used to elicit the data is: "Describe an incident in which you were an asset and/or not an asset to your spouse with regard to his/her heart failure" (p. 343).

Diaries and Journals

Personal **diaries** have long been used as a source of data in historical research. It is also possible to generate new data for a nonhistorical study by asking study participants to maintain a diary or journal

over a specified period. Diaries can be useful in providing an intimate description of a person's everyday life.

The diaries may be completely unstructured; for example, individuals who have undergone an organ transplantation could be asked simply to spend 10 to 15 minutes a day jotting down their thoughts and feelings. Frequently, however, subjects are requested to make entries into a diary regarding some specific aspect of their experience, sometimes in a semistructured format. For example, studies of the effect of nutrition during pregnancy on fetal outcomes frequently require subjects to maintain a complete diary of everything they ate over a 1- to 2-week period. Nurse researchers have used health diaries to collect information about how people prevent illness, maintain health, experience morbidity, and treat health problems.

Although diaries are very useful means of learning about ongoing experiences, one limitation is that they can be used only by people with adequate literacy skills, although there are examples of studies in which diary entries were audiotaped rather than written out. Diaries also depend on a high level of participant cooperation.

Example of diaries: Kaunonen, Aalto, Tarkka, and Paunonen (2000) used diaries in a study of a new oncology nursing intervention—a supportive telephone call to a significant other after the death of a patient. Each nurse involved in the intervention was asked to maintain a diary after every call. The data were analyzed with regard to both the family members' experiences and the nurse's interactions.

The Think-Aloud Method

The **think-aloud method** is a qualitative method that has been used to collect data about cognitive processes, such as thinking, problem-solving, and decision-making. This method involves having people use audio-recording devices to talk about decisions as they are being made or while problems are being solved, over an extended period (e.g., throughout a shift). The method produces an inventory of decisions as they occur in a naturalistic context, and allows researchers to examine sequences of decisions or thoughts, as well as the context in which they occur (Fonteyn, Kuipers, & Grober, 1993). Think-aloud procedures have been used in a number of studies of clinical nurses' decision-making.

The think-aloud method has been used in both naturalistic and simulated settings. Although simulated settings offer the opportunity of controlling the context of the thought process (e.g., presenting people with a common problem to be solved), naturalistic settings offer the best opportunity for understanding clinical processes.

Think-aloud sessions are sometimes followed up with personal interviews or focus group interviews in which the tape may be played (or excerpts from the transcript quoted). Participants are then questioned about aspects of their reasoning and decision-making.

Example of the think-aloud method: Aitken and Mardegan (2000) described two studies in which they used the think-aloud method to examine the decision-making of expert critical care practitioners. In the first study they explored at critical care nurses' hemodynamic assessment and management during 2-hour periods of care for critically ill patients. The second study focused on expert nurses' clinical judgments while managing pain in postoperative patients.

Photo Elicitation Interviews

Photo elicitation involves an interview stimulated and guided by photographic images. This procedure, most often used in ethnographies, has been described as a method that can break down barriers between researchers and study participants, and promote a more collaborative discussion (Harper, 1994). The photographs typically are ones that researchers or associates have made of the participants' world, through which researchers can gain insights into a new culture. Participants may need to be continually reassured that their taken-for-granted explanations of the photos are providing new and useful information.

Photo elicitation can also be used with photos that participants have in their homes, although in such case researchers have less time to frame useful

questions, and no opportunity to select the photos that will be the stimulus for discussion. Researchers have also used the technique of asking participants to take photographs themselves and interpret them.

Example of photo elicitation:
Bender, Harbour, Thorp, and Morris (2001) studied perceptions of quality of prenatal care among immigrant Latina women attending two prenatal clinics. They conducted in-depth interviews using seven "photo prompts" designed to portray stages of the prenatal care appointment. The interview guide asked women to describe the photograph, including how the women portrayed were feeling. Then the women were asked if the photograph reminded them of an experience they had had, and if so, they were asked to tell the story of that experience.

Self-Report Narratives on the Internet

A potentially rich data source for qualitative researchers involves narrative self-reports available on or through the Internet. Data can be solicited directly from a large audience of Internet users. For example, researchers can post a web page requesting that people with particular experiences describe them. They can also enter into long conversations with other users in a chat room, or solicit information through an e-mail listserv that distributes messages to users participating in a network. In some cases data that can be analyzed qualitatively are simply "out there," as when a researcher enters a chat room or goes to a bulletin board and analyzes the content of the existing, unsolicited messages.

Using the Internet to access narrative data has obvious advantages. This approach is economical and allows researchers to obtain information from geographically dispersed and perhaps remote Internet users. However, a number of ethical concerns have been raised, and issues of authenticity need to be considered (Robinson, 2001).

Example of Internet data use:
Dickerson, Flaig, and Kennedy (2000) did a study to understand common themes of help-seeking on the Internet for people with implantable cardioverter defibrillators (ICDs). Data were collected on-line from a public electronic bulletin board for people with ICDs. A total of 469 postings by 75 users over a 5-month period was analyzed.

Gathering Qualitative Self-Report Data

The purpose of gathering narrative self-report data is to enable researchers to construct reality in ways that are consistent with the constructions of the people being studied. This goal requires researchers to take steps to overcome communication barriers and to enhance the flow of meaning. Asking good questions and eliciting good narrative data are far more difficult than appears. This section offers some suggestions about gathering qualitative self-report data through in-depth interviews. Further suggestions are offered by Weiss (1995) and Seidman (1998).

Preparing for the Interview

Although qualitative interviews are conversational, this does not mean that they are entered into casually. The conversations are purposeful ones that require advance thought and preparation. For example, careful thought should be given to the wording of questions. To the extent possible, the wording should make sense to respondents and reflect their world view.

An important issue is that researchers and respondents should have a common vocabulary. If the researcher is studying a different culture or a subgroup that uses distinctive terms or slang, efforts should be made even before data collection to understand those terms and their nuances.

Researchers usually prepare for the interview by developing (mentally or in writing) the broad questions to be asked (or at least the initial questions, in unstructured interviews). Sometimes it is useful to do a practice interview with a stand-in respondent. If there are questions that are especially sensitive, it is a good idea to ask such questions late in the interview when rapport has been established.

TIP: Memorize the central questions if you have written them out, so that you will be able to maintain eye contact with participants.

It is also important to decide in advance how to present oneself—as a researcher, as a nurse, as an ordinary person as much like participants as possible, as a humble "learner," and so on (Fontana & Frey, 1994). One advantage of assuming the nurse role is that people often trust nurses. On the other hand, people frequently defer to those who are viewed as having more education or more expertise. Moreover, participants may use the interview as an opportunity to ask numerous health questions, or to solicit opinions about particular health practitioners.

Another part of the preparation involves decisions about places where the interviews can be conducted. Morse and Field (1995) advocate letting participants chose the setting. It is, however, important to give thought in advance about possibilities to suggest to them. In-home interviews are often preferred because interviewers then have the opportunity to observe the participants' world, and to take observational notes. When in-home interviews are not desired by participants (e.g., if they are worried that the interview would be overheard by household members and prefer more privacy), it is wise to have alternative suggestions, such as in an office, in a coffee shop, and so on. The important thing is to select places that offer some privacy, that protect insofar as possible against interruptions, and that are adequate for recording the interview. (Of course, in some cases the setting will be dictated by circumstances, as when interviews take place while participants are hospitalized.)

For interviews done in the field, researchers must anticipate the equipment and supplies that will be needed. Preparing a checklist of all such items is helpful. The checklist typically would include audiotape-recording equipment, batteries, tapes, consent forms, forms for obtaining demographic information, notepads, and pens. Other possibilities include laptop computers, incentive payments, cookies or donuts to help break the ice, and distracting toys or picture books if it is likely that children will be home. It may be necessary to bring forms of identification to assure participants of the legitimacy of the visit. And, if the topic under study is likely to elicit emotional narratives, tissues should be readily at hand.

TIP: Use high-quality tapes for audio-recording interviews. Make sure that the size of the tape corresponds to the size used in the transcription equipment.

Conducting the Interview

Qualitative interviews are typically long—sometimes lasting up to several hours. Researchers often find that the respondents' construction of their experience only begins to emerge after lengthy, in-depth dialogues. Interviewers must prepare respondents for the interview by putting them at ease. Part of this process involves sharing pertinent information about the study (e.g., about the study aims and protection of confidentiality). Another part of this process is using the first few minutes for pleasantries and ice-breaking exchanges of conversation before actual questioning begins. Up-front "small talk" can help to overcome stage fright, which can occur for both interviewers and respondents. Participants may be particularly nervous when the interviews are being tape-recorded, which is the preferred method of recording information. They typically forget about the tape recorder after the interview is underway, so the first few minutes should be used to help both parties "settle in."

TIP: If possible, place the actual tape recording equipment on the floor or somewhere out of sight.

Respondents will not share much information with interviewers if they do not trust them. Close rapport with respondents provides access to richer information and to personal, intimate details of their stories. Interviewer personality plays a role in developing rapport: Good interviewers are usually congenial, friendly people who have the capacity to see the situation from the respondent's perspective. Nonverbal communication can be critical in conveying concern and interest. Facial expressions, postures, nods, and so on, help to set the tone for the interview.

The most critical interviewing skill for in-depth interviews is being a good listener. A central issue is not how to *talk* to respondents, but how to *listen* to them. It is especially important not to

interrupt respondents, to "lead" them, to offer advice or opinions, to counsel them, or to share personal experiences. The interviewer's job is to listen intently to the respondents' stories, a task that is often exhausting. Only by attending carefully to what respondents are saying can in-depth interviewers develop appropriate follow-up questions. Even when a topic guide is used, interviewers must not let the flow of dialogue be bound by those questions. In semistructured interviews, many questions that appear on a topic guide are answered spontaneously over the course of the interview, usually out of sequence.

TIP: In-depth interviewers must be comfortable with pauses and silences, and should let the pace be determined by respondents. Interviewers can encourage respondents with nods and nonspecific prompts, such as "Mmhm."

In-depth interviewers need to be prepared for strong emotions, such as anger, fear, or grief, to surface. Narrative disclosures can "bring it all back" for respondents, which can be a cathartic or therapeutic experience if interviewers create an atmosphere of concern and caring—but it can also be stressful for them.

Interviewers may need to manage a number of potential crises during the interviews. One that happens at least once in most qualitative studies is the failed or improper recording of the interview. Thus, even when interviews are tape recorded, notes should be taken during or immediately after the interview to ensure the highest possible reliability of data and to prevent a total information loss. Interruptions (usually the telephone) and other distractions are another common problem. If respondents are willing, telephones can be controlled by unplugging them or taking the receiver off the hook. Interruptions by personal intrusions of friends or family members may be more difficult to manage. In some cases, the interview may need to be terminated and rescheduled—for example, when a woman is discussing domestic violence and the perpetrator enters and stays in the room.

Interviewers should strive for a positive closure to the interview. The last questions in in-depth interviews should usually be along these lines: "Is there anything else you would like to tell me?" or "Are there any other questions that you think I should have asked you?" Such probes can often elicit a wealth of important information. In closing, interviewers normally ask respondents whether they would mind being contacted again, in the event that additional questions come to mind after reflecting on the information, or in case interpretations of the information need to be verified.

TIP: It is usually unwise to schedule back-to-back interviews. For one thing, it is important not to rush or cut short the first interview to be on time for the next one. It is also important to have an opportunity to write out notes, impressions, and analytic ideas, and it is best to do this when an interview is fresh in your mind.

Postinterview Procedures

Tape-recorded interviews should be listened to and checked for audibility and completeness soon after the interview is over. If there have been problems with the recording, the interview should be reconstructed in as much detail as possible. Listening to the interview may also suggest possible follow-up questions that could be asked if respondents are recontacted. Morse and Field (1995) recommend that interviewers listen to the tapes objectively and critique their own interviewing style, so that improvements can be made in subsequent interviews.

Steps also need to be taken to ensure that the transcription of interviews is done with rigor (Poland, 1995). It is prudent to hire experienced transcribers, to check the quality of initial transcriptions, and to give the transcribers feedback. Transcribers can sometimes unwittingly change the meaning of data by misspelling words, by omitting words, or by not adequately entering information about pauses, laughter, crying, or volume of the respondents' speech (e.g., shouting).

TIP: If transcribers need to be hired, transcriptions can be the most expensive part of a study. It generally takes about 3 hours of transcription time for every hour of interviewing. New,

improved voice recognition computer software is available to help with transcribing interviews.

Evaluation of Qualitative Approaches

In-depth interviews are an extremely flexible approach to gathering data and, in many research contexts, offer distinct advantages. In clinical situations, for example, it is often appropriate to let people talk freely about their problems and concerns, allowing them to take much of the initiative in directing the flow of information. In general, qualitative interviews are of greatest utility when a new area of research is being explored. In such situations, an unstructured approach may allow investigators to ascertain what the basic issues or problems are, how sensitive or controversial the topic is, how easy it is to secure respondents' cooperation in discussing the issues, how individuals conceptualize and talk about the problems, and what range of opinions or behaviors exist relevant to the topic. In-depth interviews may also help elucidate the underlying meaning of a pattern or relationship repeatedly observed in more structured research.

On the other hand, qualitative methods are extremely time-consuming and demanding of researchers' skills in analyzing and interpreting the resulting data. Samples tend to be small because of the quantity of information produced, so it may be difficult to know whether findings are idiosyncratic. Qualitative methods do not lend themselves to the rigorous testing of hypotheses about cause-and-effect relationships.

QUANTITATIVE SELF-REPORT INSTRUMENTS

A researcher collecting structured self-report data for a quantitative study almost always uses a formal, written instrument. The instrument is an **interview schedule** when the questions are asked orally in either face-to-face or telephone interviews. It is called a **questionnaire** or an **SAQ** (self-administered questionnaire) when respondents complete the instrument themselves, usually in a paper-and-pencil format but occasionally directly onto a computer. Some studies embed an SAQ into an interview schedule, with interviewers asking some questions orally but respondents answering others in writing.

Structured instruments consist of a set of questions (also known as **items**) in which the wording of both the questions and, in most cases, response alternatives is predetermined. When structured interviews or questionnaires are used, subjects are asked to respond to the same questions, in the same order, and with the same set of response options. In developing structured instruments, much effort is usually devoted to the content, form, and wording of questions.

Open and Closed Questions

Structured instruments vary in *degree* of structure through different combinations of open-ended and closed-ended questions. **Open-ended questions** allow respondents to respond in their own words, in narrative fashion. The question, "What was the biggest problem you faced after your surgery?" is an example of an open-ended question (such as would be used in qualitative studies). In questionnaires, respondents are asked to give a written reply to open-ended items and, therefore, adequate space must be provided to permit a full response. Interviewers are expected to quote responses verbatim or as closely as possible, as would be the case in qualitative interviews that are not tape recorded.

Closed-ended (or **fixed-alternative**) **questions** offer respondents alternative replies, from which subjects must choose the one that most closely matches the appropriate answer. The alternatives may range from the simple "yes" or "no" variety ("Have you smoked a cigarette within the past 24 hours?") to complex expressions of opinion or behavior.

Both open- and closed-ended questions have certain strengths and weaknesses. Good closed-ended items are often difficult to construct but easy to administer and, especially, to analyze. With closed-ended questions, researchers need only

tabulate the number of responses to each alternative to gain some understanding about what the sample as a whole thinks about an issue. The analysis of open-ended items, on the other hand, is more difficult and time-consuming. The usual procedure is to develop categories and assign open-ended responses to them. That is, researchers essentially transform open-ended responses to fixed categories in a post hoc fashion so that tabulations can be made.

Closed-ended items are more efficient than open-ended questions because respondents can complete more closed- than open-ended questions in a given amount of time. In questionnaires, subjects may be less willing to compose written responses than to check off or circle appropriate alternatives. Closed-ended items are also preferred with respondents who are unable to express themselves well verbally. Furthermore, some questions are less objectionable in closed form than in open form. Take the following example:

1. What was your family's total annual income last year?
2. In what range was your family's total annual income last year:
   ( ) Under $25,000,
   ( ) $25,000 to $49,999,
   ( ) $50,000 to $74,999,
   ( ) $75,000 to $99,999,
   ( ) or $100,000 or more?

The second question is more likely to be answered because the range of options gives respondents a greater measure of privacy than the blunter open-ended question.

These various advantages of closed-ended questions are offset by some shortcomings. The major drawback is the possibility that researchers may have neglected or overlooked potentially important responses. The omission of possible alternatives can lead to inadequate understanding of the issues or to outright bias if respondents choose an alternative that misrepresents their position. When the area of research is relatively new, open-ended questions may be better than closed-ended ones for avoiding bias.

Another objection to closed-ended items is that they can be superficial. Open-ended questions allow for a richer and fuller perspective on the topic of interest, if respondents are verbally expressive and cooperative. Some of this richness may be lost when researchers tabulate answers by developing a system of classification, but excerpts taken directly from the open-ended responses can be valuable in imparting the flavor of the replies in a report.

Finally, some respondents may object to being forced into choosing from response options that do not reflect their opinions precisely. Open-ended questions give freedom to respondents and, therefore, offer the possibility of spontaneity and elaboration.

The decision to use open- and closed-ended questions is based on a number of considerations, such as the sensitivity of the topic, the verbal ability of respondents, the amount of time available, and so forth. Combinations of both types are recommended to offset the strengths and weaknesses of each. Questionnaires typically use closed-ended questions predominantly, to minimize respondents' writing burden. Interview schedules, on the other hand, are more variable in their mixture of these two question types.

Questionnaires Versus Interviews

Before developing questions, researchers need to decide whether to collect data through interviews or questionnaires. Each method has advantages and disadvantages.

Advantages of Questionnaires

Self-administered questionnaires, which can be distributed in person, by mail, or over the Internet, offer some advantages. The strengths of questionnaires include the following:

- *Cost*. Questionnaires, relative to interviews, are in general much less costly and require less time and energy to administer. Distributing questionnaires to groups (e.g., to students in a classroom) is clearly an inexpensive and expedient approach. And, with a fixed amount of funds or time, a larger and more geographically diverse sample can be obtained with mailed or web-based questionnaires than with interviews.
- *Anonymity*. Unlike interviews, questionnaires offer the possibility of complete anonymity. A

guarantee of anonymity can be crucial in obtaining candid responses, particularly if the questions are personal or sensitive. Anonymous questionnaires often result in a higher proportion of socially unacceptable responses (i.e., responses that place respondents in an unfavorable light) than interviews.

- *Interviewer bias*. The absence of an interviewer ensures that there will be no interviewer bias. Interviewers ideally are neutral agents through whom questions and answers are passed. Studies have shown, however, that this ideal is difficult to achieve. Respondents and interviewers interact as humans, and this interaction can affect responses.

Web-based surveys are especially economical, and can yield a data set directly amenable to analysis, without having to have staff entering data (the same is also true for CAPI and CATI interviews). Internet surveys also provide opportunities for interactively providing participants with customized feedback, and for prompts that can minimize missing responses.

Advantages of Interviews

The strengths of interviews far outweigh those of questionnaires. It is true that interviews are costly, prevent respondent anonymity, and bear the risk of interviewer bias. Nevertheless, interviews are considered superior to questionnaires for most research purposes because of the following advantages:

- *Response rates*. Response rates tend to be high in face-to-face interviews. People are more reluctant to refuse to talk to an interviewer who directly solicits their cooperation than to discard or ignore a questionnaire. A well-designed and properly conducted interview study normally achieves response rates in the vicinity of 80% to 90%, whereas mailed and web-based questionnaires typically achieve response rates of 50% or lower. Because nonresponse is not random, low response rates can introduce serious biases. (However, if questionnaires are personally distributed to people in a particular setting—e.g., maternity patients about to be discharged from the hospital—reasonably good response rates can be achieved.)

Examples of response rates: Stranahan (2001), who sent mailed questionnaires to all nurse practitioners in Indiana to learn about their attitudes about spiritual care, achieved a response rate of 40%. Resnick (2000) conducted face-to-face interviews with residents of a life care community; 97% of those invited to participate did so.

- *Audience*. Many people simply cannot fill out a questionnaire. Examples include young children and blind, elderly, illiterate, or uneducated individuals. Interviews, on the other hand, are feasible with most people. For web-based questionnaires, a particularly important drawback is that not everyone has access to computers or uses them regularly even if they do.
- *Clarity*. Interviews offer some protection against ambiguous or confusing questions. Interviewers can determine whether questions have been misunderstood and can clarify matters. In questionnaires, misinterpreted questions can go undetected by researchers, and thus responses may lead to erroneous conclusions.
- *Depth of questioning*. The information obtained from questionnaires tends to be more superficial than interview data, largely because questionnaires typically contain mostly closed-ended items. Open-ended questions are avoided in questionnaires because most people dislike having to compose and write out a reply. Much of the richness and complexity of respondents' experiences are lost if closed-ended items are used exclusively. Furthermore, interviewers can enhance the quality of self-report data through probing.
- *Missing information*. Respondents are less likely to give "don't know" responses or to leave a question unanswered in an interview than on questionnaires.
- *Order of questions*. In an interview, researchers have control over question ordering. Questionnaire respondents are at liberty to skip around from one section of the instrument to another. It is possible that a different ordering of questions from the one originally intended could bias responses.

- *Sample control*. Interviews permit greater control over the sample. Interviewers know whether the people being interviewed are the intended respondents. People who receive questionnaires, by contrast, can pass the instrument on to a friend, relative, and so forth, and this can change the sample composition. Web-based surveys are especially vulnerable to the risk that people not targeted by researchers will respond, unless there are password protections.
- *Supplementary data*. Finally, face-to-face interviews can result in additional data through observation. Interviewers are in a position to observe or judge the respondents' level of understanding, degree of cooperativeness, social class, lifestyle, and so forth. Such information can be useful in interpreting responses.

Many advantages of face-to-face interviews also apply to telephone interviews. Long or detailed interviews or ones with sensitive questions usually are not well suited for telephone administration, but for relatively brief instruments, telephone interviews are more economical than personal interviews and tend to yield a higher response rate than mailed questionnaires.

USING AND PREPARING STRUCTURED SELF-REPORT INSTRUMENTS

Assembling a high-quality structured self-report instrument is a challenging task. This section discusses components of such instruments and offers some guidance in constructing them.

Specific Types of Closed-Ended Questions

It is especially challenging to create good-quality closed-ended questions. Researchers must pay careful attention to the wording of questions and to the content, wording, and formatting of response options. Nevertheless, the analytic advantages of closed-ended questions are compelling. Various types of closed-ended questions, many of which are illustrated in Table 15-1, are discussed here.

- **Dichotomous questions** require respondents to make a choice between two response alternatives, such as yes/no or male/female. Dichotomous questions are considered most appropriate for gathering factual information.
- **Multiple-choice questions** offer more than two response alternatives. Dichotomous items often are considered too restrictive by respondents, who may resent being forced to see an issue as either "yes" or "no." Graded alternatives are preferable for opinion or attitude questions because they give researchers more information (intensity as well as direction of opinion) and because they give respondents a chance to express a range of views. Multiple-choice questions most commonly offer three to seven alternatives.
- **Cafeteria questions** are a special type of multiple-choice question that asks respondents to select a response that most closely corresponds to their view. The response options are usually full expressions of a position on the topic.
- **Rank-order questions** ask respondents to rank target concepts along a continuum, such as most to least important. Respondents are asked to assign a 1 to the concept that is most important, a 2 to the concept that is second in importance, and so on. Rank-order questions can be useful but need to be handled carefully because respondents sometimes misunderstand them. Rank-order questions should involve 10 or fewer rankings.
- **Forced-choice questions** require respondents to choose between two statements that represent polar positions or characteristics. Several personality tests use a forced-choice format.
- **Rating questions** ask respondents to evaluate something along an ordered dimension. Rating questions are typically **bipolar**, with the end points specifying opposite extremes on a continuum. The end points and sometimes intermediary points along the scale are verbally labeled. The number of gradations or points along the scale can vary but should always be an odd number, such as 7, 9, or 11, to allow for a neutral midpoint. (In the example in Table 15-1, the rating question has 11 points, numbered 0 to 10.)

TABLE 15.1 Examples of Closed-Ended Questions

QUESTION TYPE	EXAMPLE
1. Dichotomous question	Have you ever been hospitalized? 1. Yes 2. No
2. Multiple-choice question	How important is it to you to avoid a pregnancy at this time? 1. Extremely important 2. Very important 3. Somewhat important 4. Not important
3. Cafeteria question	People have different opinions about the use of estrogen replacement therapy for women at menopause. Which of the following statements best represents your point of view? 1. Estrogen replacement is dangerous and should be banned. 2. Estrogen replacement has undesirable side effects that suggest the need for caution in its use. 3. I am undecided about my views on estrogen replacement. 4. Estrogen replacement has many beneficial effects that merits its use. 5. Estrogen replacement is a wonder treatment that should be administered routinely to most menopausal women.
4. Rank-order question	People value different things in life. Below is a list of things that many people value. Please indicate their order of importance to you by placing a "1" beside the most important, "2" beside the second-most important, and so on. ____ Career achievement/work ____ Family relationships ____ Friendships, social interactions ____ Health ____ Money ____ Religion
5. Forced-choice question	Which statement most closely represents your point of view? 1. What happens to me is my own doing. 2. Sometimes I feel I don't have enough control over my life.
6. Rating question	On a scale from 0 to 10, where 0 means "extremely dissatisfied" and 10 means "extremely satisfied," how satisfied were you with the nursing care you received during your hospitalization? 0 1 2 3 4 5 6 8 9 10 Extremely dissatisfied — Extremely satisfied

The next question is about things that may have happened to you personally. Please indicate how recently, if ever, these things happened to you:

	Yes, within past 12 months	Yes, 2-3 years ago	Yes, more than 3 years ago	No,never
a. Has someone ever yelled at you all the time or put you down on purpose?	1	2	3	4
b. Has someone ever tried to control your every move?	1	2	3	4
c. Has someone ever threatened you with physical harm?	1	2	3	4
d. Has someone ever hit, slapped, kicked, or physically harmed you?	1	2	3	4

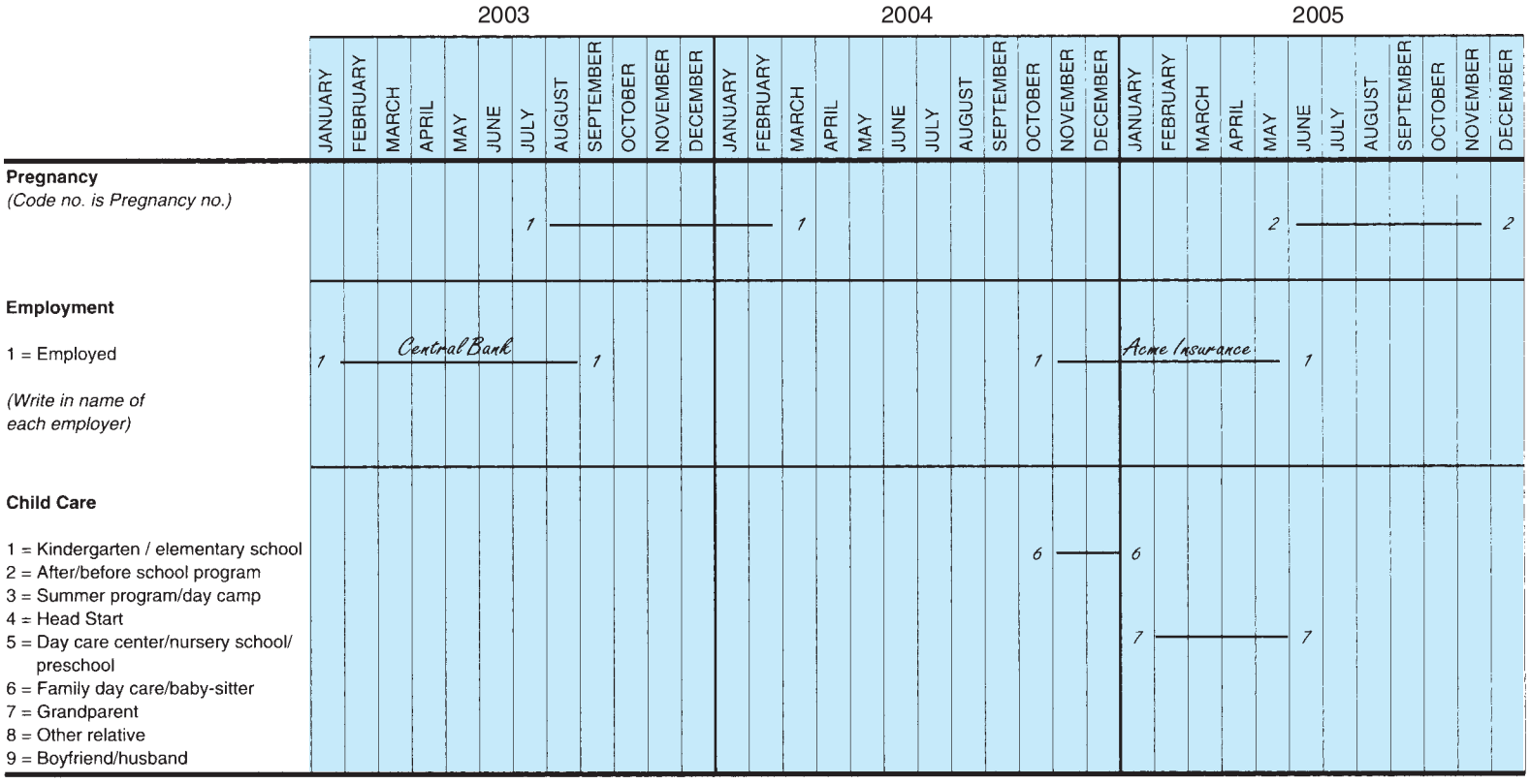
FIGURE 15.1 Example of a checklist.

- **Checklists** encompass several questions that have the same response format. A checklist is a two-dimensional arrangement in which a series of questions is listed along one dimension (usually vertically) and response alternatives are listed along the other. This two-dimensional character of checklists has led some people to call these **matrix questions**. Checklists are relatively efficient and easy for respondents to understand, but because they are difficult to read orally, they are used more frequently in SAQs than in interviews. Figure 15-1 presents an example of a checklist.
- **Calendar questions** are used to obtain retrospective information about the chronology of different events and activities in people's lives. Questions about start dates and stop dates of events are asked and recorded on a calendar grid, such as the one shown in Figure 15-2. Respondents can often better reconstruct the dates of events when several events are recorded in juxtaposition.
- **Visual analogue scales** (**VAS**) are used to measure subjective experiences, such as pain, fatigue, nausea, and dyspnea. The VAS is a straight line, the end anchors of which are labeled as the extreme limits of the sensation or feeling being measured. Subjects are asked to mark a point on the line corresponding to the amount of sensation experienced. Traditionally, the VAS line is 100 mm in length, which facilitates the derivation of a score from 0 to 100 through simple measurement of the distance from one end of the scale to the subject's mark on the line. An example of a VAS is presented in Figure 15-3.

Composite Scales

A **scale** provides a numeric score to place respondents on a continuum with respect to an attribute being measured, like a scale for measuring people's weight. Many studies that collect data through self-report use a psychosocial scale, which is used to discriminate quantitatively among people with different attitudes, fears, motives, perceptions, personality traits, and needs. Scales are usually created by combining several closed-ended items (such as those described in the previous section) into a single composite score. Many sophisticated scaling techniques have been developed, only two of which are discussed here.*

*One early type of psychosocial scale was the **Thurstone scale**, named after the psychologist L. L. Thurstone. Thurstone's approach to scaling is elaborate and time-consuming and has fallen into relative disuse. Another scaling method, developed by Louis Guttman in the 1940s, is known as the **Guttman** or **cumulative scales**. Advanced scaling procedures include **ratio scaling**, **magnitude estimation scaling, multidimensional scaling**, and **multiple scalogram analysis**. Textbooks on psychological scaling and psychometric procedures should be consulted for more information about these scaling strategies.



(For each period, enter code in beginning month and end month, and connect with solid line)

Case #_____

FIGURE 15.2 Example of a calendar grid (completed).

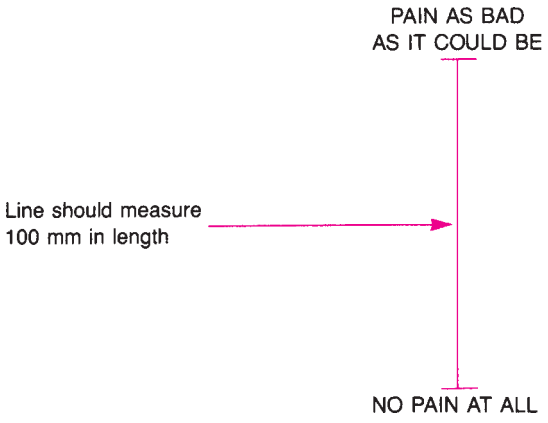


FIGURE 15.3 Example of a visual analogue scale.

Likert Scales

The most widely used scaling technique is the **Likert scale**, named after the psychologist Rensis Likert. A Likert scale consists of several declarative items that express a viewpoint on a topic. Respondents are asked to indicate the degree to which they agree or disagree with the opinion expressed by the statement. Table 15-2 presents an illustrative six-item Likert scale for measuring attitudes toward condom use. Good Likert scales usually include 10 or more statements; the example in Table 15-2 is shown only to illustrate key features.

The first step in constructing a Likert-type scale is to develop a large pool of items that state different positions on an issue. Neutral statements or statements so extreme that virtually everyone would agree or disagree with them should be avoided. The aim is to spread out people with various attitudes or traits along a continuum.*

There are differences of opinion about the number of response alternatives to use. Likert used five categories of agreement/disagreement, such as are shown in Table 15-2. Some researchers prefer seven-point scales, adding the alternatives "slightly agree" and "slightly disagree." There are also diverse opinions about including an explicit "uncertain" category. Some argue that this option makes the task more acceptable to people who cannot make up their minds or have no strong feelings about an issue. Others, however, feel that an undecided category encourages *fence-sitting*, that is, a tendency not to take sides.

After subjects complete a Likert scale, their responses are scored. Typically, agreement with positively worded statements and disagreement with negatively worded statements are assigned higher scores. The first statement in Table 15-2 is positively worded; agreement indicates a favorable attitude toward condom use. Thus, a higher score would be assigned to those agreeing with this statement than to those disagreeing with it. With five response alternatives, a score of 5 would be given to those strongly agreeing, 4 to those agreeing, and so forth. The responses of two hypothetical respondents are shown by a check or an X, and their scores for each item are shown in far right columns. Person 1, who agreed with the first statement, has a score of 4, whereas person 2, who strongly disagreed, has a score of 1. The second statement is negatively worded, and so scoring is reversed—a 1 is assigned to those who strongly agree, and so forth. This reversal is needed so that a high score consistently reflects positive attitudes toward condoms. A person's total score is determined by adding together individual item scores. Such scales are often called **summated rating scales** because of this feature. The total scores of the two respondents to items in Table 15-2 are shown at the bottom of the table. The scores reflect a considerably more positive attitude toward condoms on the part of person 1 than person 2.

TIP: Investigators who do not include an explicit "uncertain" option proceed in principle as though they were working with a 5- or 7-point scale, even though only four or six alternatives are given: nonresponse to a given item is *scored* as though a neutral response had been chosen (e.g., a "3" on a 5-point scale).

*Advanced students developing a Likert scale for widespread use should consult a reference on psychometric procedures, such as *Psychometric Theory* by Nunnally and Bernstein (1994).

TABLE 15.2 Example of a Likert Scale to Measure Attitudes Toward Condoms

DIRECTION OF SCORING*	ITEM	RESPONSES†					SCORE	
		SA	A	?	D	SD	Person 1 (✔)	Person 2 (×)
+	1. Using a condom shows you care about your partner.		✔			×	4	1
−	2. My partner would be angry if I talked about using condoms.			×		✔	5	3
−	3. I wouldn't enjoy sex as much if my partner and I used condoms.		×		✔		4	2
+	4. Condoms are a good protection against AIDS and other sexually transmitted diseases.			✔	×		3	2
+	5. My partner would respect me if I insisted on using condoms.	✔				×	5	1
−	6. I would be too embarrassed to ask my partner about using a condom.		×			✔	5	2
	Total score						26	11

*Researchers would not indicate the direction of scoring on a Likert scale administered to subjects. The scoring direction is indicated in this table for illustrative purposes only.

†SA, strongly agree; A, agree; ?, uncertain; D, disagree; SD, strongly disagree.

The summation feature of such scales makes it possible to make fine discriminations among people with different points of view. A single question allows people to be put into only five categories. A six-item scale, such as the one in Table 15-2, permits finer gradation—from a minimum possible score of 6 (6 × 1) to a maximum possible score of 30 (6 × 5).

Although traditional Likert scales were used to measure attitudes, summated rating scales can be used to measure a wide array of attributes. In such cases, the bipolar scale would not be agree/disagree but might be always true/never true, extremely likely/extremely unlikely, and so on.

Example of a summated rating scale: Aiken and Patrician (2000) created a summated rating scale to measure organizational aspects of environments in which nurses practice, the Nursing Work Index, Revised. The measure, comprising 4 subscales, includes 57 items. Examples of items (attributes present in a current job) include "Opportunities for advancement," and "A supervisory staff that is supportive of nurses."

Semantic Differential Scales

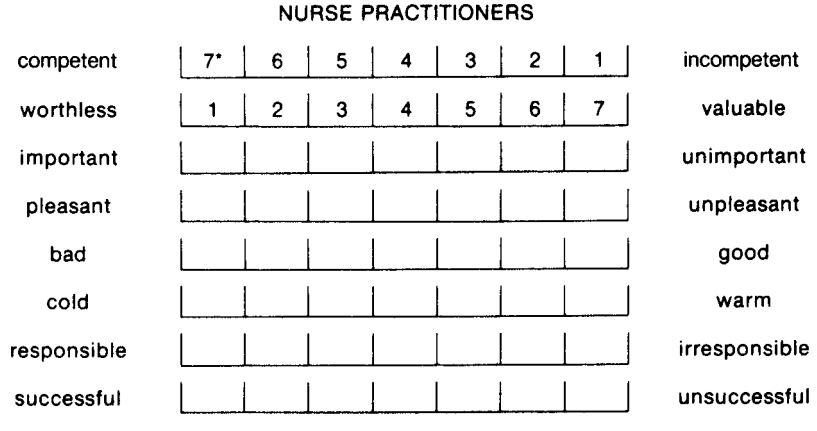
Another technique for measuring psychosocial traits is the **semantic differential** (**SD**). With the SD, respondents are asked to rate a concept (e.g., primary nursing, team nursing) on a series of bipolar adjectives, such as effective/ineffective, good/bad, important/unimportant, or strong/weak. Respondents place a check at the appropriate point on seven-point rating scales extending from one extreme of the dimension to the other. Figure 15-4 shows an example of the format for an SD for rating the concept *nurse practitioner*.

Semantic differentials are flexible and easy to construct. The concept being rated can be virtually anything—a person, place, situation, abstract idea, controversial issue, and so forth. The concept can be presented as a word, as a phrase, or even as visual material (e.g. photos, drawings). Typically, several concepts are included on an SD so that comparisons can be made across concepts (e.g., male nurse, female nurse, male physician, female physician).

Researchers also have leeway in selecting the scales, but two considerations should guide the selection. First, the adjective pairs should be appropriate for the concepts being used and for the information being sought. The addition of the adjective pair tall/short in Figure 15-4 would add little understanding of how people react to nurse practitioners.

The second consideration in selecting adjective pairs is the extent to which the adjectives measure the same dimension of the concept. Osgood, Suci, and Tannenbaum (1957), through extensive research with SD scales, found that adjective pairs tend to cluster along three independent dimensions: evaluation, potency, and activity. The most important group of adjectives are evaluative ones, such as effective/ineffective, valuable/worthless, good/bad, fair/unfair, and so forth. Potency adjectives include strong/weak and large/small, and examples of activity adjectives are active/passive and fast/slow. These three dimensions need to be considered separately because subjects' evaluative ratings of a concept are independent of their activity or potency ratings. For example, two people who associate high levels of activity with the concept *nurse practitioner* might have divergent views about how to evaluate nurse practitioners. Researchers must decide whether to represent all three dimensions or whether only one or two are needed. Each dimension must be scored separately.

Scoring of SD responses is essentially the same as for Likert scales. Scores from 1 to 7 are



*The score values would not be printed on the form administered to actual subjects. The numbers are presented here solely for the purpose of illustrating how semantic differentials are scored.

FIGURE 15.4 Example of a semantic differential.

assigned to each bipolar scale response, with higher scores usually associated with the positively worded adjective. Responses are then summed across the bipolar scales to yield a total score.

Example of a study using an SD: Phillips, Brewer, and deArdon (2001) developed the Elder Image Scale, an SD instrument that measures a caregiver's mental image of an elder derived from past associations and present observations. Examples of adjective pairs include reasonable/unreasonable, even-tempered/hot-tempered, and considerate/abusive.

Existing Self-Report Scales and Psychological Measures

Clinical nurse researchers have studied many psychosocial traits, and numerous self-report scales have been developed to measure them, often using a summated rating scale format. Table 15-3 illustrates a number of important constructs that nurse researchers have measured using existing composite scales. Note that many scales and test instruments must be purchased from the publisher, or require the author's permission to use them.

A special reference section at the end of this chapter provides citations for locating existing self-report scales, and Box 15-1 lists some helpful websites. In addition, both the nursing and non-nursing indexes and abstracting services should be consulted for references to studies that have developed scales. The CINAHL database includes information on the scales used in research studies. Information on standardized tests and psychological measures can be retrieved through a computerized literature search of the database called *Mental Measurement Yearbook*, produced by the Buros Institute of Mental Measurements, or through *Health and Psychosocial Instruments Online*.

Response Biases

Although self-reports represent a powerful mechanism for obtaining data, researchers who use this approach should always be aware of the risk of **response biases**—that is, the tendency of respondents to distort their responses. Perhaps the most pervasive problem is people's tendency to present a favorable image of themselves. **Social desirability response bias** refers to the tendency of some individuals to misrepresent their responses consistently by giving answers that are congruent with prevailing social values. This problem is often difficult to combat. Subtle, indirect, and delicately worded questioning sometimes can help to alleviate this response bias. The creation of a permissive atmosphere and provisions for respondent anonymity also encourage frankness.

TIP: If you are collecting self-report data about a socially unacceptable characteristic or behavior, you might want to consider administering a special scale such as the Marlowe-Crowne Social Desirability Scale to determine whether respondents have a systematic tendency to give responses biased in the direction of "looking good."

Some response biases are most commonly observed in composite scales. These biases are sometimes referred to as **response sets**. Scale scores are seldom entirely accurate and pure measures of the critical variable. A number of irrelevant factors are also being measured at the same time. Because response set factors can influence or bias responses to a considerable degree, investigators who construct scales must attempt to eliminate or minimize them.

Extreme responses are an example of a response set that introduces biases when some individuals consistently select extreme alternatives (e.g., "strongly agree"). These extreme responses distort the findings because they do not necessarily signify the most intense feelings about the phenomenon under study. There is little a researcher can do to counteract this bias, but there are procedures for detecting it.

Some people have been found to agree with statements regardless of content. Such people are called **yea-sayers**, and the bias is known as the **acquiescence response set**. A less common problem is the opposite tendency for other individuals, called **nay-sayers**, to disagree with statements independently of question content.

The effects of response biases should not be exaggerated, but it is important that researchers

TABLE 15.3 Examples of Concepts Frequently Measured With Composite Scales in Nursing Studies

CONCEPT	RESEARCH EXAMPLE REFERENCE	INSTRUMENT USED
Anxiety	Brady, Henry, Luth, & Casper-Bruett, 2001	State-Trait Anxiety Inventory (STAI)
Caregiver reactions	Teel, Duncan, & Lai, 2001	Caregiver Reaction Assessment (CRA)
Coping	Myors, Johnson, & Langdon, 2001	Revised Jalowiec Coping Scale
Depression	Lyon & Munro, 2001 Vines Ng, Breggia, & Mahoney, 2000	Center for Epidemiological Studies Depression Scale (CESD) Beck Depression Inventory
Fatigue	Meek et al., 2000 Clark, 2002	Multidimensional Assessment of Fatigue, Lee Fatigue Scale Piper Fatigue Scale (PFS)
Health behaviors	Vines et al., 2000 Acton, 2002	Personal Lifestyle Questionnaire (PLQ) Health-Promoting Lifestyle Profile II (HPLP)
Health status	Ross & Ostrow, 2001	Short-Form Health Survey (SF-36)
Hope	Johnson & Pearson, 2000 Hendricks et al., 2000	Herth Hope Scale (HHS) Miller Hope Scale (MHS)
Mood states	Ross & Ostrow, 2001	Profile of Mood States (POMS)
Pain	LeFort, 2000 Vines et al., 2000	McGill Pain Questionnaire (MPQ) McGill Pain Questionnaire—Short Form
Quality of life	Ross & Ostrow, 2001 Acton, 2002	Quality of Life Index (QLI) Index of Well-Being (IWB)
Self-esteem	Pedro, 2001; Anderson, 2000 Dirksen, 2000	Rosenberg Self-Esteem Scale (RSE) Coopersmith Self-Esteem Inventory
Social support	Dirksen, 2000 Pedro, 2001	Personal Resources Questionnaire (PRQ) Norbeck Social Support Questionnaire (SSQ)
Spirituality	Teel et al., 2001	Spiritual Perspectives Scale (SPS)
Stress	Teel et al., 2001 Gaffney, 2000	Perceived Stress Scale (PSS) Difficult Life Circumstances (DLC)
Symptoms of distress	Flaskerud & Lee, 2001 Berger & Walker, 2001	Symptom Checklist-90 (SCL-90) Modified Symptom Distress Scale (M-SDS)
Uncertainty in illness	Dirksen, 2000	Mishel's Uncertainty in Illness Scale (MUIS)

BOX 15.1 Websites for Locating Scales and Measures

- http://www.nyu.edu/library/bobst/research/sci/health/tests.html (V. G. Rankow's "Selected resources for medical, nursing, and psychological tests, surveys, and research instruments")
- http://www.fiu.edu/~library/assistance/psyched.html (Florida International University's "Psychological, Educational, and Health Tests and Measurements: Selected Sources")
- http://www.med.yale.edu/library/reference/publications/tests.html (Yale Medical Library's "Bibliographic Resource Guide/Behavioral Tests and Measures in the Health Sciences")
- http://www.biomed.lib.umn.edu/tsq.html (University of Minnesota Bio-Medical Library's "Finding Tests, Surveys and Questionnaires")

who are using self-reports give these issues some thought. If an instrument or scale is being developed for general use by others, evidence should be gathered to demonstrate that the scale is sufficiently free from response biases to measure the critical variable.

Developing Structured Self-Report Instruments

A well-developed interview schedule or questionnaire cannot be prepared in minutes or even in hours. To design useful, accurate instruments, researchers must carefully analyze the research requirements and attend to minute details. The steps for developing structured self-report instruments follow closely those outlined in Chapter 14. However, a few additional considerations should be mentioned.

Once data needs have been identified, related constructs should be clustered into separate **modules** or areas of questioning. For example, an interview schedule may consist of a module on demographic information, another on health symptoms, a third on stressful life events, and a fourth on health-promoting activities.

Some thought needs to be given to sequencing modules, and questions within modules, to arrive at an order that is psychologically meaningful and encourages candor and cooperation. The schedule should begin with questions that are interesting, motivating, and not too sensitive. The instrument also needs to be arranged to minimize bias. The possibility that earlier questions might influence responses to subsequent questions should be kept in mind. Whenever both general and specific questions about a topic are included, general questions should be placed first to avoid "coaching."

Every instrument should be prefaced by introductory comments about the nature and purpose of the study. In interviews, the introductory comments would be read to respondents by the interviewer, and often incorporated into an informed consent form. In SAQs, the introduction usually takes the form of a **cover letter** that accompanies the questionnaire. The introduction should be carefully constructed because it represents the first point of contact with potential respondents. An example of a cover letter for a mailed questionnaire is presented in Figure 15-5.

When a first draft of the instrument is in reasonably good order, it should be discussed critically with people who are knowledgeable about questionnaire construction and with experts on the instrument's substantive content. The instrument also should be reviewed by someone capable of detecting technical problems, such as spelling mistakes, grammatical errors, and so forth. When these various people have provided feedback, a revised version of the instrument can be pretested. The pretest should be administered to individuals who are similar to actual participants. Ordinarily, 10 to 20 pretests are sufficient.*

*If a new summated rating scale is being developed, a much larger pretest sample is advisable.

Dear _____ :

We are conducting a study to examine how women who are approaching retirement age (age 55 to 65) feel about various issues relating to health and health care. This study, which is sponsored by the State Department of Health, will enable health-care providers to better meet the needs of women in your age group. Would you please assist us in this study by completing the enclosed questionnaire? Your opinions and experiences are very important to us and are needed to give an accurate picture of the health-related needs of women in the greater Middletown area.

Your name was selected at random from a list of residents in your community. The questionnaire is completely anonymous, so you are not asked to put your name on it or to identify yourself in any way. We therefore hope that you will feel comfortable about giving your honest opinions. If you prefer not to answer any particular question, please feel perfectly free to leave it blank. Please do answer the questions if you can, though, and if you have any comments or concerns about any question just write your comments in the margin.

A postage-paid return envelope has been provided for your convenience. We hope that you will take a few minutes to complete and return the questionnaire to us—it should take only about 15 minutes of your time. To analyze the information in a timely fashion, we ask that you return the questionnaire to us by May12.

Thank you very much for your cooperation and assistance in this endeavor. If you would like a copy of the summary of the results of this study, please check the box at the bottom of page 10.

FIGURE 15.5 Fictitious example of a cover letter for a mailed questionnaire.

Tips for Developing Structured Self-Report Instruments

Although we all are accustomed to asking questions, the proper phrasing of questions for a study is an arduous task. In this section, we provide some tips on wording questions and response options for self-report instruments. Although most advice is specific to structured self-reports, some suggestions are equally appropriate for qualitative interviews.

Tips for Wording Questions

In wording questions for self-reports, researchers should keep four important considerations in mind.

1. *Clarity*. Questions should be worded clearly and unambiguously. This is usually easier said than done. Respondents do not necessarily understand what information is needed and do not always have the same mind-set as the researchers.
2. *Ability of respondents to give information*. Researchers need to consider whether respondents can be expected to understand the question or are qualified to provide meaningful information.
3. *Bias*. Questions should be worded in a manner that will minimize the risk of response biases.
4. *Sensitive information*. Researchers should strive to be courteous, considerate, and sensitive to the needs and rights of respondents, especially when asking questions of a private nature.

Here are some specific suggestions with regard to these four considerations:

TIP: • Clarify in your own mind the information you are trying to obtain. The question, "When do you usually eat your evening meal?" might elicit such responses as "around 6 PM," or "when my son gets home from soccer practice," or "when I feel like cooking." The question itself contains no words that are difficult, but the question is unclear because the researcher's intent is not apparent.

• State questions in the affirmative rather than the negative, and particularly avoid sentences with double negatives.

- Avoid long sentences or phrases, and avoid technical terms (e.g., parity) if more common terms (e.g., number of children) are equally appropriate. Use words that are simple enough for the *least* educated respondents in your sample. Don't assume that even nurses have extensive knowledge on all aspects of nursing and medical terminology.
- Avoid "double-barreled" questions that contain two distinct ideas. The statement, "The mentally ill are incapable of caring for themselves and should be denied responsibilities and rights," might lead to conflicts of opinion in a single person if he or she agrees with only one part of the statement.
- Do not assume that respondents will be aware of, or informed about, issues or questions in which you are interested. Furthermore, avoid giving the impression that they *ought* to be informed. Questions on complex or specialized issues sometimes can be worded in such a way that respondents will be comfortable admitting ignorance (e.g., "Many people have not had a chance to learn much about factors that increase the risk of asthma. Do you happen to know of any contributing factors?"). Another approach is to preface a question by a short statement of explanation about terminology or issues.
- Avoid leading questions that suggest a particular kind of answer. A question such as, "Do you agree that nurse—midwives play an indispensable role in the health team?" is not neutral.
- State a range of alternatives within the question itself when possible. For instance, the question, "Do you normally prefer to get up early in the morning on weekends?" is more suggestive of the "right" answer than "Do you normally prefer to get up early in the morning or to sleep late on weekends?"
- For questions that deal with controversial opinions or socially unacceptable behavior (e.g., excessive drinking habits, noncompliance with medical instructions), closed-ended questions may be preferred. It is easier to check off having engaged in socially disapproved actions than to verbalize those actions in response to open-ended questions. Moreover, when unacceptable behaviors are presented as options, respondents are more likely to realize that they are not alone in their behavior, and admissions of such behavior becomes less difficult.
- Impersonal wording of a question is sometimes useful in minimizing embarrassment and encouraging honesty. To illustrate this point, compare these two statements with which respondents would be asked to agree or disagree: (1) "I am personally dissatisfied with the nursing care I received during my hospitalization," (2) "The quality of nursing care in this hospital is unsatisfactory." A respondent might feel more comfortable admitting dissatisfaction with nursing care in the less personally worded second question.
- Researchers concerned about possible respondent confusion or misinterpretation sometimes conduct **cognitive questioning** during the pretest. Cognitive questioning invites respondents to think aloud about the meaning of the question and what comes to mind when they hear it. For example, if we wanted to ask, "Are you exempt from the hospital's requirement to be fingerprinted?" but we weren't sure if respondents understood the concept of an exemption, we might in the pretest ask, "Please tell me in your own words what an exemption is," and "What came to mind when I asked if you were exempt from fingerprinting?"

Tips for Preparing Response Alternatives

If closed-ended questions are used, researchers also need to develop response alternatives. Below are some suggestions for preparing them.

TIP: • Responses options should cover all significant alternatives. If respondents are forced to choose a response from options provided by researchers, they should feel reasonably comfortable with the available options. As a precaution, researchers often have as one response option a phrase such as "other—please specify."

- Alternatives should be mutually exclusive. The following categories for a question on a person's age are *not* mutually exclusive: 30 years or younger, 30–40 years, 40–50, or 50 years or

older. People who are exactly 30, 40, or 50 would qualify for two of the four categories.

- There should be an underlying rationale for ordering alternatives. Options often can be placed in order of decreasing or increasing favorability, agreement, or intensity. When options have no "natural" order, alphabetic ordering of the alternatives is less likely to lead respondents to a particular response (e.g., see question 4 in Table 15-1).
- Response alternatives should not be too lengthy. One sentence or phrase for each alternative should almost always be sufficient to express a concept. Response alternatives should be about equal in length.

Tips for Formatting an Instrument

The appearance and layout of an instrument may seem a matter of minor administrative importance. However, a poorly designed format can have substantive consequences if respondents (or interviewers) become confused, miss questions, or answer questions they should have omitted. The format is especially important in questionnaires because respondents typically do not have a chance to seek assistance. The following suggestions may be helpful in laying out an instrument:

TIP:

- Try not to compress too many questions into too small a space. An extra page of questions is better than a form that appears cluttered and confusing and that provides inadequate space for responses to open-ended questions.
- Set off the response options from the question or stem itself. Response alternative are usually aligned vertically (Box 15-2). In questionnaires, respondents can be asked either to circle their answer or to place a check in the appropriate box.
- Give special care to formatting **filter questions**, which are designed to route respondents through different sets of questions depending on their responses. In interview schedules, the typical procedure is to use **skip patterns** that instruct interviewers to skip to a specific question (e.g., SKIP TO Q10). In SAQs, skip instructions may be confusing. It is usually better to put questions appropriate to a subset of respondents apart from the main series of questions, as illustrated in Box 15-2, part B. An important advantage of CAPI, CATI, and audio-CASI is that skip patterns are built into the computer program, leaving no room for human error.
- Avoid forcing all respondents to go through inapplicable questions in an SAQ. That is, question 2 in Box 15-2 part B could have been worded as follows: "If you are a member of the American Nurses Association, for how long have you been a member?" Nonmembers may not be sure how to handle this question and may be annoyed at having to read through irrelevant material.

BOX 15.2 Examples of Formats For a Filter Question

A. *Interview Format*

1. Are you currently a member of the American Nurses Association?
   - ❑ 1. Yes
   - ❑ 2. No (SKIP TO Q3)
2. For how many years have you been a member?
   ____ YEARS
3. Do you subscribe to any nursing journals?
   - ❑ 1. No, no subscriptions
   - ❑ 2. Yes, 1–2 subscriptions
   - ❑ 3. Yes, 3 or more subscriptions

B. *Questionnaire Format*

1. Are you currently a member of the American Nurses' Association?
   - ❑ 1. Yes →
   - ❑ 2. No ↓

   2. If yes: For how many years have you been a member?
      ____ YEARS
3. Do you subscribe to any nursing journals?
   - ❑ 1. No, no subscriptions
   - ❑ 2. Yes, 1–2 subscriptions
   - ❑ 3. Yes, 3 or more subscriptions

ADMINISTERING STRUCTURED SELF-REPORT INSTRUMENTS

Administering interview schedules and questionnaires requires different skills and involves different considerations. In this section, we examine issues in the administration of structured instruments, and ways of handling difficulties.

Collecting Interview Data

The quality of interview data depends heavily on interviewer proficiency. Interviewers for large survey organizations receive extensive general training in addition to specific training for individual studies. Although we cannot in this introductory book cover all the principles of good interviewing, we can identify some major issues.

A primary task of interviewers is to put respondents at ease so that they will feel comfortable in expressing opinions honestly. Respondents' personal reactions to interviewers can affect their willingness to participate. Interviewers, therefore, should always be punctual (if an appointment has been made), courteous, and friendly. Interviewers should strive to appear unbiased and to create a permissive atmosphere that encourages candor. All opinions of respondents should be accepted as natural; interviewers should not express surprise, disapproval, or even approval.

When a structured interview schedule is being used, interviewers should follow question wording precisely. Similarly, interviewers should not offer spontaneous explanations of what questions mean. Repetitions of the questions are usually adequate to dispel misunderstandings, particularly if the instrument has been properly pretested. Interviewers should not read questions mechanically. A natural, conversational tone is essential in building rapport with respondents, and this tone is impossible to achieve if interviewers are not thoroughly familiar with the questions.

When closed-ended questions have lengthy or complicated response alternatives, or when a series of questions has the same response alternatives, interviewers should hand subjects a **show card** that lists response options. People cannot be expected to remember detailed unfamiliar material and may choose the last alternative if they cannot recall earlier ones. Closed-ended items are recorded by checking or circling the appropriate alternative, but responses to open-ended questions must be recorded in full. Interviewers should not paraphrase or summarize respondents' replies.

Obtaining complete, relevant responses to open-ended questions is not always an easy matter. Respondents may reply to seemingly straightforward questions with irrelevant remarks or partial answers. Some may say, "I don't know" to avoid giving their opinions on sensitive topics, or to stall while they think over the question. In such cases, the interviewers' job is to probe. The purpose of a probe is to elicit more useful information than respondents volunteered during their initial reply. A probe can take many forms: Sometimes it involves a repetition of the original question, and sometimes it is a long pause intended to communicate to respondents that they should continue. Frequently, it is necessary to encourage a more complete response by a nondirective supplementary question, such as, "How is that?" Interviewers must be careful to use only *neutral* probes that do not influence the content of a response. Box 15-3 gives some examples of

BOX 15.3 Examples of Neutral, Nondirective Probes

Is there anything else?
Go on.
Are there any other reasons?
How do you mean?
Could you tell me more about that?
Why do you feel that way?
Would you tell me what you have in mind?
There are no right or wrong answers; I'd just like to get your thinking.
Could you please explain that?
Could you give me an example?

neutral, nondirective probes used by professional interviewers to get more complete responses to questions. The ability to probe well is perhaps the greatest test of an interviewer's skill. To know when to probe and how to select the best probes, interviewers must comprehend fully the purpose of each question and the type of information being sought.

Guidelines for telephone interviews are essentially the same as those for face-to-face interviews, but additional effort usually is required to build rapport over the telephone. In both cases, interviewers should strive to make the interview a pleasant and satisfying experience in which respondents are made to understand that the information they are providing is important.

Collecting Questionnaire Data

Questionnaires can be distributed in various ways, including personal distribution, through the mail, and over the Internet. The most convenient procedure is to distribute questionnaires to a group of people who complete the instrument together at the same time. This approach has the obvious advantages of maximizing the number of completed questionnaires and allowing researchers to clarify any possible misunderstandings. Group administrations are often possible in educational settings and may be feasible in some clinical situations.

Personal presentation of questionnaires to individual respondents is another alternative. Personal contact with respondents has a positive effect on response rates for SAQs. Furthermore, researchers can help explain or clarify particular items or the study purpose. Personal involvement may be relatively time-consuming and expensive if questionnaires have to be delivered and picked up at respondents' homes. The distribution of questionnaires in clinical settings, on the other hand, is often inexpensive and efficient and likely to yield a high rate of completed questionnaires.

Questionnaires are often mailed to respondents, but this approach tends to yield low response rates. When only a subsample of respondents return their questionnaires, it may be unreasonable to assume that those who responded were typical of the overall sample. That is, researchers are faced with the possibility that people who did not complete a questionnaire would have answered questions differently from those who did return it.

If the response rate is high, the risk of nonresponse bias may be negligible. A response rate greater than 65% is probably sufficient for most purposes, but lower response rates are common. Researchers should attempt to discover how representative respondents are, relative to the selected sample, in terms of basic demographic characteristics, such as age, gender, and marital status. This comparison may lead researchers to conclude that respondents and nonrespondents are sufficiently similar. When demographic differences are found, investigators can make inferences about the direction of the biases.

Response rates can be affected by the manner in which the questionnaires are designed and mailed. The physical appearance of the questionnaire can influence its appeal, so some thought should be given to the layout, quality and color of paper, method of reproduction, and typographic quality of the instrument. The standard procedure for distributing mailed questionnaires is to include a stamped, addressed return envelope. Failure to enclose a return envelope can have a serious effect on response rates.

TIP: People are more likely to complete a mailed questionnaire if they are encouraged to do so by someone whose name (or position) they recognize. If possible, include a letter of endorsement from someone visible (e.g., a hospital or government official), or write the cover letter on the stationery of a well-respected organization.

The use of **follow-up reminders** is effective in achieving higher response rates for mailed (and Internet) questionnaires. This procedure involves additional mailings urging nonrespondents to complete and return their forms. Follow-up reminders are typically sent about 10 to 14 days after the initial mailing. Sometimes reminders simply involve a letter of encouragement to nonrespondents. It is preferable, however, to enclose a second copy of the questionnaire with the reminder letter because many nonrespondents will have

misplaced the original or thrown it away. Telephone follow-ups can be even more successful, but are costly and time-consuming. With anonymous questionnaires, researchers may be unable to distinguish between respondents and nonrespondents for the purpose of sending follow-up letters. In such a situation, the simplest procedure is to send out a follow-up letter to the entire sample, thanking those who have already answered and asking others to cooperate.

Example of response rate improvement: Charles, Piper, Mailey, Davis, and Baigis (2000) mailed questionnaires to hospitals and other employers of nurses in the District of Columbia to determine nurse supply and nurse salaries. Their initial response rate was only 34%, but telephone and in-person follow-up raised the rate to 81%.

As questionnaires are returned, researchers should keep a log of incoming receipts daily. Each questionnaire should be opened, checked for usability, and assigned an identification number. Such record-keeping assists in assembling results, monitoring response rates, and making decisions about the timing of follow-up mailings and cutoff dates.

TIP: The problems associated with mailed questionnaires cannot be handled with interpersonal skills. Building "rapport" into a questionnaire often depends on attention to details. Even though procedural matters may seem trivial, the success of the project may depend on their careful execution.

The Internet is increasingly being used to collect structured self-report data. Web-based surveys appear to be an especially promising approach for accessing groups of people interested in very specific topic domains. Using the Internet to distribute questionnaires requires appropriate equipment and some technical skills, but there are a growing number of aids for doing such surveys.

Web-based surveys can be administered in different ways. One method is to design a questionnaire in a word processing program (e.g., Microsoft Word, WordPerfect, WordPro), as would usually be the case for mailed questionnaires. The file containing the questionnaire would be attached to e-mail messages and distributed to a list of potential respondents. Respondents then complete the questionnaire and return it as an e-mail attachment (or they can print it and return it by mail or fax). This method may be problematic if respondents have trouble opening attachments or if they use a different word processing program. It is also possible to create files containing the survey in executable format (.exe), using a database program such as Paradox or Access.

Internet surveys are increasingly being administered using web-based forms. This approach requires researchers to have their own website on which the survey form is placed. Respondents typically access the website by a hypertext link (i.e., by clicking on the hypertext, which sends the user to another website). For example, respondents may be invited to participate in the survey through an e-mail message that includes the hyperlink to the survey, or they may be invited to participate when they enter a website related in content to the survey (e.g., the website of a cancer support organization). There are also mechanisms for having the survey website included on search engines. However, it is important to weigh the tradeoffs between having a broad population and receiving survey data from inappropriate respondents.

Web-based forms are designed for online response, and may in some cases be programmed to include interactive features. By having dynamic features, respondents can receive as well as give information—a feature that increases people's motivation to participate. For example, respondents can be given information about their own responses (e.g., how they scored on a scale) or about responses of other participants. A major advantage of web-based forms are that the entered data are directly amenable to analysis.

Several reference books are available to help researchers who wish to launch an Internet survey. For example, the books by Nesbary (2000) and Birnbaum (2001) provide useful information. There are also commercial vendors that can help with programming requirements, such as WWW Survey Assistant (http://or.psychology.dal.ca/~wcs/-hidden/home.html) or Opinion Search, Inc. (http://www.opinionsearch.com).

Example of an Internet survey: Thomas and colleagues (2000) designed and administered a survey about women's perceptions of breast health education and screening to an international population of women. The survey website was linked to other websites frequented by women.

RESEARCH EXAMPLES

This section provides examples of both qualitative and quantitative studies that relied on self-reports.

Research Example of Qualitative Self-Reports

Norton and Bowers (2001) conducted a grounded theory study of end-of-life decision-making. The research focused on clinicians' strategies to change patients' treatment decisions from unrealistic ones (curative) to more realistic choices (palliative). The sample consisted of 10 nurses, 5 physicians, and 5 family members. Interviews were conducted at a time and place convenient to participants over a 16-month period. All interviews were tape recorded and later transcribed and checked for accuracy. The researchers conducted all interviews themselves.

Interviewing changed over the course of the study as the theory emerged. For the first four interviews, which lasted 60 to 90 minutes, Norton and Bowers used broad, open-ended questions, such as "How do patient care decisions get made here?" and "How do decisions get made when it doesn't look like the patient is going to recover?" (p. 261).

Interviews conducted later in the study were shorter, lasting 30 to 60 minutes. The questions used to guide these later interviews became more focused as categories were generated from the analysis. The following questions illustrate interview questions used toward the end of this grounded theory study: "How do you figure out whether a treatment decision is realistic?", What difference does it make if everyone involved (patient, family, and providers) agree on how to proceed?", and "What do you do when that is not the case?" (p. 261). Memos and matrices were used to track the evolving theory and document the researchers' methodologic choices.

Results revealed that the shifting of patients' and families' choices from curative to palliative was accomplished by changing their understanding of the "big picture" of the patient's condition. The strategies clinicians used to make this shift included laying the groundwork, shifting the picture, and accepting the new picture.

Research Example of Structured Self-Reports

Friedman and Griffin (2001) used a structured self-report method to study the relationship of physical symptoms and physical functioning to depression among patients with heart failure. Participants were interviewed twice by trained nursing research assistants. The first interview was a personal interview during the subjects' hospitalization for heart failure. The second interview, conducted 4 to 6 weeks after discharge, was completed with participants in their homes by telephone. Interviewers read the questions slowly over the telephone, and repeated to clarify questions and response options.

A total of 247 patients were determined to be eligible for the study. Most of the eligibles (86%) agreed to participate in the first interview. Those who refused expressed lack of interest or fatigue as their reason. Some 80% of those interviewed in the hospital completed the follow-up interview. The final study sample included 170 subjects (average age of 73 years) with two rounds of interview data.

The interview schedule consisted of four modules. One module focused on sociodemographic data (age, race, martial status, education, and living arrangements). This module was not included in the follow-up interview. Another module consisted of a symptom checklist developed by the researchers. The checklist included 13 symptoms derived from a list of heart failure symptoms contained in the Agency for Health Care Policy Research's practice guidelines on heart failure. In the third module, the researchers included the 10-item physical functioning subscale from the widely used Medical Outcomes Study Short Form Health Survey (SF-36). Finally, the researchers measured depression using the short form (10-item) Center for Epidemiological Studies Depression scale (the CES-D). Friedman and Griffin noted that their selection of the CES-D as the measure of depression in this study was based in part on the fact that this scale "is brief, understandable, and does not confound somatic

symptoms that normally accompany aging, thereby making it a useful tool to measure depression in the elderly–even those with a physical illness" (p. 100).

The results indicated that increased physical symptoms and reduced physical functioning over time was associated with greater depressive symptoms in this sample.

SUMMARY POINTS

- Self-report data usually are collected by an oral **interview** or written **questionnaire**. Self-reports vary widely in their degree of structure or standardization.
- Unstructured and loosely structured self reports, which provide respondents and interviewers latitude in formulating questions and answers, yield rich narrative data for qualitative analysis.
- Methods of collecting qualitative self-report data include the following: (1) **unstructured interviews**, which are conversational discussions on the topic of interest; (2) **semistructured interviews**, in which interviewers are guided by a **topic guide** of questions to be asked; (3) **focus group interviews**, which involve discussions with small, homogeneous groups about topics covered in a topic guide; (4) **joint interviews**, which involve simultaneously talking with members of a dyad (e.g., two spouses); (5) **life histories**, which encourage respondents to narrate, in chronologic sequence, their life experiences; (6) **oral histories**, which are used to gather personal recollections of events and their perceived causes and consequences; (7) **critical incidents interviews**, which involve probes about the circumstances surrounding a behavior or incident that is critical to an outcome of interest; (8) **diaries** and journals, in which respondents are asked to maintain daily records about some aspects of their lives; (9) the **think-aloud method,** which involves having people use audio-recording devices to talk about decisions as they are making them; (10) **photo elicitation interviews**, which are stimulated and guided by photographic images; and (11) solicited or unsolicited narrative communications on the Internet.
- In preparing for in-depth interviews, researchers learn about the language and customs of participants, formulate broad questions, make decisions about how to present themselves, develop ideas about interview settings, and take stock of equipment needs.
- Conducting good in-depth interviews requires considerable interviewer skill in putting people at ease, developing trust, listening intently, and managing possible crises in the field.
- In-depth self-report methods tend to yield data of considerable richness and are useful in gaining an understanding about little-researched phenomena, but they are time-consuming and yield a wealth of data that are challenging to analyze.
- Structured self-report instruments may include open- or closed-ended questions. **Open-ended questions** permit respondents to reply in narrative fashion, whereas **closed-ended** (or **fixed-alternative**) **questions** offer response options from which respondents must choose.
- Questionnaires are less costly and time-consuming than interviews, offer the possibility of anonymity, and run no risk of interviewer bias; however, interviews tend to yield higher response rates, to be suitable for a wider variety of people, and to yield richer data than questionnaires.
- Types of closed-ended questions include (1) **dichotomous questions**, which require a choice between two options (e.g., yes/no); (2) **multiple-choice questions**, which offer a range of alternatives; (3) **cafeteria questions**, in which respondents are asked to select a statement best representing their view; (4) **rank-order questions**, in which respondents are asked to rank a list of alternatives along a continuum; (5) **forced-choice questions**, which require respondents to choose between two competing positions; (6) **rating questions**, which ask respondents to make judgments along an ordered, bipolar dimension; (7) **checklists** or **matrix questions** in which several questions requiring the same response format are

listed; (8) **calendar questions**, which ask the stop and start dates of various events, recorded on a calendar grid; and (9) **visual analogue scales** (VAS), which are continua used to measure subjective experiences such as pain.

- Composite psychosocial **scales** are multiple-item self-report tools for measuring the degree to which individuals possess or are characterized by target traits or attributes.
- **Likert scales** comprise a series of statements worded favorably or unfavorably toward a phenomenon. Respondents indicate degree of agreement or disagreement with each statement; a total score is computed by the summing item scores, each of which is scored for the intensity and direction of favorability expressed. Likert scales are also called **summated rating scales**.
- **Semantic differentials** (SDs) consist of a series of bipolar rating scales on which respondents indicate their reaction toward some phenomenon; scales can measure an evaluative (e.g., good/bad), activity (e.g., active/passive), or potency (e.g., strong/weak) dimension.
- Self-reports are vulnerable to the risk of reporting biases, which are often called **response set biases**; this problem concerns the tendency of some people to respond to items in characteristic ways, independently of the item's content.
- The **social desirability response bias** stems from a person's desire to appear in a favorable light. The **extreme response set** results when a person characteristically endorses extreme response alternatives. Another response bias is known as **acquiescence**, which is a **yea-sayer's** tendency to agree with statements regardless of their content. A converse problem arises when people (**nay-sayers**) disagree with most statements.
- Data quality in interviews depends heavily on interviewers' interpersonal skills. Interviewers must put respondents at ease and build rapport with them, and need to be skillful at **probing** for additional information when respondents give incomplete or irrelevant responses.
- Group administration is the most convenient and economical way to distribute questionnaires. Another approach is to mail them, but this method is plagued with the risk of low **response rates**, which can result in a biased sample.
- A number of techniques, such as the use of **follow-up reminders** and good **cover letters**, are designed to increase response rates.

STUDY ACTIVITIES

Chapter 15 of the *Study Guide to Accompany Nursing Research: Principles and Methods, 7th edition*, offers various exercises and study suggestions for reinforcing concepts presented in this chapter. In addition, the following study questions can be addressed:

1. Identify which qualitative self-report methods might be appropriate for the following research problems:
   a. What are the coping strategies of parents who have lost a child through sudden infant death syndrome?
   b. How do nurses in emergency departments make decisions about their activities?
   c. What are the health beliefs and practices of Haitian immigrants in the United States?
   d. What is it like to experience having a family member undergo open heart surgery?
2. Voluntary nonemployment of nurses contributes to nursing shortages. Suppose you were planning to conduct a statewide study of the plans and intentions of nonemployed registered nurses in your state. Would you collect structured or unstructured data? Would you adopt an interview or questionnaire approach? If a questionnaire, how would you distribute it?
3. Suppose that the study of nonemployed nurses were done by a mailed questionnaire. Draft a cover letter to accompany it.
4. Suppose you were interested in studying pregnant women's attitudes toward breast-feeding. Develop five positively worded and five negatively worded statements that could be used in constructing a Likert scale for such a study.
5. List 10 pairs of bipolar adjectives that would be appropriate for rating *all* the following concepts

for an SD scale: cigarettes, alcohol, marijuana, heroin, cocaine.

6. Suggest ways of improving the following questions:
   a. When do you usually administer your injection of insulin?
   b. Would you disagree with the statement that nurses should not unionize?
   c. Do you agree or disagree with the following statement? Alcoholics deserve more pity than scorn and should be encouraged to seek medical rather than spiritual assistance.
   d. What is your opinion about the new health reform bill?
   e. Don't you think that the role of nurses ought to be expanded?

SUGGESTED READINGS

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