Qualitative Data Analysis

CHAPTER OVERVIEW

Qualitative data analysis is the nonnumerical assessment of observations made through participant observation, content analysis, in-depth interviews, and other qualitative research techniques. Although qualitative analysis is as much an art as a science, it has its own logic and techniques, some of which are enhanced by special computer programs.

Introduction

Later chapters in Part 4 of this book will deal with the *quantitative* analysis of social research data, sometimes called *statistical analysis.* Recent decades of social science research have tended to focus on quantitative data analysis techniques. This focus, however, sometimes conceals another approach to making sense of social observations: **qualitative analysis**—methods for examining social research data without converting them to a numerical format. This approach predates quantitative analysis. It remains a useful approach to data analysis and is enjoying a resurgence of interest among social scientists.

Learning qualitative analysis techniques requires a different approach than learning quantitative ones. Although statistical analyses may intimidate some students, the steps involved can sometimes be learned in a rote manner. That is, with practice, the rote exercise of quantitative skills can produce an increasingly sophisticated understanding of the logic that lies behind those techniques.

It's much more difficult to teach qualitative analysis as a series of rote procedures. In this case, understanding must precede practice. In this chapter, we begin with the links between research and theory in qualitative analysis. Then we examine some procedures that have proved useful in pursuing the theoretical aims. After considering some simple manual techniques, we'll take some software programs out for a spin.

Linking Theory and Analysis

As suggested in Chapter 10 and elsewhere in this book, qualitative research methods involve a continuing interplay between data collection and theory. As a result, I've already talked about qualitative data analysis in earlier discussions of field research and content analysis. In quantitative research, it's sometimes easy to get caught up in the logistics of data collection and in the statistical analysis of data, thereby losing sight of theory for a time. This is less likely in qualitative research, where data collection, analysis, and theory are more intimately intertwined.

In the discussions to follow, we'll use the image of theory offered by Anselm Strauss and Juliet Corbin (1994: 278) as consisting of "*plausible* relationships proposed among *concepts* and *sets of concepts.*" They stress "plausible" to indicate that theories represent our best understanding of how life operates. The more our research confirms a particular set of relationships among particular concepts, however, the more confident we become that our understanding corresponds to social reality.

Whereas qualitative research is sometimes undertaken for purely descriptive purposes—such as the anthropologist's ethnography detailing ways of life in a previously unknown tribe—the rest of this chapter focuses primarily on the search for explanatory patterns. As we'll see, sometimes the patterns occur over time, and sometimes they take the form of causal relations among variables. Let's look at some of the ways qualitative researchers uncover such patterns.

Discovering Patterns

John Lofland and his colleagues (2006: 149–65) suggest six different ways of looking for patterns in a particular research topic. Let's suppose you're interested in analyzing child abuse in a certain neighborhood. Here are some questions you might ask yourself to make sense out of your data:

1. *Frequencies:* How often does child abuse occur among families in the neighborhood under study? (Realize that there may be a difference between the frequency and what people are willing to tell you.)

2. *Magnitudes:* What are the levels of abuse? How brutal are they?

3. *Structures:* What are the different types of abuse: physical, mental, sexual? Are they related in any particular manner?

qualitative analysis The nonnumerical examination and interpretation of observations, for the purpose of discovering underlying meanings and patterns of relationships. This is most typical of field research and historical research.

4. *Processes:* Is there any order among the elements of structure? Do abusers begin with mental abuse and move on to physical and sexual abuse, or does the order of elements vary?

5. *Causes:* What are the causes of child abuse? Is it more common in particular social classes or among different religious or ethnic groups? Does it occur more often during good times or bad?

6. *Consequences:* How does child abuse affect the victims, in both the short and the long term? What changes does it cause in the abusers?

For the most part, in examining your data you'll look for patterns appearing across several observations that typically represent different cases under study, an approach called **cross-case analysis**. A. Michael Huberman and Matthew Miles (1994: 435f) offer two strategies for cross-case analysis: the variable-oriented and the case-oriented analysis. **Variable-oriented analysis** is similar to a model we've already discussed from time to time in this book. If we were trying to predict the decision to attend college, Huberman and Miles suggest, we might consider variables such as "gender, socioeconomic status, parental expectations, school performance, peer support, and decision to attend college" (1994: 435). Thus, we would determine whether men or women were more likely to attend college. The focus of our analysis would be on interrelations among variables, and the people observed would be primarily the carriers of those variables.

Variable-oriented analysis may remind you of the discussion in Chapter 1 that introduced the idea of nomothetic explanation. The aim here is to achieve a partial, overall explanation using relatively few variables. The political pollster who attempts to explain voting intentions on the basis of two or three key variables is using this approach. There is no pretense that the researcher can predict every individual's behavior nor even explain any one person's motivations in full. Sometimes, though, it's useful to have even a partial explanation of overall orientations and actions.

You may also recall the introduction to idiographic explanation in Chapter 1, wherein we attempt to understand a particular case fully. In the voting example, we would endeavor to learn everything we could about all the factors that came into play in determining one person's decision on how to vote. This orientation lies at the base of what Huberman and Miles call a **case-oriented analysis**.

> In a case-oriented analysis, we would look more closely into a particular case, say, Case 005, who is female, middle-class, has parents with high expectations, and so on. These are, however, "thin" measures. To do a genuine case analysis, we need to look at a full history of Case 005; Nynke van der Molen, whose mother trained as a social worker but is bitter over the fact that she never worked outside the home, and whose father wants Nynke to work in the family florist shop. Chronology is also important: two years ago, Nynke's closest friend decided to go to college, just before Nynke began work in a stable and just before Nynke's mother showed her a scrapbook from social work school. Nynke then decided to enroll in veterinary studies.
>
> *(1994: 436)*

This abbreviated commentary should give you some idea of the detail involved in this type of analysis. Of course, an entire analysis would be more extensive and pursue issues in greater depth. This full, idiographic examination, however, tells us nothing about people in general. It offers nothing in the way of a theory about why people choose to attend college.

Even so, in addition to understanding one person in great depth, the researcher sees the critical elements of the subject's experiences as instances of more-general social concepts or variables. For example, Nynke's mother's social work training can also be seen as "mother's education." Her friend's decision can be seen as "peer influence." More specifically, these could be seen as independent variables having an impact on the dependent variable of attending college.

Of course, one case does not a theory make—hence Huberman and Miles refer to cross-case

cross-case analysis An analysis that involves an examination of more than one case; this can be either a variable-oriented or case-oriented analysis.

variable-oriented analysis An analysis that describes and/or explains a particular variable.

case-oriented analysis An analysis that aims to understand a particular case or several cases by looking closely at the details of each.

analysis, in which the researcher turns to other subjects, looking into the full details of their lives as well but paying special attention to the variables that seemed important in the first case. How much and what kind of education did other subjects' mothers have? Is there any evidence of close friends attending college?

Some subsequent cases will closely parallel the first one in the apparent impact of particular variables. Other cases will bear no resemblance to the first. These latter cases may require the identification of other important variables, which may invite the researcher to explore why some cases seem to reflect one pattern while others reflect another.

Grounded Theory Method

The cross-case method just described should sound somewhat familiar. In the discussion of grounded theory in Chapter 10, we saw how qualitative researchers sometimes attempt to establish theories on a purely inductive basis. This approach begins with observations rather than hypotheses and seeks to discover patterns and develop theories from the ground up, with no preconceptions, though some research may build and elaborate on earlier grounded theories.

Grounded theory was first developed by the sociologists Barney Glaser and Anselm Strauss (1967) in an attempt to come to grips with their clinical research in medical sociology. Since then, it has evolved as a method, with the cofounders taking it in slightly different directions. The following discussion will deal with the basic concepts and procedures of the **Grounded Theory Method (GTM)**.

In addition to the fundamental, inductive tenet of building theory from data, GTM employs the **constant comparative method**. As Glaser and Strauss originally described this method, it involved four stages (1967: 105–13):

> **Grounded Theory Method (GTM)** An inductive approach to research, introduced by Barney Glaser and Anselm Strauss, in which theories are generated solely from an examination of data rather than being derived deductively.
>
> **constant comparative method** A component of the Grounded Theory Method in which observations are compared with one another and with the evolving inductive theory.

1. "Comparing incidents applicable to each category." As Glaser and Strauss researched the reactions of nurses to the possible death of patients in their care, the researchers found that the nurses were assessing the "social loss" attendant upon a patient's death. Once this concept arose in the analysis of one case, they looked for evidence of the same phenomenon in other cases. When they found the concept arising in the cases of several nurses, they compared the different incidents. This process is similar to conceptualization as described in Chapter 5—specifying the nature and dimensions of the many concepts arising from the data.

2. "Integrating categories and their properties." Here the researcher begins to note relationships among concepts. In the assessment of social loss, for example, Glaser and Strauss found that nurses took special notice of a patient's age, education, and family responsibilities. For these relationships to emerge, however, it was necessary for the researchers to have noticed all these concepts.

3. "Delimiting the theory." Eventually, as the patterns of relationships among concepts become clearer, the researcher can ignore some of the concepts that were initially noted but are evidently irrelevant to the inquiry. In addition to the number of categories being reduced, the theory itself may become simpler. In the examination of social loss, for example, Glaser and Strauss found that the assessment processes could be generalized beyond nurses and dying patients: They seemed to apply to the ways all staff dealt with all patients (dying or not).

4. "Writing theory." Finally, the researcher must put his or her findings into words to be shared with others. As you may have already experienced for yourself, the act of communicating your understanding of something actually modifies and even improves your own grasp of the topic. In GTM, the writing stage is regarded as a part of the research process. A later section of this chapter (on memoing) elaborates on this point.

This brief overview should give you an idea of how grounded theory proceeds. The many techniques associated with GTM can be found

both in print and on the web. One key publication is Anselm Strauss and Juliet Corbin's *Basics of Qualitative Research* (1998), which elaborates on and extends many of the concepts and techniques found in the original 1967 Glaser and Strauss volume. On the web, you can search for "grounded theory" to see a wealth of articles.

GTM is only one analytic approach to qualitative data. In the remainder of this section, we'll take a look at some other specialized techniques.

Semiotics

Semiotics is commonly defined as the "science of signs" and has to do with symbols and meanings. It's commonly associated with content analysis, which was discussed in Chapter 11, though it can be applied in a variety of research contexts.

Peter Manning and Betsy Cullum-Swan (1994: 466) offer some sense of the applicability of semiotics, as follows: "Although semiotics is based on language, language is but one of the many sign systems of varying degrees of unity, applicability, and complexity. Morse code, etiquette, mathematics, music, and even highway signs are examples of semiotic systems."

There is no meaning inherent in any sign, however. Meanings reside in minds. So, a particular sign means something to a particular person. However, the agreements we have about the meanings associated with particular signs make semiotics a social science. As Manning and Cullum-Swan point out

> For example, a lily is an expression linked conventionally to death, Easter, and resurrection as a content. Smoke is linked to cigarettes and to cancer, and Marilyn Monroe to sex. Each of these connections is social and arbitrary, so that many kinds of links exist between expression and content.
>
> *(1994: 466)*

SIGN	MEANING
1. Poinsettia	a. Good luck
2. Horseshoe	b. First prize
3. Blue ribbon	c. Christmas
4. "Say cheese"	d. Acting
5. "Break a leg"	e. Smile for a picture

FIGURE 13-1

Matching Signs and Their Meanings
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To explore this contention, see if you can link the signs with their meanings in Figure 13-1. I'm confident enough that you know all the "correct" associations that there's no need for me to give the answers. (OK, you should have said 1c, 2a, 3b, 4e, 5d.) The point is this: What do any of these signs have to do with their "meanings"? Draft an e-mail message to a Martian social scientist explaining the logic at work here. (You might want to include some "emoticons" like :) —another example of semiotics.)

There is no doubt a story behind each of the linkages in Figure 13-1, and the meanings you and I "know" today have been socially constructed. Semiotic analysis involves a search for the meanings intentionally or unintentionally attached to signs.

Consider the sign shown in Figure 13-2, from a hotel lobby in Portland, Oregon. What's being communicated by the rather ambiguous wording? The first sentence seems to be saying that the hotel is up-to-date with the current move away from tobacco in the United States. Guests who want a smoke-free environment need look no farther: This is a healthy place to stay. At the same time, says the second sentence, the hotel would not like to be seen as inhospitable to smokers. There's room for everyone under this roof. No one need feel excluded. This sign is more easily understood within a marketing paradigm than one of logic.

The "signs" examined in semiotics, of course, are not limited to this kind of sign. Most are quite different, in fact. *Signs* are any things that are assigned special meanings. They can include logos, animals, people, and consumer products. Sometimes the symbolism is a bit subtle. A classic analysis can be found in Erving Goffman's *Gender Advertisements* (1979). Goffman focused on advertising pictures found in magazines and newspapers. The overt purpose of the ads, of course, was to sell specific products. But what else was communicated, Goffman asked. What in particular did the ads say about men and women?

Analyzing pictures containing both men and women, Goffman was struck by the fact that men were almost always bigger and taller than

semiotics The study of signs and the meanings associated with them. This is commonly associated with content analysis.

FIGURE 13-2
Mixed Signals?
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the women accompanying them. (In many cases, in fact, the picture managed to convey the distinct impression that the women were merely accompanying the men.) Although the most obvious explanation is that men are, on average, heavier and taller than women, Goffman suggested the pattern had a different meaning: that size and placement implied *status*. Those who were larger and taller presumably had higher social standing—more power and authority (1979: 28). Goffman suggested that the ads communicated that men were more important than women.

In the spirit of Freud's comment that "sometimes a cigar is just a cigar" (he was a smoker), how would you decide whether the ads simply reflected the biological differences in the average sizes of men and women or whether they sent a message about social status? In part, Goffman's conclusion was based on an analysis of the exceptional cases: those in which the women appeared taller than the men. In these cases, the men were typically of a lower social status—the chef beside the society matron, for example. This confirmed Goffman's main point that size and height indicated social status.

The same conclusion was to be drawn from pictures with men of different heights. Those of higher status were taller, whether it was the

gentleman speaking to a waiter or the boss guiding the work of his younger assistants. Where actual height was unclear, Goffman noted the placement of heads in the picture. The assistants were crouching down while the boss leaned over them. The servant's head was bowed so it was lower than that of the master.

The latent message conveyed by the ads, then, was that the higher a person's head appeared in the ad, the more important that person was. And in the great majority of ads containing men and women, the former were clearly portrayed as more important. The subliminal message in the ads, whether intended or not, was that men are more powerful than women and enjoy a higher status.

Goffman examined several differences besides physical size in the portrayal of men and women. As another example, men were typically portrayed in active roles, women in passive ones. The (male) doctor examined the child while the (female) nurse or mother looked on, often admiringly. A man guided a woman's tennis stroke (all the while keeping his head higher than hers). A man gripped the reins of his galloping horse, while a woman rode behind him with her arms wrapped around his waist. A woman held the football, while a man kicked it. A man took a photo, which contained only women.

Goffman suggested that such pictorial patterns subtly perpetuated a host of gender stereotypes. Even as people spoke publicly about gender equality, these advertising photos established a quiet backdrop of men and women in the "proper roles."

Conversation Analysis

Ethnomethodology, as you'll recall, aims to uncover the implicit assumptions and structures in social life. **Conversation analysis (CA)** seeks to pursue that aim through an extremely close scrutiny of the way we converse with one another. In the examination of ethnomethodology in Chapter 10, you saw some examples of conversation analysis. Here we'll look a little more deeply into that technique.

David Silverman (1999), reviewing the work of other CA theorists and researchers, speaks of three fundamental assumptions. First, conversation is a socially structured activity. Like other social structures, it has established rules

conversation analysis (CA) A meticulous analysis of the details of conversation, based on a complete transcript that includes pauses, hems, and also haws.

of behavior. For example, we're expected to take turns, with only one person speaking at a time. In telephone conversations, the person answering the call is expected to speak first (e.g., "Hello"). You can verify the existence of this rule, incidentally, by picking up the phone without speaking. You may recall that this is the sort of thing ethnomethodologists tend to do.

Second, Silverman points out that conversations must be understood contextually. The same utterance will have different meanings in different contexts. For example, notice how the meaning of "Same to you!" varies if preceded by "I don't like your looks" or by "Have a nice day."

Third, CA aims to understand the structure and meaning of conversation through excruciatingly accurate transcripts of conversations. Not only are the exact words recorded, but all the uhs, ers, bad grammar, and pauses are also noted. Pauses, in fact, are recorded to the nearest tenth of a second.

The practical uses of this type of analysis are many. Ann Marie Kinnell and Douglas Maynard (1996), for example, analyzed conversations between staff and clients at an HIV-testing clinic to examine how information about safe sex was communicated. Among other things, they found that the staff tended to provide standard information rather than try to speak directly to a client's specific circumstances. Moreover, they seemed reluctant to give direct advice about safe sex, settling for information alone.

These discussions should give you some sense of the variety of qualitative analysis methods available to researchers. Now let's look at some of the data-processing and data-analysis techniques commonly used in qualitative research.

Qualitative Data Processing

Let me begin this section with a warning. The activity we're about to examine is as much art as science. At the very least, there are no cut-and-dried steps that guarantee success.

It's a lot like learning how to paint with watercolors or compose a symphony. Education in such activities is certainly possible, and university courses are offered in both. Each has its own conventions and techniques as well as tips you may find useful as you set out to create art or music. However, instruction can carry you only so far. The final product must come from you. Much the same can be said of qualitative data processing.

At the same time, researchers have developed systematic and rigorous techniques for this type of research. We'll examine some of those here. You can gain a more in-depth view of these techniques from *Constructing Grounded Theory: A Practical Guide through Qualitative Research*, an excellent book by social researcher Kathy Charmaz (2006).

This section presents some ideas relating to the coding of qualitative data, writing memos, and mapping concepts graphically. Although far from a "how-to" manual, these ideas give a useful starting point for finding order in qualitative data.

Coding

Whether you've engaged in participant observation, in-depth interviewing, collecting biographical narratives, doing content analysis, or some other form of qualitative research, you'll now be in the possession of a growing mass of data—most typically in the form of textual materials. Now what do you do?

The key process in the analysis of qualitative social research data is *coding*—classifying or categorizing individual pieces of data—coupled with some kind of retrieval system (see Chapter 11). Together, these procedures allow you to retrieve materials you may later be interested in.

Let's say you're chronicling the growth of a social movement. You recall writing up some notes about the details of the movement's earliest beginnings. Now you need that information. If all your notes have been cataloged by topic, retrieving those you need should be straightforward. As a simple format for coding and retrieval, you might have created a set of file folders labeled with various topics, such as "History." Data retrieval in this case means pulling out the "History" folder and rifling through the notes it contains until you find what you need.

As you'll see later in this chapter, there are now sophisticated computer programs that allow for a faster, more certain, and more precise

retrieval process. Rather than looking through a "History" file, you can go directly to notes dealing with the "Earliest History" or the "Founding" of the movement.

Coding has another, even more important purpose. As discussed earlier, the aim of data analysis is the discovery of patterns among the data, patterns that point to theoretical understandings of social life. The coding and relating of concepts is key to this process and requires a more refined system than a set of manila folders. In this section, we'll assume that you'll be doing your coding manually. A later section of the chapter will illustrate the use of computer programs for qualitative data analysis.

Coding Units

As you may recall from the earlier discussion of content analysis, for statistical analysis it's important to identify a standardized unit of analysis prior to coding. If you were comparing American and French novels, for example, you might evaluate and code sentences, paragraphs, chapters, or whole books. It would be important, however, to code the same units for each novel analyzed. This uniformity is necessary in a quantitative analysis, as it allows us to report something like "23 percent of the paragraphs contained metaphors." This is only possible if we've coded the same unit—paragraphs—in each of the novels.

Coding data for a qualitative analysis, however, is quite different. The *concept* is the organizing principle for qualitative coding. Here the units of text appropriate for coding will vary within a given document. Thus, in a study of organizations, "Size" might require only a few words per coding unit, whereas "Mission" might take a few pages. Or, a lengthy description of a heated stockholders meeting might be coded as "Internal Dissent."

Realize also that a given code category may be applied to textual materials of quite different lengths. For example, some references to the organization's mission may be brief, others

lengthy. Whereas standardization is a key principle in quantitative analysis, this is not the case in qualitative analysis.

Coding as a Physical Act

Before continuing with the logic of coding, let's take a moment to see what it actually looks like. Lofland and his colleagues offer this description of manual filing:

> Prior to the widespread availability of personal computers beginning in the late 1980s, coding frequently took the specific physical form of filing. The researcher established an expanding set of file folders with code names on the tabs and physically placed either the item of data itself or a note that referenced its location in another file folder. Before photocopying was easily available and cheap, some fieldworkers typed their fieldnotes with carbon paper, wrote codes in the margins of the copies of the notes, and cut them up with scissors. They then placed the resulting slips of paper in corresponding file folders.
>
> *(2006: 203)*

As Lofland and his colleagues point out, personal computers have greatly simplified this task. However, the image of slips of paper that contain text and are put in folders representing code categories is useful for understanding the process of coding. In the next section, when I suggest that we code a textual passage with a certain code, imagine that we have the passage typed on a slip of paper and that we place it in a file folder bearing the name of the code. Whenever we assign two codes to a passage, imagine placing duplicate copies of the passage in two different folders representing the two codes.

Creating Codes

So, what should your code categories be? Glaser and Strauss (1967: 101f) allow for the possibility of coding data for the purpose of testing hypotheses that have been generated by prior theory. In that case, then, the codes would be suggested by the theory, in the form of variables.

In this section, however, we're going to focus on the more common processes of open coding, axial coding, and selective coding. Strauss and Corbin (1998: 102) describe **open coding** as follows:

open coding The initial classification and labeling of concepts in qualitative data analysis. In open coding, the codes are suggested by the researchers' examination and questioning of the data.

To uncover, name, and develop concepts, we must open up the text and expose the thoughts, ideas, and meanings contained therein. Without this first analytic step, the rest of the analysis and the communication that follows could not occur. Broadly speaking, during open coding, data are broken down into discrete parts, closely examined, and compared for similarities and differences. Events, happenings, objects, and actions/interactions that are found to be conceptually similar in nature or related in meaning are grouped under more abstract concepts termed *categories*.

Although the analysis of data will quickly advance to an iterative interplay of the three types of coding, open coding is the logical starting point. Beginning with some body of text (part of an interview, for example), you read and reread a passage, seeking to identify the key concepts contained within it. Any particular piece of data may be given several codes, reflecting as many concepts. For example, notice all the concepts contained in this comment by a student interviewee:

I thought the professor should have given me at least partial credit for the homework I turned in.

Some obvious codes are "Professor," "Homework," and "Grading." The result of open coding is the identification of numerous concepts relevant to the subject under study. The open coding of more and more text will lengthen the list of codes.

Axial coding aims to identify the *core* concepts in the study. Although axial coding uses the results of open coding, more concepts can be identified through continued open coding after the axial coding has begun. Axial coding involves a regrouping of the data, in which the researcher uses the open-code categories and looks for more-analytic concepts. For example, the passage just given also carries the concept of "perceptions of fairness," which might appear frequently in the student interviews, thereby suggesting that it's an important element in understanding students' concerns. Another axial code reflected in the student comment might be "power relationships," because the professor is seen to exercise power over the student.

Selective coding seeks to identify *the* central code in the study: the one that the other codes all relate to. Both of the axial codes just mentioned might be restructured as aspects of a more general concept: "professor–student relationships." Of course, in a real data analysis, decisions such as the ones we've been discussing would arise from masses of textual data, not from a single quotation. The basic notion of the Grounded Theory Method is that patterns of relationships can be teased out of an extensive, in-depth examination of a large body of observations.

Here's a concrete example to illustrate how you might engage in this form of analysis. Suppose you're interested in the religious bases for homophobia. You've interviewed some people opposed to homosexuality who cite a religious basis for their feelings. Specifically, they refer you to these passages in the Book of Leviticus (Revised Standard Version):

18:22   You shall not lie with a male as with a woman; it is an abomination.

20:13   If a man lies with a male as with a woman, both of them have committed an abomination; they shall be put to death, their blood is upon them.

Although the point of view expressed here seems unambiguous, you might decide to examine it in more depth. Perhaps a qualitative analysis of Leviticus can yield a fuller understanding of where these injunctions against homosexuality fit into the larger context of Judeo-Christian morality.

Let's start our analysis by examining the two passages just quoted. We might begin by coding each passage with the label "Homosexuality." This is clearly a key concept in our analysis. Whenever we focus on the issue of homosexuality in our analysis of Leviticus, we want to consider these two passages.

axial coding A reanalysis of the results of open coding in the Grounded Theory Method, aimed at identifying the important, general concepts.

selective coding In Grounded Method Theory, this analysis builds on the results of open coding and axial coding to identify the central concept that organizes the other concepts that have been identified in a body of textual materials.

Because homosexuality is such a key concept, let's look more closely into what it means within the data under study. We first notice the way *homosexuality* is identified: a man lying with a man "as with a woman." Although we can imagine a lawyer seeking admission to heaven saying, "But here's my point; if we didn't actually lie down . . ." it seems safe to assume the passage refers to having sex, though what specific acts might or might not be included isn't clear.

Notice, however, that the injunctions appear to concern *male* homosexuality only; lesbianism is not mentioned. In our analysis, then, each of these passages might also be coded "Male Homosexuality." This illustrates two more aspects of coding: (1) Each unit can have more than one code and (2) hierarchical codes (one included within another) can be used. Now each passage has two codes assigned to it.

An even more general code might be introduced at this point: "Prohibited Behavior." This is important for two reasons. First, homosexuality is not inherently wrong, from an analytic standpoint. The purpose of the study is to examine the way it's made wrong by the religious texts in question. Second, our study of Leviticus may turn up other behaviors that are prohibited.

There are at least two more critical concepts in the passages: "Abomination" and "Put to Death." Notice that although these are clearly related to "Prohibited Behavior," they are hardly the same. Parking without putting money in the meter is prohibited, but few would call it an abomination and fewer still would demand the death penalty for that transgression. Let's assign these two new codes to our first two passages.

At this point, we want to branch out from the two key passages and examine the rest of Leviticus. We therefore examine and code each of the remaining chapters and verses. In our subsequent analyses, we'll use the codes we have already and add new ones as appropriate. When we do add new codes, it will be important to review the passages already coded to see whether the new codes apply to any of them.

Here are the passages we decide to code "Abomination." (I've boldfaced the abominations.)

7:18 If any of the flesh of the sacrifice of **his peace offering is eaten on the third day**, he who offers it shall not be accepted, neither shall it be credited to him; it shall be an abomination, and he who eats of it shall bear his iniquity.

7:21 And if any one **touches an unclean thing**, whether the uncleanness of man or an unclean beast or any unclean abomination, **and then eats of the flesh of the sacrifice** of the LORD's peace offerings, that person shall be cut off from his people.

11:10 But **anything in the seas or the rivers that has not fins and scales**, of the swarming creatures in the waters and of the living creatures that are in the waters, is an abomination to you.

11:11 They shall remain an abomination to you; **of their flesh you shall not eat, and their carcasses you shall have in abomination**.

11:12 **Everything in the waters that has not fins and scales** is an abomination to you.

11:13 And these you shall have in abomination among the birds, **they shall not be eaten**, they are an abomination: the **eagle**, the **vulture**, the **osprey**,

11:14 the **kite**, the **falcon** according to its kind,

11:15 every **raven** according to its kind,

11:16 the **ostrich**, the **nighthawk**, the **sea gull**, the **hawk** according to its kind,

11:17 the **owl**, the **cormorant**, the **ibis**,

11:18 the **water hen**, the **pelican**, the **carrion vulture**,

11:19 the **stork**, the **heron** according to its kind, the **hoopoe**, and the **bat**.

11:20 **All winged insects that go upon all fours** are an abomination to you.

11:41 **Every swarming thing** that swarms upon the earth is an abomination; it shall not be eaten.

11:42 Whatever goes on its belly, and whatever goes on all fours, or whatever has many feet, all the **swarming things** that swarm upon the earth, you shall not eat; for they are an abomination.

11:43 You shall not make yourselves abominable with any swarming thing that swarms; and you shall not defile

yourselves with them, lest you become unclean.

18:22   You shall not **lie with a male as with a woman**; it is an abomination.

19:6   It shall be eaten the same day you offer it, or on the morrow; and anything left over until the third day shall be burned with fire.

19:7   **If it is eaten at all on the third day**, it is an abomination; it will not be accepted.

19:8   and every one who eats it shall bear his iniquity, because he has profaned a holy thing of the LORD; and that person shall be cut off from his people.

20:13   **If a man lies with a male as with a woman**, both of them have committed an abomination; they shall be put to death, their blood is upon them.

20:25   You shall therefore make a distinction between the clean beast and the unclean, and between the unclean bird and the clean; **you shall not make yourselves abominable by beast or by bird or by anything with which the ground teems**, which I have set apart for you to hold unclean.

Male homosexuality, then, isn't the only abomination identified in Leviticus. As you compare these passages, looking for similarities and differences, it will become apparent that most of the abominations have to do with dietary rules—specifically those potential foods deemed "unclean." Other abominations flow from the mishandling of ritual sacrifices. "Dietary Rules" and "Ritual Sacrifices" thus represent additional codes to be used in our analysis.

Earlier, I mentioned the death penalty as another concept to be explored in our analysis. When we take this avenue, we discover that many behaviors besides male homosexuality warrant the death penalty. Among them are these:

20:2   Giving your children to Molek (human sacrifice)

20:9   Cursing your father or mother

20:10   Adultery with your neighbor's wife

20:11   Adultery with your father's wife

20:12   Adultery with your daughter-in-law

20:14   Taking a wife and her mother also

20:15   Men having sex with animals (the animals are to be killed, also)

20:16   Women having sex with animals

20:27   Being a medium or wizard

24:16   Blaspheming the name of the Lord

24:17   Killing a man

As you can see, the death penalty is broadly applied in Leviticus: everything from swearing to murder, including male homosexuality somewhere in between.

An extended analysis of prohibited behavior, short of abomination and death, also turns up a lengthy list. Among them are slander, vengeance, grudges, cursing the deaf, and putting stumbling blocks in front of blind people. In chapter 19, verse 19, Leviticus quotes God as ordering, "You shall not let your cattle breed with a different kind; you shall not sow your field with two kinds of seed; nor shall there come upon you a garment of cloth made of two kinds of stuff." Shortly thereafter, he adds, "You shall not eat any flesh with the blood in it. You shall not practice augury or witchcraft. You shall not round off the hair on your temples or mar the edges of your beard." Tattoos were prohibited, though Leviticus is silent on body piercing. References to all of these practices would be coded "Prohibited Acts" and perhaps given additional codes as well (recall "Dietary Rules").

I hope this brief glimpse into a possible analysis will give you some idea of the process by which codes are generated and applied. You should also have begun to see how such coding would allow you to better understand the messages being put forward in a text and to retrieve data appropriately as you need them.

Memoing

In the Grounded Theory Method, the coding process involves more than simply categorizing chunks of text. As you code data, you should also be using the technique of **memoing**—writing

memoing   Writing memos that become part of the data for analysis in qualitative research such as grounded theory. Memos can describe and define concepts, deal with methodological issues, or offer initial theoretical formulations.

memos or notes to yourself and others involved in the project. Some of what you write during analysis may end up in your final report; much of it will at least stimulate what you write.

In GTM, these memos have a special significance. Strauss and Corbin (1998: 217) distinguish three kinds of memos: code notes, theoretical notes, and operational notes.

Code notes identify the code labels and their meanings. This is particularly important because, as in all social science research, most of the terms we use with technical meanings also have meanings in everyday language. It is essential, therefore, to write down a clear account of what you mean by the codes used in your analysis. In the Leviticus analysis, for example, you would want a code note regarding the meaning of "abomination" and how you've used that code in your analysis of text.

Theoretical notes cover a variety of topics: reflections of the dimensions and deeper meanings of concepts, relationships among concepts, theoretical propositions, and so on. All of us have ruminated over the nature of something, trying to think it out, to make sense out of it. In qualitative data analysis, it's vital to write down these thoughts, even those you'll later discard as useless. They will vary greatly in length, though you should limit them to a single main thought so that you can sort and organize them later. In the Leviticus analysis, one theoretical note might discuss the way that most of the injunctions implicitly address the behavior of men, with women being mostly incidental.

Operational notes deal primarily with methodological issues. Some will draw attention to data-collection circumstances that may be relevant to understanding the data later on. Others will consist of notes directing future data collection.

Writing these memos occurs throughout the data-collection and analysis process. Thoughts demanding memos will come to you as you reread notes or transcripts, code chunks of text, or discuss the project with others. It's a good idea to get in the habit of writing out your memos as soon as possible after the thoughts come to you.

Notice that whereas we often think of writing as a linear process, starting at the beginning and moving through to the conclusion, memoing is very different. It might be characterized as a process of creating chaos and then finding order within it.

To explore this process further, you can refer to the works cited in this discussion. You'll also find a good deal of information on the web. Ultimately, the best education in this process comes from practice. Even if you don't have a research project underway, you can practice now on class notes. Or start a journal and code it.

Concept Mapping

It should be clear by now that qualitative data analysts spend a lot of time committing thoughts to paper (or to a computer file), but this process is not limited to text alone. Often, we can think out relationships among concepts more clearly by putting the concepts in a graphic format, a process called **concept mapping**. Some researchers put all their major concepts on a single sheet of paper, whereas others spread their thoughts across several sheets of paper, blackboards, magnetic boards, computer pages, or other media. Figure 13-3 shows how we might think out some of the concepts of Goffman's examination of gender and advertising. (This image was created through the use of Inspiration, a concept-mapping computer program.)

Incidentally, many of the topics discussed in this section have useful applications in

concept mapping The graphic display of concepts and their interrelations, useful in the formulation of theory.
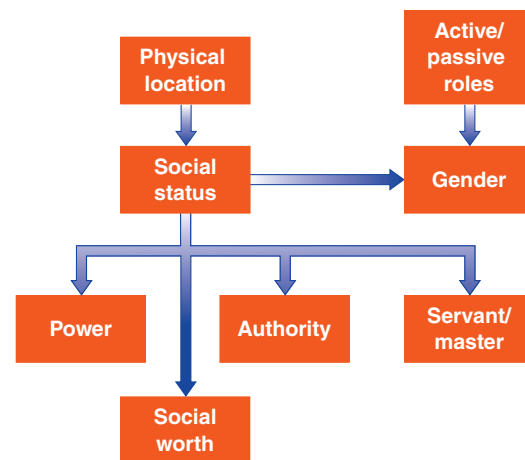
FIGURE 13-3

An Example of Concept Mapping

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quantitative as well as qualitative analyses. Certainly, concept mapping is appropriate in both types of analysis. The several types of memos would also be useful in both. And the discussion of coding readily applies to the coding of open-ended questionnaire responses for the purpose of quantification and statistical analysis. (We'll look at coding again in the next chapter, on quantifying data.)

The advent of computers had an immediate impact on the analysis of quantitative data, because of their strength in the realm of statistical computations. As we will see, computers have been powerfully adapted to the analysis of qualitative data as well.

Computer Programs for Qualitative Data

Not so many decades ago, the recording and analysis of qualitative research data was paperbound: interview transcripts, observational notes, official documents, and the like were all compiled and evaluated by hand. The work of writing documents by hand was eventually streamlined by the advent of typewriters. Copying technologies, first carbon paper and later, photocopying, made it possible to easily reproduce duplicate pages of research information. These printed data could then be cut into slips of paper, with each strip displaying an individual, coded item. This procedure allowed researchers to categorize collected data according to different themes or concepts. Recalling the discussion of Leviticus, one pile of paper slips might contain passages referencing homosexuality, another pile could contain references to abominations, and so forth. And, as our earlier discussion mentioned, a given passage might show up in more than one pile. Once this coding and sorting was done, researchers could manually review all the materials within a particular category, allowing them to look for and identify common patterns and important distinctions.

As you can imagine, computers changed all that. Once information has been entered into a computer, copying whole documents or pieces is a trivial matter. Simulating the earlier use of paper documents, you can copy an interview comment relevant to, say, discrimination

against women, and paste it into another document created to hold anything relevant to that theme. With nothing but the simplest word processor or text editor, you can streamline the coding process in any number of ways. Imagine this paragraph was part of textual materials you were analyzing in a study of technological progress. You could augment this document by adding coding notations such as: <computer> <qualitative> <coding>.

You could go through this whole chapter, adding these and other notations wherever appropriate. And once you were finished, you could use a simple "Search" function to review all the materials marked <coding>, for example. You could augment this process by searching the chapter for words such as *code*, *coding*, *category*, *classify*, or other applicable terms.

I'd like these brief paragraphs to draw attention and honor to those researchers who could make sense out of social life with little more than paper and pencil. And I hope that a review of past practices will demonstrate what a powerful tool the simplest, bare-bones computer can represent for the analysis of qualitative data.

Now, let's turn 180 degrees from these simple computer manipulations. As you will soon see, those methods may seem like crude tools from the Dark Ages of social research. We are now going to spend some time with a few of the computer programs devised precisely for the analysis of qualitative data.

QDA Programs

Today, qualitative data analysis (QDA) programs abound. Where the analyst's problem used to be merely finding any such program, the problem now lies in choosing one of so many. Here are a few commonly used QDA programs with online sites where you can learn more about them and, in many cases, download demo copies.

- **AnSWR:** www.cdc.gov/hiv/software/answr .htm
- **Atlas.ti:** www.atlasti.com/index.php
- **Ethno:** www.indiana.edu/%7Esocpsy/ESA/
- **Ethnograph:** www.qualisresearch.com/
- **HyperResearch:** www.researchware.com/
- **HyperTranscribe:** www.researchware.com/
- **MAXQDA:** www.maxqda.com/

- **NVivo:** www.qsrinternational.com /products_nvivo.aspx
- **QDA Miner:** www.provalisresearch.com /QDAMiner/QDAMinerDesc.html
- **Qualrus:** www.qualrus.com/
- **TAMS:** sourceforge.net/projects/tamsys
- **Weft:** www.pressure.to/qda/

Another excellent resource is "Choosing a CAQDAS Package" by Ann Lewins and Christina Silver (2006). This will familiarize you with some of the key features in such computer programs and help you choose which one is best suited to your purposes.

We'll turn now to a couple of illustrations of QDA programs at work. Although the available programs differ somewhat from one another, I think these illustrations will give you a good sense of the general use of computers to analyze qualitative data. We'll begin by returning to the earlier example of the Book of Leviticus, with its sexual and other prohibitions. Let's see how a computer analysis might assist the search for patterns.

Leviticus as Seen through Qualrus

We'll first consider one of the programs just listed: Qualrus. Although the text to be coded can be typed directly into Qualrus, usually materials already in existence—such as field notes or, in this case, the verses of Leviticus—are *imported* into the program. For purposes of this illustration, I simply copied chapter 20 of Leviticus from the web and pasted it into the document section of the layout.

Figure 13-4 shows how the text is presented within Qualrus. As you can see, although the text inserted cannot all be displayed in the window at once, you can easily scroll up and down through the document.

One of the themes we discussed earlier concerned the various actions that could result in death, so let's create that as a code in Qualrus. This is most easily done by highlighting it with our cursor to select a passage we wish to code: verse 2, for example. Then click the "Code" button at the top of the page, and you will be presented with another window for creating codes, as illustrated in Figure 13-5.

Click the top, leftmost icon in the window and you will be asked to enter a new code in the lower left portion of the window, where I have typed "death." This is the first in what will become a list of codes. Notice also that the software has automatically entered the code "death" in the upper right portion of the window, indicating the designated code for this particular passage. Once you have decided on and inserted additional codes into the program, you will be able to select from that list and click the arrow to assign codes to the passage being coded. Once you've assigned the proper code, click "OK" to return to the document.

Having created the code, we can proceed through the text, identifying all the passages that specify the death penalty for some action. Figure 13-6 illustrates what this coding looks like.

As you begin building your coding structure, Qualrus begins to anticipate and suggest appropriate codes for some of the passages you have selected. Figure 13-7 gives an example of this. Qualrus has examined a passage we've selected and has guessed that perhaps it should be coded "death."

The suggested code appears in the upper-left panel of the window. If you choose to accept that suggestion, you must select the code and transfer it to the upper-right panel.

Notice in the Figure 13-7 illustration I have added several additional codes, which might be useful in our analysis of Leviticus. I've provided for passages that mention adultery, bestiality, homosexuality, incest, the occult, and sex. In addition, in my review of the document, I noticed some passages specified that God would punish the sinners, while others indicated the community should mete out the punishment. Let's see what the document looks like when all these codes have been employed. See Figure 13-8.

As you add more codes to your analysis, the display on the right side of the figure may become very complex. However, programs like Qualrus help you make sense of it all. Moreover, as you add more structure to your coding scheme, Qualrus can ease the process. For example, you can tell the program that adultery, bestiality, incest, and homosexuality are subsets of the code "sex." Once you have informed Qualrus of that, every time you code a passage for "adultery," for example, it will automatically code that passage as "sex," also.
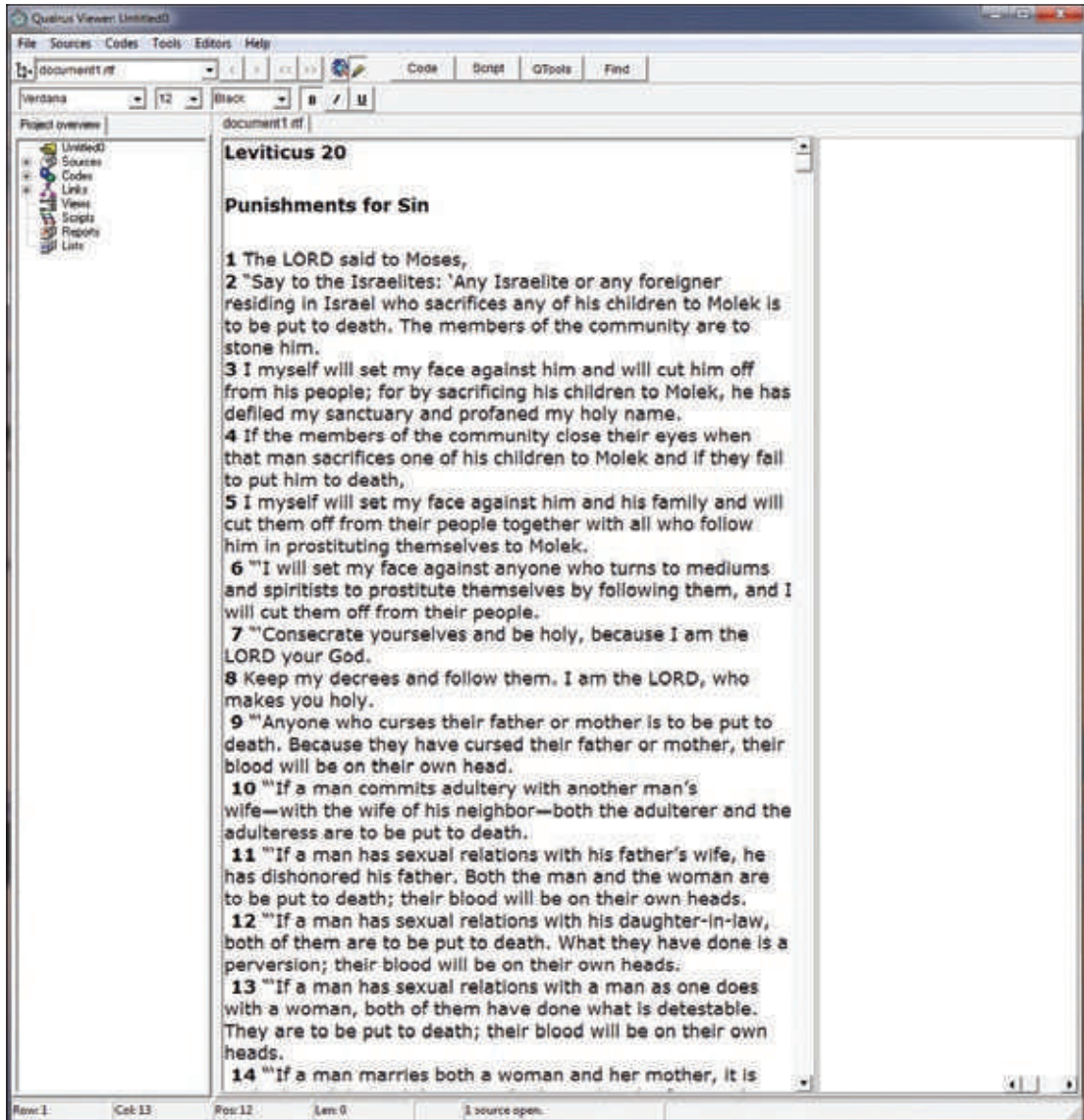
FIGURE 13-4
**Leviticus Text Displayed in Qualrus**
© 2012 The Idea Works, Inc.

The purpose of all this coding is to let you bring together all the instances of a particular topic. For example, let's review all the actions that can result in death. Click the "QTools" button and you will find yourself in a new window, illustrated in Figure 13-9. I have instructed Qualrus to locate all the passages that were coded "death."

By scrolling up and down through the main panel that contains the passages, you can review all the relevant passages and look for

patterns. Let's say you are particularly interested in cases where sexual behavior warrants death. Figure 13-10 illustrates that search. Now we have a shorter, more focused set of passages to study.

This has been a brief look into some of the ways you could use the Qualrus program to analyze the prohibitions detailed in Book of Leviticus. I have not attempted to offer a theoretical framework for your analysis, I merely want to illustrate the most elementary techniques that
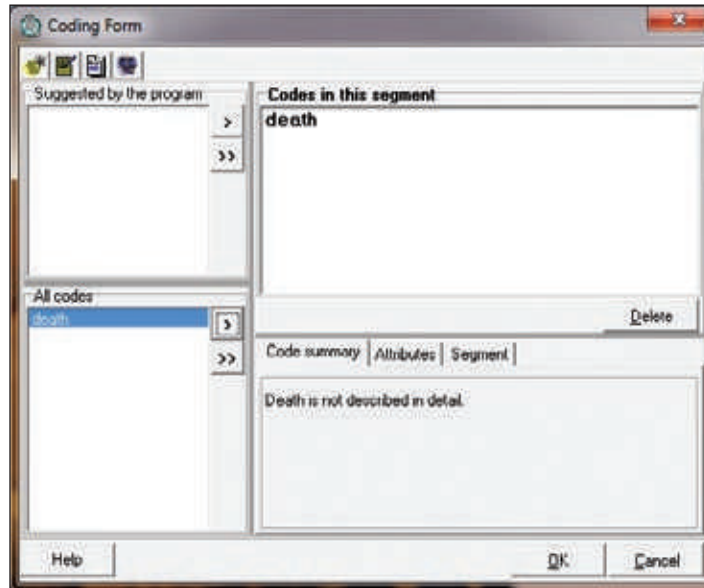
FIGURE 13-5
Creating a Code for Death
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could be used in your research into the topic. Moreover, as you can see at the top of the last two figures, the QTools that are available go well beyond the reviewing of one or two codes. To learn more about the additional analytic tools, you should visit the Qualrus web page www.qualrus.com/.

At this point, I will shift to another of the listed QDA programs. Although NUD*IST was one of the first such programs to be popularly employed by social researchers, it has evolved through many forms over time. At this writing, QSR International's latest tool is NVivo 9, and it is the program we will discuss next.

NVivo

To get started in our introduction to this program for the analysis of qualitative data, Figure 13-11 shows a sample of how NVivo 9 might display the data we saw earlier in Figure 13-8, when we were analyzing the Book of Leviticus with Qualrus. NVivo refers to established codes as *nodes*.

While the formats of different programs vary, of course, the fundamental process of coding and analyzing the coded data is the bedrock of all QDA programs. However, we are going to shift gears at this point.

Thus far, I have limited discussion to the coding of a written document, because it offers a clear example of coding. Written documents are hardly the materials appropriate to such an analysis. You've probably already anticipated that these programs would be especially valuable for the analysis of in-depth interviews, and you would be right. At this point, I want to make use of a research example used to introduce NVivo on their website.

"Environmental Change Down East" is a sample project provided with NVivo 9 that explores environmental change in a coastal area of North Carolina. Part of the research for this project involved qualitative interviews with residents of the communities in the area. Figure 13-12 shows a coded portion of one such interview.

Notice the colored coding strips to the right of the interview transcript. The red strip, for example, represents the node, "Jobs and cost of living." If you read the passages marked with red strips, you can see why the researchers coded those passages as they did. Note also that a given passage may reflect more than one of the themes being examined, and so it has been assigned more than one node.

Thus far, we have seen that QDA programs can be used to organize documents and interview transcripts in preparation for analysis.
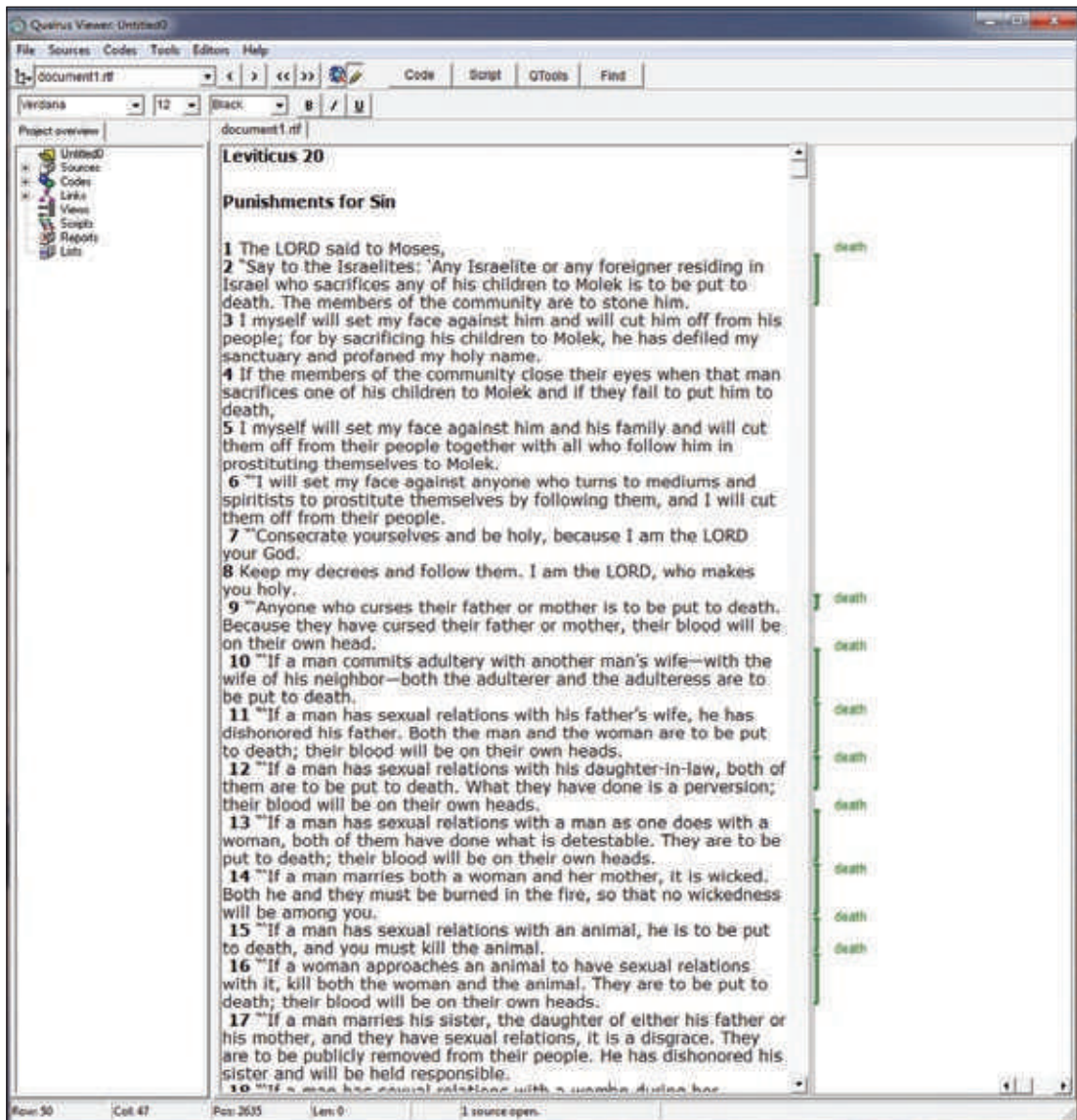
FIGURE 13-6

Displaying the Coding of "Death" Passages

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That's only the beginning, however. Whereas the Down East project we are now examining contains the interviews of a number of residents, the researchers also collected data about physical locations in the study area, such as communities. Figure 13-13 illustrates some of those data.

In a record such as this one, the textual material and/or the photograph (or a portion of the photograph) can be coded by assigning nodes. Later on, a review of materials relating to a particular theme will bring together the relevant interviews, documents, photographs, and anything else that has been assigned the node in question.

Visual data for analysis are not limited to photographs. Perhaps your project has collected some of its data in a video format. Figure 13-14 illustrates this possibility.

Once the video files have been imported into the NVivo project, they can be coded, retrieved, and played within the program. Audio recording can, of course, be treated similarly.
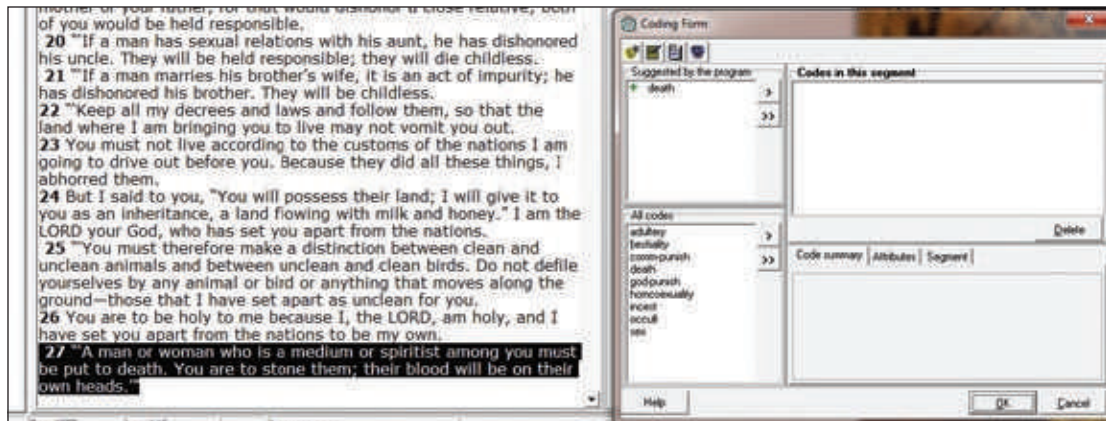
FIGURE 13-7

Suggesting a Code

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In these few illustrations, I have intended to give you an idea of the variety of data that can be amassed and organized within NVivo. If you have used a bibliographic program such as EndNote, you can import those materials into the project as well. Your own imagination will expand the list of possibilities further.

I'll conclude this discussion by touching on one further element that we mentioned in our earlier discussions of qualitative research: *memos*. At every turn, NVivo allows you to record your own notes in the context of other materials—assigning those memos to the appropriate nodes. As you begin to recognize a certain pattern emerging in the intersection of two themes, for example, you can jot down notes about what you've observed so that you don't forget the details.

In the discussion of Qualrus, we saw a couple of examples of preliminary analyses. You'll recall that we retrieved all the passages from Leviticus that dealt with the death penalty; then we searched for passages prescribing death for sexual behavior. NVivo offers a variety of analytical tools under the heading of "Queries." The NVivo "Getting Started Guide" is available as a pdf on the QSR website. This guide offers some examples of queries posed in the Down East project:

- Gather material coded at combinations of nodes—for example, gather content coded at *water quality* and *recreational fishing* and explore the associations.
- Gather material from classified nodes with specific attribute values—for

example, *what do fishermen think about the rise of tourism?*

- Search for content coded at multiple nodes and use operators to further refine the query—for example, gather content coded at *community change* where it overlaps with content coded at *real estate development.*
- Search for content that is not coded at a specific node—find content coded at *environmental impacts* but not coded at *negative attitude.*

(QSR 2011: 31)

Today, QDA programs can also provide for far more sophisticated displays of analytical results. Figure 13-15, for example, offers a summary of positive, negative, and mixed comments made about commercial fishing in the several Down East communities.

This bar graph might make you curious about the positive attitudes toward commercial fishing among residents of Harkers Island. Using QDA software, it would be a simple matter to retrieve those specific comments in full.

The QDA programs also offer a graphic presentation of your coding structure, supporting the development of a coherent, theoretical understanding of the subject under study. See Figure 13-16 for an example.

I hope this brief overview of two QDA programs, Qualrus and NVivo, will give you a good idea of the powerful tools available to qualitative data analysts. Please realize that I have only selected a few of the features available in the
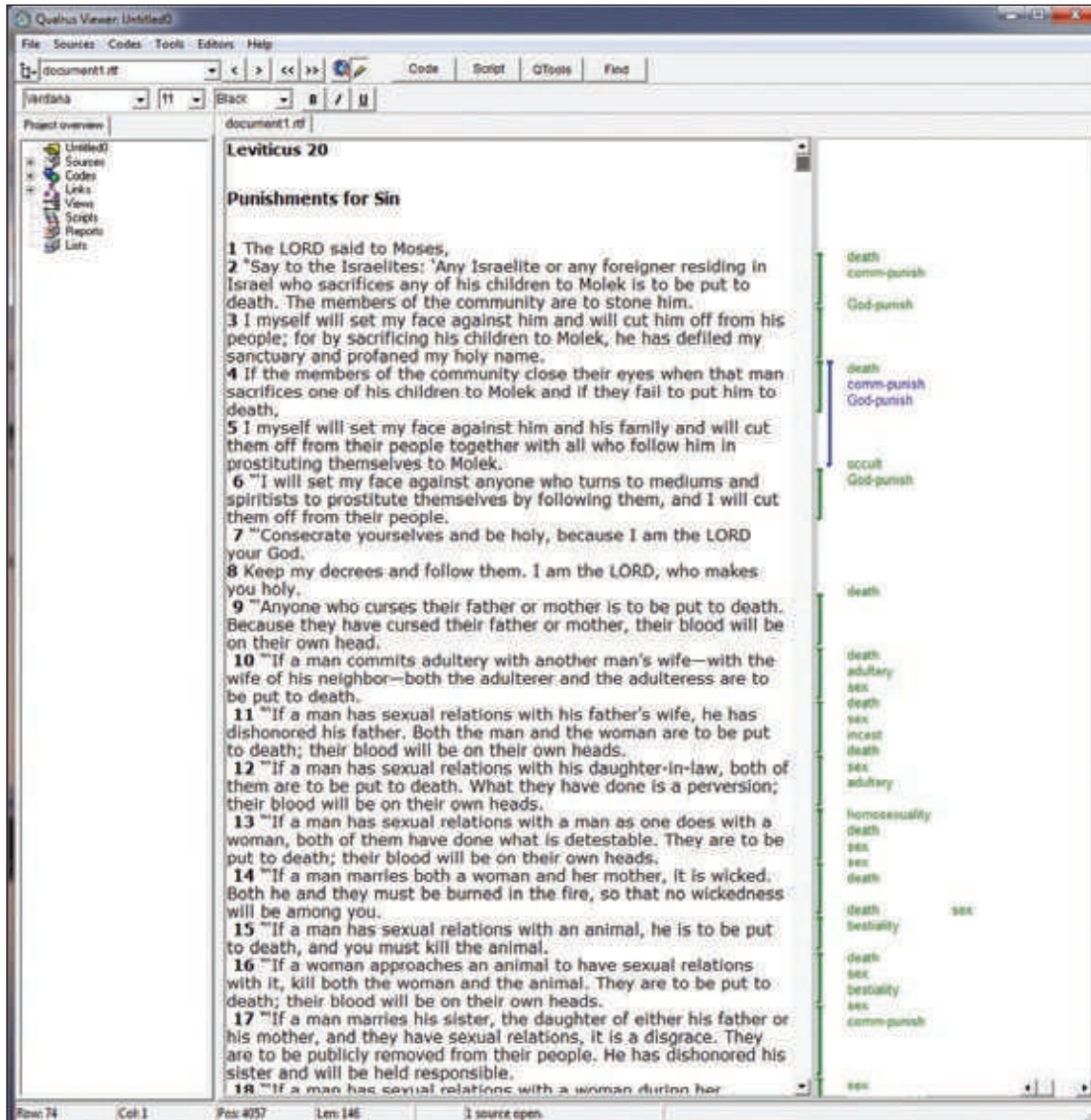
FIGURE 13-8
Display of Many Codes
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two programs I've illustrated here, and also realize that the other programs I listed earlier in the chapter have many of the same, or similar, capabilities. Most programs provide comprehensive tutorials online, so you can explore, compare, and decide for yourself which program fits your needs.

Finally, you should be warned that such programs may be more expensive than the average student budget can easily accommodate. However, you may find that your school has licensed copies available for your use.

The Qualitative Analysis of Quantitative Data

Figure 13-17 presents FBI data on homicides committed in the United States. These data are often presented in a tabular form, but notice how clearly the patterns of crime appear in this three-dimensional graph. Even though the graph is based on statistical data, it conveys its meaning quite clearly. Although summarizing it in the form of equations may be useful for certain
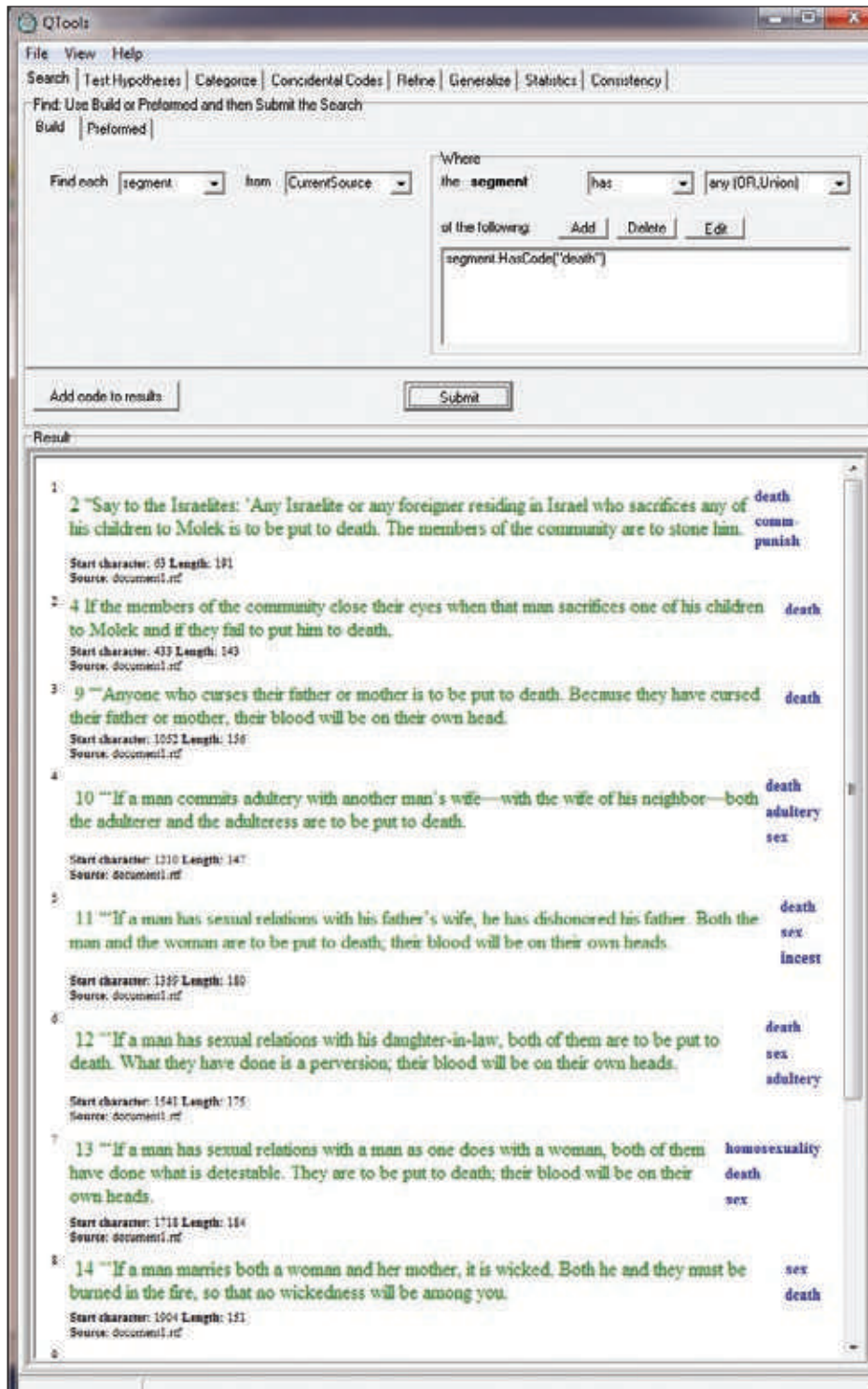
FIGURE 13-9

Reviewing All the Passages Coded "Death"

© 2012 The Idea Works, Inc.
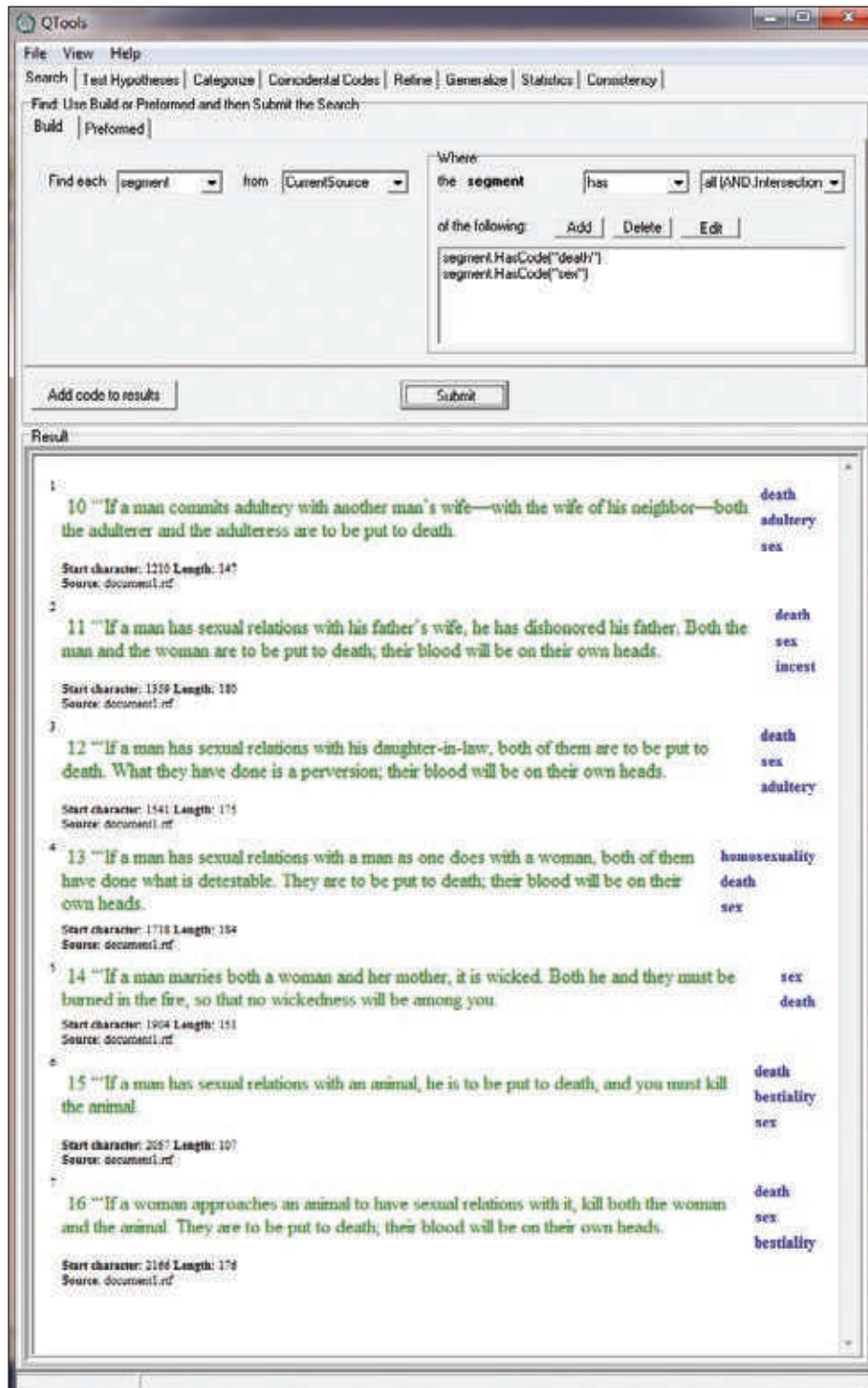
FIGURE 13-10

Reviewing the Passages Coded "Death" and "Sex"

© 2012 The Idea Works, Inc.
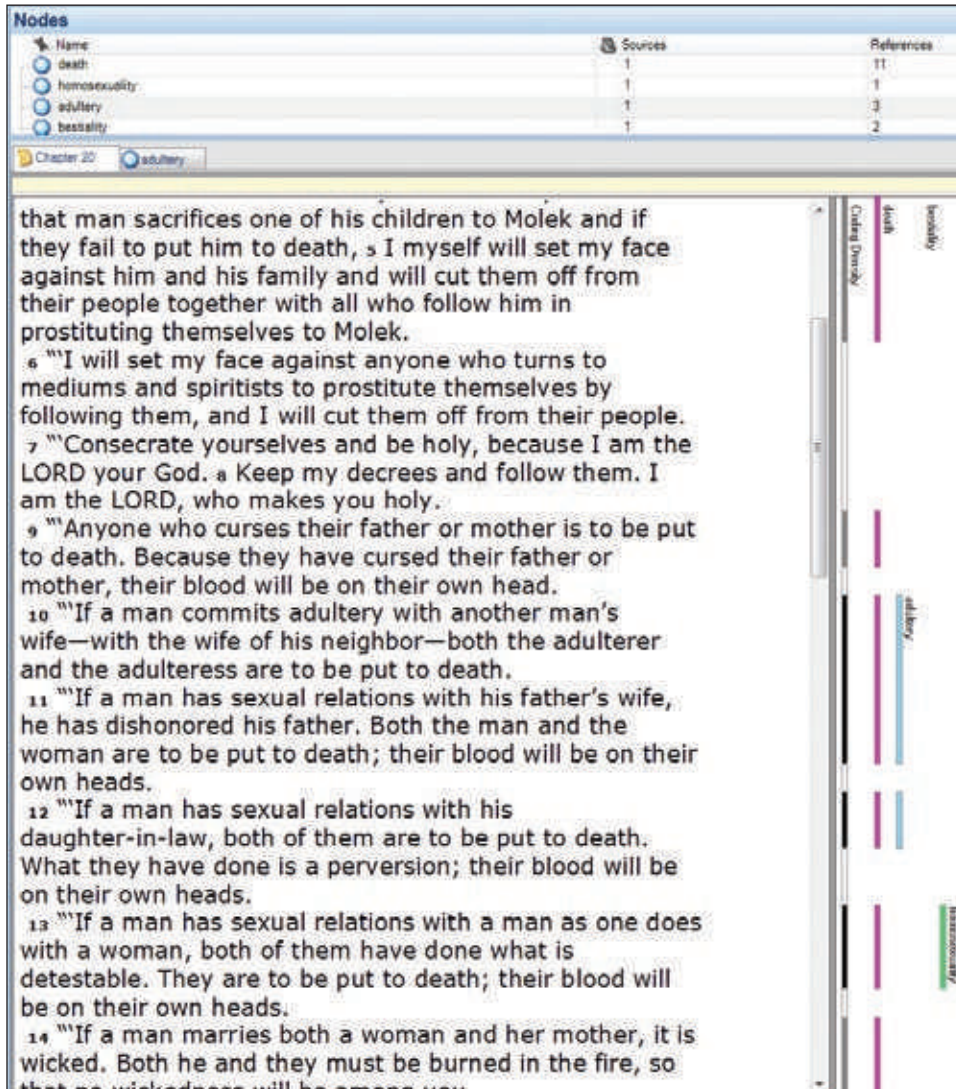
FIGURE 13-11
Looking at Leviticus with NVivo 9
Courtesy of Nvivo

purposes, it would add nothing to the clarity of the picture itself. Thus, the qualitative assessment of the graph clarifies the quantitative data in a way that no other representation could. Here's a case where a picture is truly worth a thousand words, or perhaps numbers.

With an even more-striking example of how to understand quantitative data qualitatively, Mark Newman at the University of Michigan begins with a map showing 2012 U.S. presidential election results. You've probably seen something like this before. (See Figure 13-18.)

The general pattern shows the Democrats winning the coastal and Northeast states, and the Republicans winning the Midwest and South. In terms of the simple number of states, it looks as though the Republican, Governor Mitt Romney, surely must have beaten the Democrat, then Senator Barack Obama. When Newman adjusts the map to take account of population—stretching or shrinking states to reflect their population (and Electoral College votes)—the Democratic dominance becomes more apparent. (See Figure 13-19.)

FIGURE 13-12
A Coded Interview in NVivo 9
Courtesy of Nvivo

In the extended analysis on his website, Newman also shifts his unit of analysis from states to counties for a different look, and he goes beyond the dichotomous blue/red labeling of states and counties to use purple for those where the results were close.

Evaluating the Quality of Qualitative Research

As you've seen in earlier chapters, there are often clear guidelines for evaluating the quality of quantitative research. In the case of survey research, for example, we can note the size of the sample, the manner in which it was selected, and the completion rate achieved. The questionnaire items are standardized and open to scrutiny. And as you'll see in Chapters 14 and 16, researchers can use statistical tests to assess quantitative research findings.

Judging the quality of qualitative research is more elusive, though no less important. Because there are many different forms of qualitative research, we'll examine some fairly general guidelines you can use to distinguish first-rate qualitative investigations from those not so well done.

In Chapter 5, we looked at two aspects of measurement quality: validity and reliability. That's a reasonable way to start our look at assessing qualitative research.

Validity, you'll recall, involves the question of whether you're measuring what you say you're measuring. Remember, most of the things social scientists measure are products of human thought and agreement, not things that exist independently of human judgment. Prejudice, for example, isn't real the way age or weight are. Nonetheless, we've all observed behaviors and orientations that we've gathered under the umbrella concept of "prejudice." To a degree, we
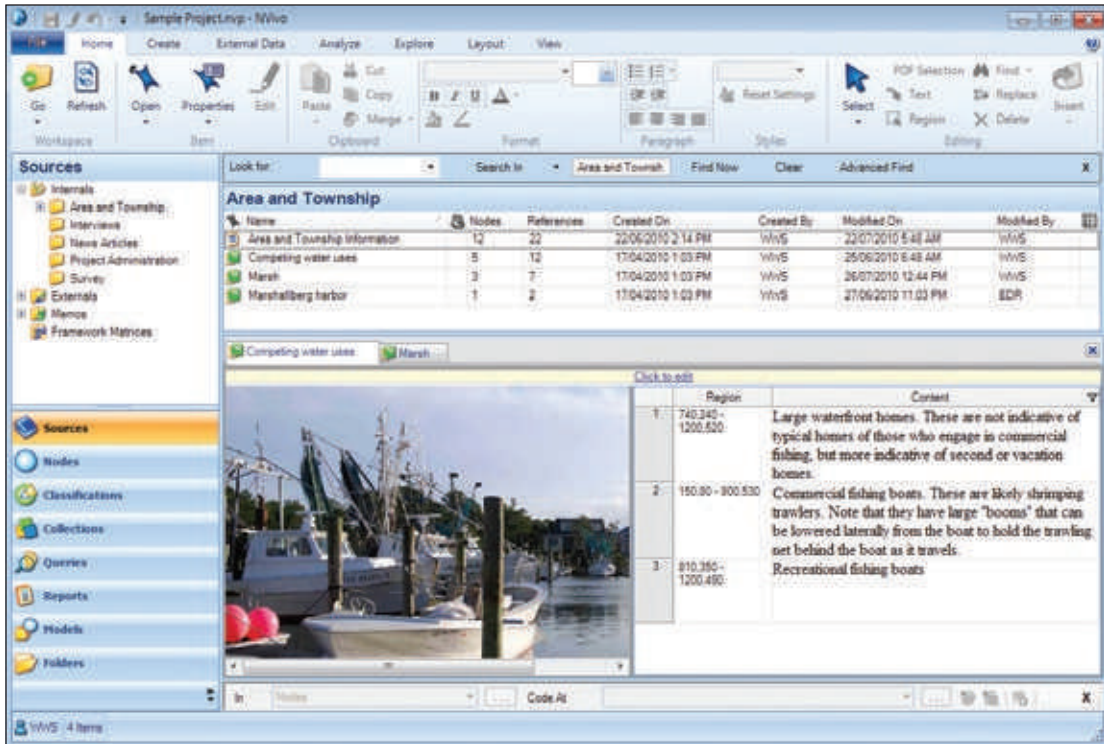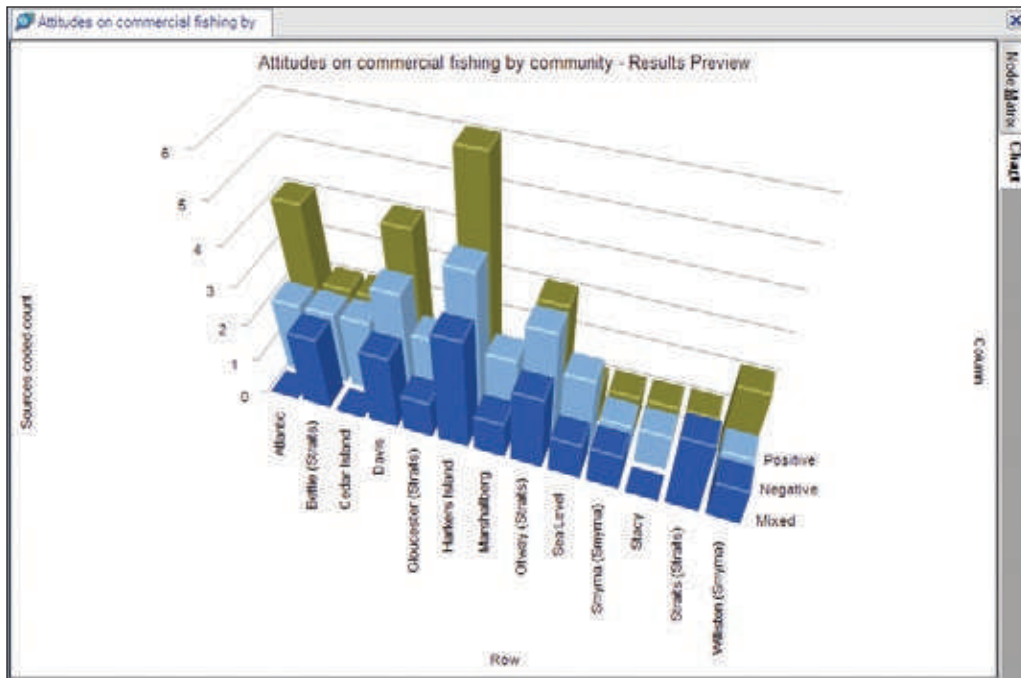
FIGURE 13-13

Data about a Physical Location

Courtesy of QSR International
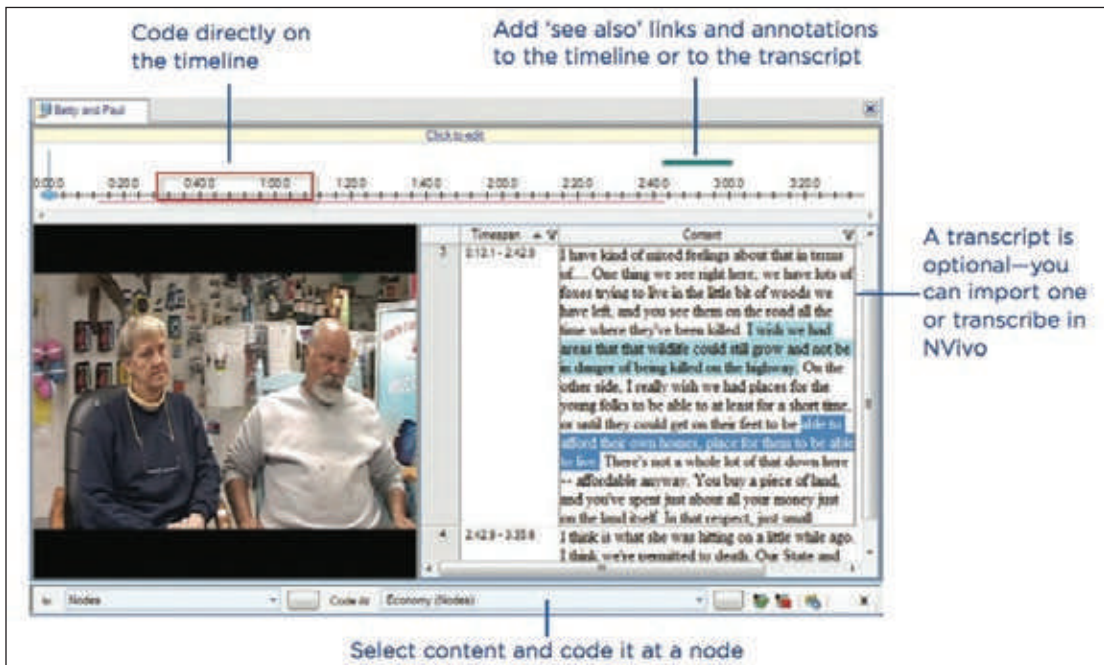
FIGURE 13-14

Using Video Data with NVivo 9

Courtesy of QSR International

FIGURE 13-15
Attitudes toward Commercial Fishing by Community
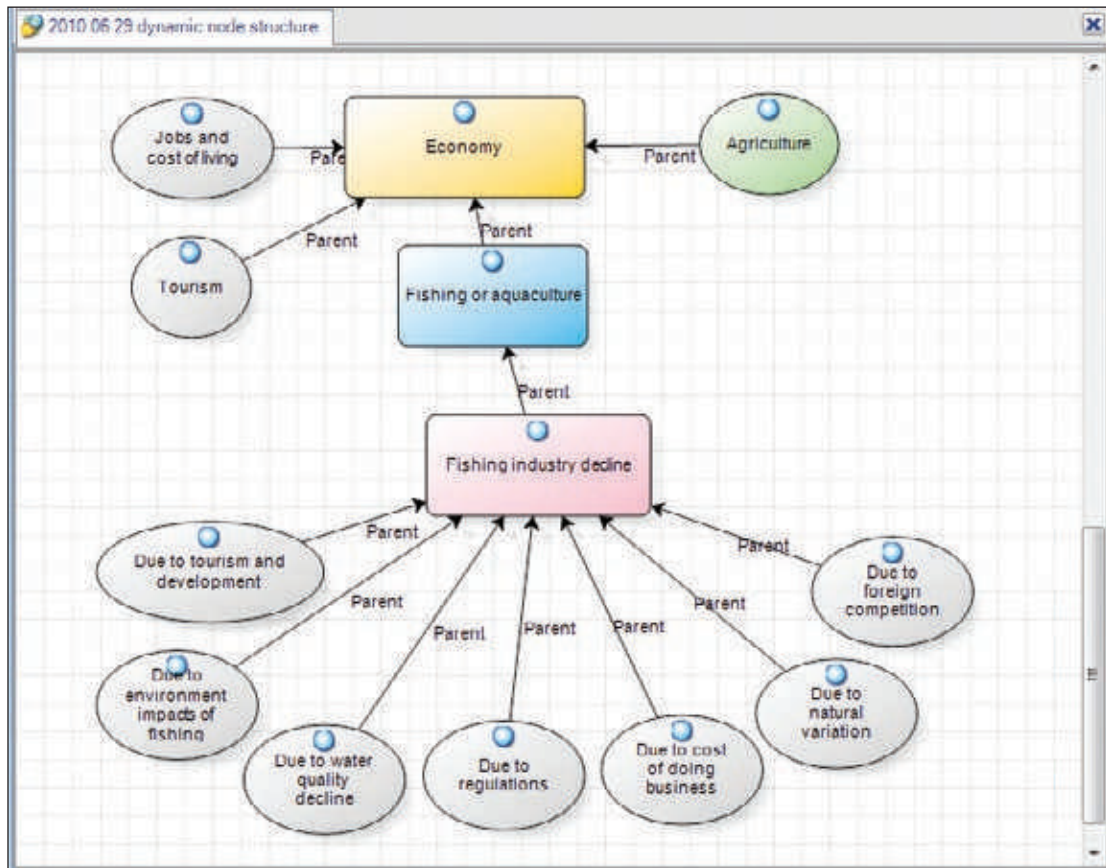Courtesy of QSR International

mean the same general thing when we use the term, and we also have a lot of differences in that regard.

When you design a survey questionnaire to measure *prejudice,* it's important to assess the extent to which the questions asked and answers received actually reflect what we can agree to mean by the term. The same logic applies in qualitative research projects such as field observations or historical studies. If field researchers characterize a subject of observation as "prejudiced," you should examine their basis for saying that. Qualitative researchers, more than quantitative researchers, pay special attention to understanding life as the participants see it, so you may find the researchers in this case reporting that those who knew the subject in question also mentioned that he or she was prejudiced.

Some qualitative researchers prefer to use the term *credibility* in the place of validity in this context. This is done as a caution against the older, positivistic view that social concepts represent real phenomena that exist objectively and independently of human thought. Be warned, however, that some researchers use the term

with other meanings that fall quite far from that of validity. Also, in this textbook, my use of the term *validity* explicitly denies objective reality for the concepts we use and study.

Reliability is also a reasonable criterion of quality with the regard to qualitative research, though it needs to be applied appropriately. Recall this is a question of whether a measurement or observation technique would yield the same data if it were possible to measure or observe the same thing several times independently. In the case of categorizing raw data, such as data that in-depth interviews or even the open-ended answers to survey questions might produce, we can ask more than one person to undertake the coding or categorizing process independently and see if they all produce the same results. In most aspects of social research, however, the concept of reliability is more elusive, because (1) what we are observing may be constantly changing and/or (2) the act of measuring (for example, asking a question) may affect the person being studied. Still, the basic concept of reliability, which some qualitative researchers prefer to call *dependability,* is meaningful for qualitative
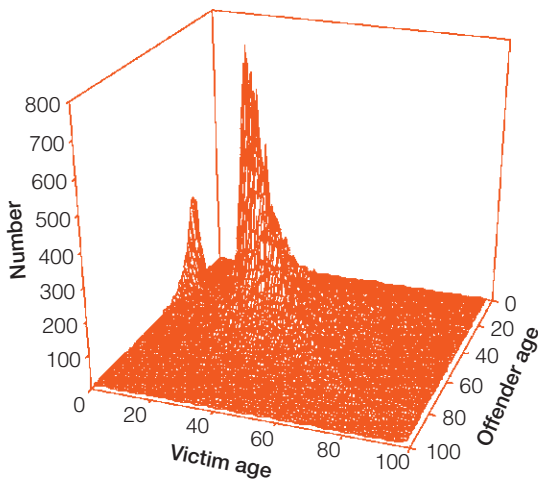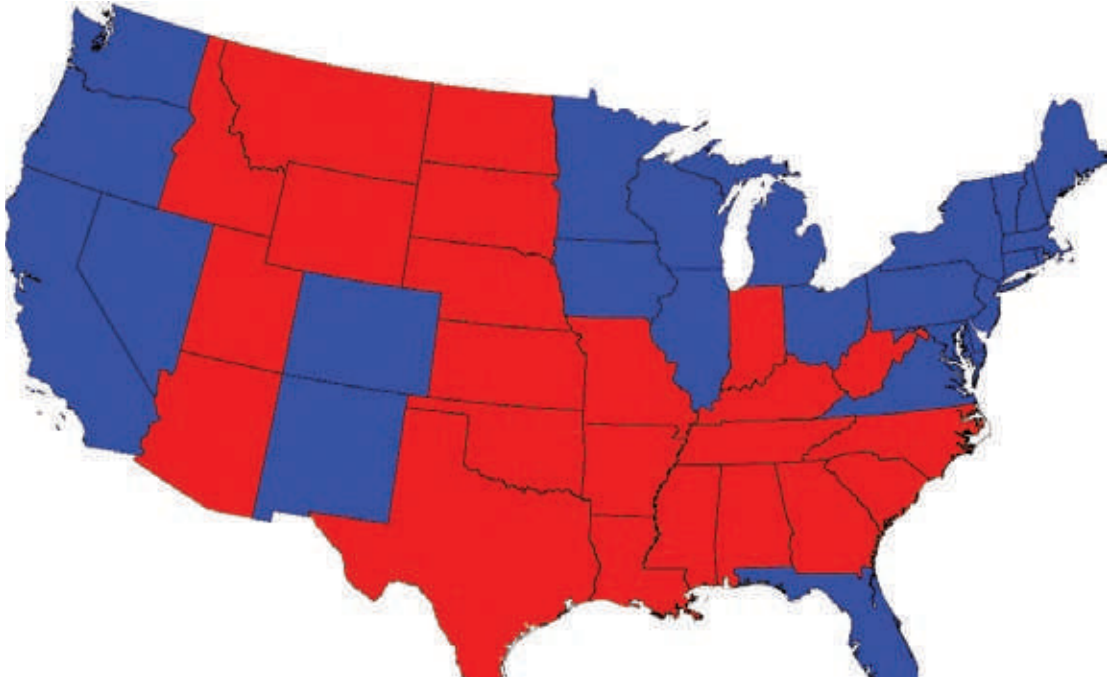
FIGURE 13-17

Number of One-on-One Homicides by Age of Victim and Age of Offender, Raw Data

Source: Michael D. Maltz. 1998. "Visualizing Homicide: A Research Note." *Journal of Quantitative Criminology* 15 (4): 401.

research. Yvonna Lincoln and Egon Guba (1985), for example, proposed an "inquiry audit" for the purpose of assessing the consistency of both what was observed and the process by which it was observed.

Follow-up works by the same authors laid out several ways in which qualitative research could be assessed. Building on this foundation, several other researchers offered somewhat modified schemes for both assessing qualitative research and increasing its quality. A more recent effort, by Britain's National Centre for Social Research, sought to assist cabinet-level officials in assessing qualitative research projects that evaluated government programs. Although the study focused on the use of qualitative methods for purposes of evaluation research, the 18 questions that organized such assessments can be applied to most forms of qualitative research (Spencer et al. 2003: 22–28).

1. How credible are the findings?

2. How has knowledge or understanding been extended by the research?

3. How well does the evaluation address its original aims and purpose?

4. How well is the scope for drawing wider inference explained?

5. How clear is the basis of evaluative appraisal?

6. How defensible is the research design?

7. How well-defended are the same design/target selection of cases/documents?

8. How well is the eventual sample composition and coverage described?

9. How well was the data collection carried out?

10. How well has the approach to, and formulation of, analysis been conveyed?

11. How well are the contexts of data sources retained and portrayed?

12. How well has diversity of perspective and content been explored?

13. How well has detail, depth and complexity (i.e., richness) of the data been conveyed?

14. How clear are the links between data, interpretation and conclusions—i.e., how well can the route to any conclusions be seen?

15. How clear and coherent is the reporting?

16. How clear are the assumptions/theoretical perspectives/values that have shaped the form and output of the evaluation?

17. What evidence is there of attention to ethical issues?

18. How adequately has the research process been documented?

The attempt to settle on criteria for evaluating qualitative social research is far from over. For example, some researchers are wary of the British effort just delineated: They express concern about the implications of a government body specifying research criteria and suggest that the list grows out of philosophical and political orientations that have not been made clear (J. Smith and Hodkinson 2005).
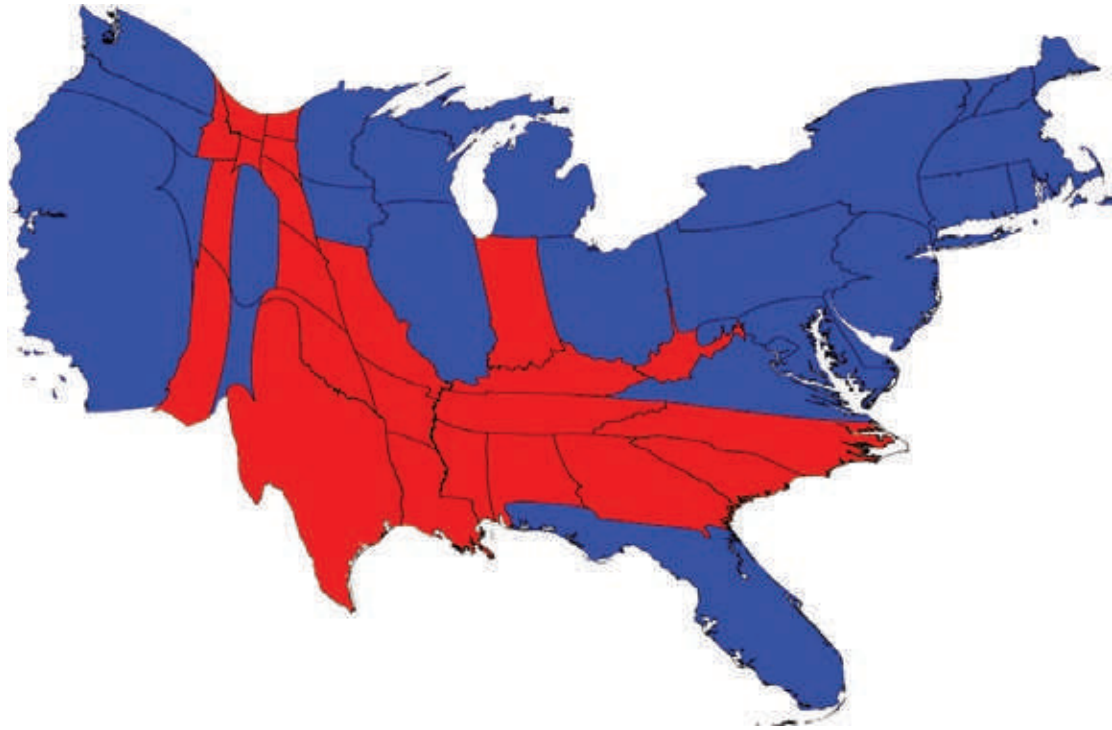
FIGURE 13-19

Adjusting State Sizes to Reflect Population

Source: Figure by Mark Newman, used with permission, http://www-personal.umich.edu/~mejn/election/2012/.

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Ethics and Qualitative Data Analysis

At least two ethical issues cause special concern in the analysis and reporting of qualitative research. First, because it calls so directly on subjective judgments, researchers face an obvious risk of seeing what they are looking for or want to find. The risk is increased in the case of participatory action research or other projects involving an element of social justice. Researcher bias is hardly inevitable, however. Experienced qualitative analysts avoid this pitfall through a deliberate awareness of their own values and preferences as well as adherence to established techniques for data collection and analysis. And as an additional protection, the peer review inherent in the scientific research environment encourages colleagues to point out any failings in this regard.

Second, protecting subjects' privacy becomes a particularly important issue in qualitative research. The qualitative researcher will often analyze and report data collected from specific, identifiable individuals. Earlier, I indicated the importance of not revealing what we learn about subjects, though I mostly discussed it in the context of data collection. When writing up the results of your analyses, you will often have to actively conceal identities. Individuals, organizations, and communities are given pseudonyms to conceal their identities. Sometimes, you may even need to suppress details that would let outsiders figure out who you are talking about. Thus, it may be appropriate to speak about interviewing "a church leader" rather than "the head deacon." And you may need to suppress or alter age, race, or gender references if any would give away a subject's identity. The key principle is to respect the privacy of those we study.

MAIN POINTS

Introduction

- Qualitative analysis is the nonnumerical examination and interpretation of observations.

Linking Theory and Analysis

- Qualitative analysis involves a continual interplay between theory and analysis. In analyzing qualitative data, we seek to discover patterns such as changes over time or possible causal links among variables.

- Examples of approaches to the discovery and explanation of such patterns are Grounded Theory Method (GTM), semiotics, and conversation analysis.

Qualitative Data Processing

- The processing of qualitative data is as much art as science. Three key tools for preparing data for analysis are coding, memoing, and concept mapping.

- In contrast to the standardized units used in coding for statistical analyses, the units to be coded in qualitative analyses may vary within a document. Although codes may be derived from the theory being explored, more often researchers use open coding, in which codes are suggested by the researchers' examination and questioning of the data.

- Memoing is appropriate at several stages of data processing to capture code meanings, theoretical ideas, preliminary conclusions, and other thoughts that will be useful during analysis.

- Concept mapping uses diagrams to graphically explore relationships in the data.

Computer Programs for Qualitative Data

- Many computer programs, such as Qualrus and NVivo, are designed specifically to assist researchers in the analysis of qualitative data. In addition, researchers can take advantage of the capabilities of common software tools such as word processors, database programs, and spreadsheets.

The Qualitative Analysis of Quantitative Data

- Although qualitative and quantitative methods of analysis may appear incompatible or in competition, research often demands that both kinds be used in the same project.

Evaluating the Quality of Qualitative Research

- Validity (credibility) and reliability (dependability) are reasonable criteria for evaluating qualitative research.

Ethics and Qualitative Data Analysis

- The subjective element in qualitative data analysis provides an added challenge to avoiding bias in the interpretation of data.

- Since the qualitative data analyst will know the identity of subjects, protecting their privacy requires special care.

KEY TERMS

The following terms are defined in context in the chapter and at the bottom of the page where the term is introduced, as well as in the comprehensive glossary at the back of the book.

axial coding	memoing
case-oriented analysis	open coding
concept mapping	qualitative analysis
constant comparative method	selective coding
	semiotics
conversation analysis (CA)	variable-oriented analysis
cross-case analysis	
Grounded Theory Method (GTM)	

PROPOSING SOCIAL RESEARCH: QUALITATIVE DATA ANALYSIS

In this chapter, we've seen some of the qualitative data analysis approaches that social researchers can use. Since you won't have analyzed your data when you write this portion of the proposal, of course, you can't say anything about the conclusions you'll draw. However, you can describe your initial plans for the analysis. I say "initial" plans because you may change directions somewhat as the data accumulate and patterns begin to emerge. In some cases, your analysis will begin as observations are being made and/or other data being gathered, or you may plan to complete the data-collection phase before starting your data analysis.

This the place to indicate whether you plan to employ a particular method of analysis, such as grounded theory, semiotics, or conversational analysis. If you're planning to use one of the computer programs used for qualitative data analysis, mention that here as well.

REVIEW QUESTIONS AND EXERCISES

1. Review Goffman's examination of gender advertising, then collect and analyze a set of advertising photos, from magazines, newspapers, or the web, that allow you to explore the relationship between gender and status.

2. Review the discussion of homosexuality in the Book of Leviticus and suggest ways that the

examination might be structured as a cross-case analysis.

3. Imagine you were conducting a cross-case analysis of revolutionary documents such as the Declaration of Independence and the Declaration of the Rights of Man and of the Citizen (from the French Revolution). Identify the key concepts you might code in the following sentence:

    > When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected

them with another, and to assume among the Powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

4. Write one code note and one theoretical note for Exercise 3.

5. Using the library or the web, find a research report using conversation analysis. Summarize the main conclusions in your own words.