6

Data Analysis

Qualitative data analyses are steeped in choices and decisions. They may hew closely to specific procedures or venture into realms of imaginative artistry. All qualitative researchers have to contend with masses of raw data that need to be reduced and transformed through an iterative process of reading, describing, and interpreting. Pre-existing theories and sensitizing concepts may be brought to bear, but their survival in the final analysis depends on the data. The balance between staying close to the data and thinking abstractly is a defining feature of qualitative analysis.

An early decision is whether the researcher is seeking to explain something or develop a theory. This could be done using analytic induction and grounded theory (GT) or one might use abductive thinking as described in Chapter 1. Although GT has been criticized for yielding few actual theories (Timmermans & Tavory, 2012), abduction remains relatively unknown and underused in qualitative methods. Researchers who eschew explanation but still want to theorize have other routes to follow during analysis.

Qualitative methods employ an "arts and crafts" approach. However, their localized adaptability has come with a price—an historic tendency to obscure the specifics of data analysis. While ethnography has retained much of this aura of mystique, grounded theory opened the door to greater transparency in methods, particularly in data analysis. Nevertheless, creativity and interpretation are still what make qualitative inquiry the "art" as well as the "craft" that it is.

Analyses may range from fine-grained examinations of texts (via narrative and discourse analyses) to holistic syntheses of multiple sources of data (case study and ethnography) to interview-intensive approaches falling somewhere in

141

between (phenomenological analysis and grounded theory). As a general rule, the less structured the interview, the more likely the data analyses will be non-prescriptive. This chapter begins with the logistics of management and preparation of data and then provides an overview of various analytic approaches. Greatest emphasis will be placed on the type of analysis most common in qualitative methods—coding and thematic development.

Interpretation—elevating the analyses into broader realms of meaning—is addressed in Chapter 7. As with the iterative relationship between data collection and analysis, the boundaries between analysis and interpretation are permeable and may be crossed back and forth as the study progresses toward completion. Thus, it is somewhat artificial to divide these essential activities into two chapters, but their importance deserves the additional space.

Data Management: Dealing With Volume Early On

Proper management is essential given the massive amount of raw data needing storage and accessibility for retrieval. The tasks begin with fully disguising participants (usually with ID numbers) in all transcripts, audio files, field notes, and other documents. When case study analyses are used, an ID number helps to keep the various data sources linked together for each particular case. Inexperienced qualitative researchers (and most quantitative researchers) are surprised by the sheer quantity of raw data generated by studying a small number of people, that is, hundreds if not thousands of pages of transcripts, field notes, documents, and memos.

Using Qualitative Data Analysis (QDA) Software

QDA software has acquired a "must-have" status for many researchers, lending technological cachet to a methodology known for being low tech and low threshold. The traditional tasks of manually cutting and pasting have given way to dedicated QDA software such as ATLAS.ti, NVivo, and HyperRESEARCH. Recent additions to the software possibilities are DeDoose, QUIRKOS, QDA Miner, and QDAP. These QDA options may be purchased or used via monthly user fees; most offer discounted student versions as well as free trials. Potential buyers should browse user feedback online as some are better suited to content analysis and word or phrase searches than for more advance interpretive operations. (See further information at the end of this chapter.)

The regularity of QDA software upgrades and the learning curve required to use them make it advisable to offer a general overview and suggest additional readings and resources including free trial downloads. These programs allow input of texts (transcripts, field notes, memos) as well as photos and video. The former are typically entered in rich text format independent of Word or other programs. In ATLAS.ti for example, the transcript file should be converted to pdf format if line numbers from Word documents are to be kept intact. Compatibility features include exporting of files to or from SPSS or EXCEL.

The central functions of QDA software—to store data and facilitate coding and analysis—make it possible to search for connections or hierarchies among codes, to produce graphical displays of codes, and to easily retrieve information in an organized fashion. Coding on-screen is made easier by using a drop-down menu displaying the codebook and by the software's capacity to handle multiple overlapping coded sections. *Auto-coding* (text searching for code words) and key word in context (KWIC) searches can easily be performed, similar to using the "find" command. In the (New York Services Study) NYSS, for example, we used ATLAS/ti to search for all versions of the word *help* (the wildcard designation allowing recognition of multiple forms such as helped, helping, etc.). As we soon discovered, this type of searching yields hits as well as misses, and the researcher must scrutinize the results to weed out the latter. The statement "my therapist helped me overcome my fear" is meaningful; the phrase "I helped myself to another free t-shirt" is not. Since autocoding and KWIC cannot substitute for the cognitive functions of inductive analysis, they are more appropriate for content analysis (and even here must be checked for errors). Boolean search functions allow a more targeted search for words or phrases using the *and*, *or* and *not* qualifiers.

The decision about whether to use QDA software usually rests on the scope of the project (including its budget) and the researcher's comfort level. Even a skeptic about software can find it useful when juggling so much data and ideas simultaneously (Staller, 2002). A study with substantial amounts of data and multiple users makes the cost of the software worthwhile, and tech-savvy users prefer the ease such software affords. Student rates are affordable and worth the investment if the plan is to use the software over time. Meanwhile, those less technologically inclined can still accomplish the tasks of qualitative data analysis with computer office programs such as Microsoft Word.

Figure 6.1 shows a screenshot view of a New York Recovery Study (NYRS) transcript in ATLAS.ti with rudimentary codes attached in the right-hand column. These code labels—social relationships, housing, services, and substance use—were deliberately kept broad for more refined coding and analysis later on. As shown, ATLAS.ti has an icon-driven interface including pull-down menus for code labels (the codebook) and memos.

Figure 6.1   Screenshot From ATLAS.ti: Excerpt From Transcript
in the NYRS
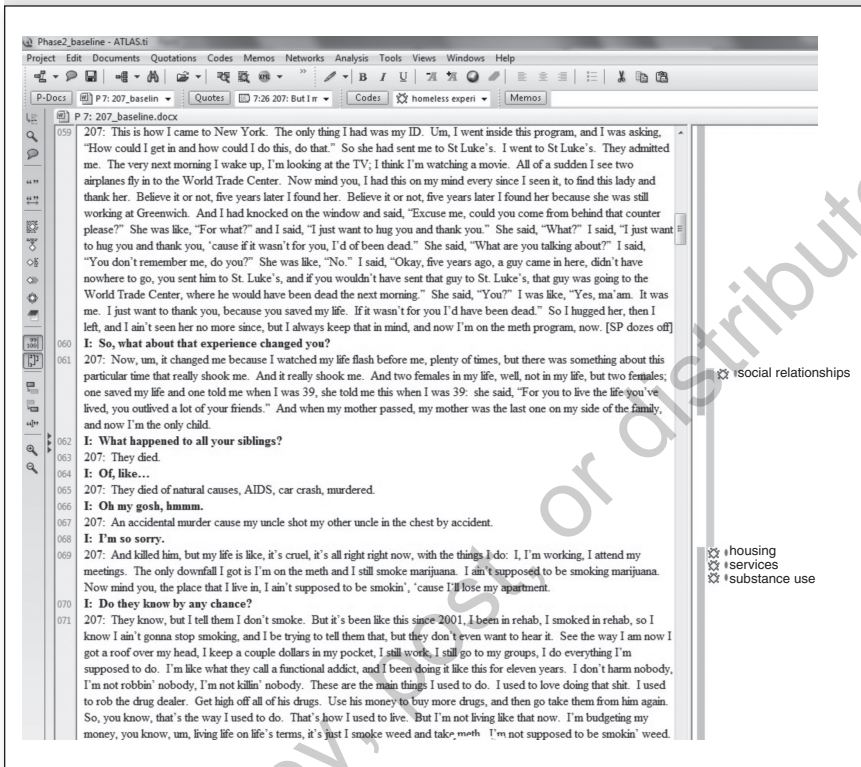
Teams, Multiple Users, and Cross-Site Databases

Team-based qualitative studies have become more common as the amount of effort can be considerable, and the multidisciplinary benefits are many (Guest & MacQueen, 2008). Having more than one researcher independently coding the same data and then comparing results is a useful means of minimizing bias (more on co-coding later in this chapter). When a team is involved, role definitions need to be spelled out and complementarity assured, but the burdens are more easily shouldered this way (of course the longstanding tradition of the lone researcher, especially the dissertation researcher, has not disappeared). Beyond larger sample sizes, the expanded scope of a qualitative study might include multiple sites or periods of data collection.

Large databases with multiple users have long been the province of quantitative studies, and their standardization facilitates tasks such as entering

data from different sites, managing and cleaning the data, merging files, and making subsets of data available to multiple users. Large-scale qualitative (and mixed methods) studies bring more challenges but also reap tangible benefits (Manderson, Kelaher, & Woelz-Stirling, 2001).

The site specificity and flexible designs of qualitative research can hinder large-scale collaboration, but it is possible with proper planning and sufficient resources. At a minimum, advance thought needs to be given to coordination across sites to ensure that datasets can be integrated. QDA software can be invaluable for these transactions. The timing and scope of the cross-site collaboration lead to several questions: Will all data be sent to a central repository or remain local? If the former, when will the data be sent and in what form? If the latter, how will cross-site quality control be monitored? Will full collaboration be activated from the earliest stage of the study or after the data have been collected? How will the collaborative team divvy up tasks? Whereas data collection is inherently site specific, data analyses and writing may be integrated across sites and/or take place at a single headquarters site. Finally, how will the allocation of responsibilities be reflected in authorship of reports and publications? As a general rule of thumb, the more that localized interpretation is valued, the less centralized will be the coordination. If the researchers want to (or must) produce cross-site comparisons, some standardization of data collection, management, and analysis becomes necessary.

Transcribing Interviews

Transcription is an essential form of data filtering (MacClean, Meyer, & Estable, 2004). It is important to train and supervise the study's transcribers, including making them aware of the need for confidentiality. Although not always possible, interviewer self-transcription is optimal and has several advantages, including the ability to (1) fill in unclear passages; (2) insert explanations or clarifications; and (3) obtain timely feedback on one's interviewing technique.

There is no substitute for hearing one's own voice and reliving the interview (especially with notes jotted down to supplement the audio recording). For example, an interviewee might use gestures for emphasis or to replace words altogether (e.g., a wink or a smile to mean "I was only joking," a shrug instead of "I don't know," or eye-rolling to signal impatience). Participants often tell animated stories in which they act out scenes for the interviewer's benefit. "Outside" transcribers are left scratching their heads in such instances. In my experience, professional transcription services are unaccustomed to the

nuance and attention that most qualitative interviews bring, and many study participants (SPs) do not speak with crisp unaccented elocution. Unfamiliar colloquialisms and pronunciation, in combination with slurring and soft speech, slow down the process and cause errors. We have frequently had to re-listen to the tapes to fill in unclear passages or to correct errors left by professional transcribers.

Be sure to develop basic rules for transcription, and ensure that they are followed consistently. These include transcribing nonverbal utterances such as sighs, sobs, and laughter (setting these off with parentheses is helpful). Pauses by the respondent lasting more than a few seconds are worth noting parenthetically or with ellipses (. . .). Sometimes the interviewer needs to add a clarifying phrase in brackets so that future readers of the transcript will not be confused or misled. In one of our earlier studies, one SP spoke repeatedly of "Susie," which led us to think he had a girlfriend, until the interviewer correctly identified "Susie" as SP's dog in the transcript. Sometimes an interviewee slurs incomprehensibly or talks very softly—this can be noted in brackets as [unclear]. Another use of bracketing is to provide translation of foreign-language words or idioms.

The transcriber should studiously avoid editing and cleaning up grammar or off-color language. Respondents have a right to have their stories transcribed without cosmetic and potentially distorting revisions. This concern with fidelity is not the same as "triaging" transcription, that is, selectively transcribing to omit tangential portions of the interview. Given time and labor costs, researchers may instruct transcribers to overlook small talk or long-winded repetition. This, of course, is a decision that should be made with caution.

The risk of breaching privacy in transcription can happen when interviewees refer to other people and places by name. Full names should not appear in the transcript but a first name or initials might suffice along with an explanation in brackets, for example, JM [SP's cousin]. At the same time, street addresses or place names (e.g., Riverview Hospital) can be important to know and should be retained in the transcript. Although it is essential to fully disguise all names in public presentations of the data and findings, it is better to retain such details in the transcripts. Here are a few logistical suggestions for transcription:

1. Leave ample margins if you plan to code or put notes on the hard copy of the transcript.

2. Number the lines sequentially from start to finish (some software programs do this automatically).

3. Use a small-font header on every page noting the interviewer's initials, date of the interview, and date(s) of the transcription.

4. Put interviewer questions in bold font to make it easier to scrutinize the content of questions as well as their length.

5. Start every answer with the participant's identification number so that any chunks of narrative moved to new files will be identifiable.

6. It is okay to skip over the many "uh-uhs" and "umms." (The exception being conversation analyses where such utterances are important.) In the NYSS, participants said "you know what I'm sayin'" so often that the transcribers typed YKWIS for shorthand.

7. Back up all work early and often, and keep back-up files in different places including cloud storage.

Given its intense labor, qualitative researchers frequently opt to pay others to do the transcription. This can be expensive, but it also saves a lot of time. Transcribing a 90-minute interview can take 8 to 10 hours and produce more than 30 pages. Using an outside transcriber brings the risk of errors and misunderstandings. One compromise is for interviewers to transcribe their own interviews in the early phases and check the outside transcriptions (chosen at random if not all transcripts can be checked). This is especially helpful in filling in the unclear passages that the interviewer can more easily recall when listening to the audio recording.

In addition to encountering unfamiliar terminology, transcriptionists may fill in the blanks when the speech is muffled or background noise intrudes. They may decide to edit out foul language or "mispronunciations." Sometimes it is difficult to know who is correct—the transcriber or the interviewee. (See Box 6.1 for a few examples.)

BOX 6.1 A BRIEF QUIZ ON TRANSCRIPTION "ERRORS"

Interviewees may use colorful phrasing, and transcribers may err in capturing them or (worse) deliberately change the language. The following quotes contain some examples of transcriber error interspersed with actual statements made by study participants in our research. Can you detect which is which? (The Answer Key follows.)

(Continued)

(Continued)

1. "I was diagnosed as schizo-defective."

2. "The doctor kept saying 'take a seat,' 'take a seat,' and I didn't want to hear 'take a seat.'"

3. "Someday I want to stay at the Plasma Hotel."

4. "I am very bi-popular."

5. "My roommate and I brush our teeth together."

Answer Key: #1 and #3 were actual statements made by participants; #2, #4, and #5 were transcriber errors: #2 should read "Hep C" (hepatitis C) instead of "take a seat," #4 should read "I am very bipolar," and #5 should read "my roommate and I watch TV together."

Interviews are entertaining and informative, but they can also be intensely personal—listening to teary accounts or angry harangues can take its toll on the transcriber-as-listener. Like other members of the team, transcribers can benefit from periodic debriefing to express their concerns and suggestions.

Translating and Transcribing in a Non-English Language

Aiming for accurate transcription becomes ever more complicated when the language of the participants does not match that of the researcher. Translation into English (assuming this is the language of the researcher and the ultimate report) can be done during the interview, later during transcription, or even later during analysis and write-up. Each of these options brings risks of distortion, and the first can be disruptive to the flow of an interview. There are few guidelines to follow here, but the usual approach is to translate as closely as possible to the intended meaning—when words or idiomatic phrases do not translate, leave them intact (put in italics), and explain their meaning in brackets or footnotes.

Errors in translation can result from a lack of familiarity with local dialects and meanings as well as deliberate, even if well-intentioned, bias. Translators may feel that they need to safeguard their community's reputation by soft-pedaling negative statements. In addition to culturally idiomatic phrases, meaning arises from the texture of speech—the words, cadences, and inflections that non-native speakers often fail to understand. For example, the

Japanese term *amae* has no English counterpart in its connotation of interdependency and indulgence on the part of siblings caring for an ailing brother or sister (Shibusawa & Lukens, 2004). Concerns about literal translation are further compounded by the inevitable nonverbal cues sent by facial expressions, body language, and so on. As noted by anthropologist Clifford Geertz (1973), a wink may have many cultural and situational meanings, or it may just be an involuntary twitch.

Both transcribers and translators should be part of the research team to the extent possible. They too are privy to the intense human emotions evoked by qualitative interviewing and may benefit from debriefing. In addition, sharing a deeper understanding of what the study is about helps translators and transcribers to reduce errors and makes them feel valued as having a substantive contribution to make.

Qualitative Data Analysis: Beginning the Search for Meaning

Some qualitative researchers assert that findings are discovered as if they are lying in wait, and others say that findings are social constructions. Beneath this semantic and epistemological divide is a common substrate of activities that most often involves pattern recognition and thematic development. Such activities are influenced by whether the study is concerned with change over time and whether its "cases" (individuals or other units of analysis) are treated holistically or as part of an aggregate whose words or utterances constitute the raw material of analysis.

Although all data are filtered in some way, qualitative data can be viewed as existing on a continuum based on the degree of abstraction and processing involved. The least processed forms of data include audio files, visual media (such as participant-produced photographs), and existing documents; partially processed data refer to field notes, transcripts, and translations. For many qualitative studies, the next level of processing involves coding—concepts or meaning units drawn from raw and partially processed data— followed by the development of themes or categories. Parallel to data analysis and transformation are auditing and operational tasks including memo writing of analytic decisions and journal keeping to record the researcher's personal reactions, biases, and concerns.

There is no substitute for diving into the corpus of data, reading and rereading transcripts, notes, and documents. Inhabiting the data in this way ensures that the analyses are rooted in deep understanding. *Memo writing* has moved to the forefront of data analysis as the connective tissue binding

disparate activities and helping to coalesce decisions that propel the analyses forward to conclusions. Memos inscribe thoughts, reactions, and linkages. They help to crystallize inchoate hunches about what is going on in the data. Keeping track of these memos, for example, logging them by date and time, contributes to an *audit trail* (more about this in Chapter 8).

Boyatzis (1998) distinguishes between manifest and latent analysis, the former referring to surface description and the latter to an interpretation of underlying or hidden meanings. One does not usually plunge into analyzing the latent before gaining a comprehensive understanding of the manifest. Ethnographers, for example, ensure they have ample description in order to make their interpretations "deep" and "thick" enough to uncover the tacit meanings of cultural beliefs and practices.

At the same time, not venturing beyond the manifest is an error of omission, albeit one usually made with the best of intentions (some researchers assume that looking into deeper meanings dishonors participants). In writing about his study of homeless booksellers in New York City, Duneier (1999) notes, "if I had simply taken the men's accounts at face value, I would have concluded that their lives and problems were wholly of their own making" (p. 343), thus overlooking the influence of larger political and economic forces. By the same token, rushing to interpretation can render the data beside the point rather than the starting point.

Is there a happy medium? To paraphrase a noted social scientist, "you can't generalize from the local, but you can't generalize without it" (Kotkin, 2002, p. B11). Readers of qualitative reports are asked to trust the researcher to be a guide leading them into new understanding, and the researcher has to earn this trust. To do so, we provide sufficient detail to assure readers of our deep familiarity with the setting and data, but we are also obliged to make connections "up and out" to the larger context of opportunities and constraints. The reader may be asked to take a "leap of faith" (Duneier, 1999, p. 343) in this regard, but the leap should have a credible landing (much more about this in Chapter 7).

Whereas some methods offer specific albeit flexible guidelines for data analysis, others are less explicit in the how-to aspects. Still other qualitative approaches, such as case studies and ethnography, exist as "meta-methods" (i.e., broad enough to incorporate differing modes of data collection and analysis). Regardless of approach, qualitative analyses depend on close and careful readings of texts, multitasking to attend to what and how something is said or done, and using filters and analytic axes to organize the process as it unfolds. Qualitative data analysis rarely follows a predictable course, so keeping track of its progress is critical.

Case Summaries

With their small sample sizes and intense involvement, virtually all qualitative studies can benefit from making *case summaries* of each participant (and for case study analyses this is essential). Compiling case summaries involves assembling and summarizing all available data about each particular case so that it may be viewed holistically. SPs volunteer a lot of information—some important and some not; the case summary organizes what is important for greater retrievability. In the NYRS, for example, case summaries could be readily consulted to find out how many children a participant had, her place of birth, current substances being abused (if any), and so forth. In addition to the routine demographic characteristics elicited at the end of the interview, respondents volunteer factual information during interviews that can be included in the case summary. I prefer to do this during the first cycle of coding, flagging this information in the left-hand column of the transcript to be later entered into the case summary.

Theories and Concepts in Qualitative Data Analysis

Theorizing rather than theory testing reflects the dynamic way that researchers interact with ideas and interpretations during analysis. Theorizing allows for conceptualizing without necessarily producing a theory—the reality for the vast majority of qualitative studies. It also implies a dynamic process with varying inputs and outputs depending on the study's aims, research design, and stage of analysis.

The most prepackaged stance toward concepts and theories conforms to what Crabtree and Miller (1999) call a *template approach*. Using this approach, a researcher relies on a codebook largely or entirely developed in advance. Content analysis is closely associated with this option, but any qualitative study that needs to follow a prescribed conceptual framework may go this route. At the other end of the continuum are studies that reject the use of pre-existing concepts in favor of naive immersion in the data. A phenomenological approach, for example, places high priority on exploring the lived experience *de novo* to reduce filtering and distortion that can undermine authenticity.

Along the continuum's middle ground lie qualitative studies such as grounded theory. Thus, the researcher may use sensitizing concepts from existing theories, but their place in the findings is by no means guaranteed. In this way, the *sine qua non* of qualitative research—its capacity for surprise and new insights—remains intact. For the most dedicated grounded

theorists, the development of a theory or model (whether having low, medium, or high explanatory power) is the desirable end result.

Data Analysis in Diverse Qualitative Approaches

All data analyses eventually circle back to the research questions that set the stage for the study in the first place. However, answering these questions is only part of the process since qualitative studies have the capacity to deliver much more. More includes new information and fresh perspectives as well as noting what was not seen or not said. It is important to reflect back on one's epistemological stance and specific approach to enhance the coherence of the study's analyses.

One of the most common activities across qualitative approaches is the pursuit of themes, and here confusion often reigns. The desire to develop themes is understandable, especially when one goes beyond scrutinizing a single case or portion of narrative. The attraction of thematic analysis is readily apparent, as it is accessible and exists independently of theoretical or epistemological frameworks (Braun & Clarke, 2006). As such, thematic analysis has an all-purpose quality that makes its adoption or uptake by more formalized approaches relatively easy. GT, phenomenology, case studies, and narrative analyses often use thematic analysis to develop theory, identify the essences of a lived experience, and address commonalities across cases or narratives. In the following sections are general descriptions of data analysis used in the different qualitative approaches.

Content Analysis

Content analysis has a distinct history in communications, journalism, and business (Berelson, 1952). It was originally developed to count the number of incidents of the phenomenon of interest. Content analyses of newspapers, magazines, television, and Internet communications could be used to reveal, for example, the frequency of pharmaceutical advertisements, the number of violent incidents involving children, or the prevalence of racial stereotyping. Content analysis is not necessarily atheoretical, but its application is largely one of documentation rather than interpretation.

In recent years, content analysis has evolved toward a hybrid approach designed to "distill words into fewer content-related categories" (Elo & Kyngäs, 2008, p. 108). Working in the margins between quantitative and qualitative methods has brought criticism to content

analysis—statisticians disparage its simplistic analytic techniques, and qualitative researchers note its reductionism as a lost opportunity (Morgan, 1993). In keeping with this eclecticism, content analysis can be applied to quantitative or qualitative data and can be used deductively as well as inductively (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005; Mayring, 2004). In the first stage known as preparation, the unit of analysis—a word, phrase, or sentence—is identified. If the content analysis is inductive, the analyses take a familiar step toward coding and categorization. If taking a deductive approach, the researcher arrays the pre-existing categories in a matrix and fills it out with content that fits (Elo & Kyngäs, 2008). Data of interest to the study that do not fit into the matrix can be used to create new categories (switching to inductive mode). This alternating between inductive and deductive is common to content analysis (Sandstrom, Willman, Svensson, & Borglin, 2015).

The reader might ask what is different about current practices in content analysis compared to the other qualitative approaches, and this author is not entirely sure of the answer. In the world of qualitative methods, many approaches coexist and overlap, yet somehow maintain their integrity and distinctiveness. To the relief of some and vexation of others, qualitative methods place a premium on being diverse and boundary transgressing.

Ethnography and Data Analysis

Regardless of whether they are conducted in Samoa or Springfield, ethnographic methods produce a wealth of data that can quickly overwhelm the researcher unaccustomed to multitasking with minimal guidance. The following quote describes this laborious tradition:

> Working with these materials was a messy, exasperating, and complicated procedure. I began by reading all the field notes and raw materials repeatedly until I knew what was in each volume and where it was, creating a sort of mental map and table of contents. Then, as the structure and order of presentation of topics became clearer, I literally surrounded myself with data. I made concentric circles of important pages of field notes, articles, books, and drafts, and I perched in the middle of these to think, sort, and combine. Each of these circles became a chapter, but only after it had become a shambles. Days were spent shuffling and grabbing, realizing a whole section needed rewriting and so beginning again, or rescuing all from numerous disasters with the paws of muddy dogs who assaulted me for attention. (Estroff, 1981, pp. 33–34)

In addition to field notes, ethnographic data include interviews, documents, and records. They may also include quantitative measures and analyses. As a rule, field notes are analyzed the same as interview transcripts; analytic memos keep track of which type of data contributed what information. Estroff's analyses were the old-fashioned manual kind involving visually displaying data and intense contemplation about what was being observed and interpreted. Whether done on the dining room table or virtually with a computer, the principles are the same.

To get started analyzing ethnographic data, the researcher uses field note summaries, individual life stories, and abundant memos to help structure the sifting and sorting process. He may triangulate different sources of data (not to confirm but to build or expand meaning). Here is a hypothetical example of how multiple sources of data can expand meaning. Consider a study set in a small-town Texas community where many Iraqi war veterans and their families live. Although many are known to suffer from psychological trauma, few veterans make use of a local mental health clinic. The literature points to stigma and fear of being labeled "crazy" as a primary cause of this phenomenon. Ethnographic research at the site also reveals that the physical layout of the clinic—long dim hallways and windowless offices—made already troubled veterans reluctant to use the facility. Post-traumatic stress arising from chaotic war experiences can lead to feeling trapped with no exit, and the layout of the clinic made them uneasy. Finally, in-depth private interviews with the veterans revealed yet another reason: They feared a psychiatric diagnosis would lead to confiscation of their guns. Local culture valorizes use of guns for hunting and target practice, and such a loss—however unlikely— would be deeply resented. Taken together, these sources of data paint a more multifaceted understanding of why veterans might avoid mental health treatment.

Ethnographic data are analyzed for idiographic detail, but they should ultimately address larger concerns. These may be theoretical, critical, policy-relevant, or so on. Learning how to "sweep back and forth" and "swoop in and out" of the data is one of the most challenging aspects of ethnographic data analysis. A number of ethnographic experts have stepped forward over the years to instruct novices (see the reading list at the end of this chapter), but all agree that strictly following a formula is not the way to go. In the end, the best way to demystify ethnographic data analysis is hands-on experience along with documentation. Although this is true of all qualitative methods, the learning curve in ethnography can be steep given its demands of prolonged engagement in what is usually an unfamiliar setting.

Case Study Analysis

Like ethnography, case study analysis is a meta-method embracing multiple forms of data and analytic techniques and lacking in codified procedures. As mentioned in Chapter 2, Stake (1995) distinguishes between *instrumental, intrinsic,* and *multiple* case studies. Whereas instrumental case studies are illustrative devices used to highlight discussion of a larger issue or concern, intrinsic case studies focus on the case itself as worthy of intensive scrutiny. Multiple case study analysis follows the same principles of a single case study but, for reasons of interpretation and expansion, extracts meaning from more than one case.

A primary feature of case study analysis is going "deep" before going "out" (to larger issues and theories) or, for some studies, going "across" to other cases. Doing within-case analysis means delving into historical background and/or exploring the case in all of its complexity. If very little is known about the case and it has intrinsic interest, analysis may focus more on description than interpretation.

Because cases may be persons, entities, or events, analysis plans vary depending on the case and the data to be collected. They also employ differing approaches depending on whether the study design is cross-sectional or chronological. Patton (2002) notes that the choice of a case may shift during sampling (e.g., from an entire school to selected classrooms or from classrooms to selected teachers and students). A case study may document the inner workings of the case, and it may also advance an argument. An example of this is Bradshaw's (1999) study demonstrating that the closure of a military base (his case) did not produce the predicted dire consequences. A case study may also explore the causes and consequences of a major policy change, for example, the New York City Police Department's shift to a "broken windows" policy of quality-of-life arrests in the 1990s (Kelling & Coles, 1996).

In the NYRS, we assembled data for each participant (or case) covering the 18 months they were enrolled in the study. This included four interviews (at baseline, 6, 12, and 18 months), individual case summaries, and—for a subsample—shadowing interviews as well as photo-elicitation interviews. Data included transcripts, case summaries, photographs, and field notes. A matrix was developed to display salient domains (mental health, family relationships, substance use, etc.) summarized for each case. Two study team members (one of whom was the primary interviewer) read the assembled case file data. Through consensus-building discussions, we focused on each individual's trajectory before drawing larger cross-case conclusions.

The term *case study* refers to the process as well as the outcome (Patton, 2002). The key distinguishing feature of case study processes is that they maintain the holistic integrity of the case, that is, it is unpacked and its contents closely examined, but the parts are ultimately viewed as a whole and in relation to one another. A "case study-as-product" is a comprehensive description built up from immersion in multiple sources of data. It brings in specifics but does not get bogged down in detail. Many of the same methods for thematic analysis and pattern recognition apply to multiple case study analyses. As a rule, similar cases are easier to analyze comparatively than dissimilar ones.

The end product of a case study analysis may be thematic, but it can also be typological. Take, for example, a hypothetical cross-case analysis of eight child welfare agencies and their responses to new regulations mandating professional training in social work for all staff. Each organization has its own professional culture, leadership style, caseload mix, and staff morale. Based upon in-depth analysis of multiple data sources, the organizations' responses to the mandate tend to fall into one of three categories: earnest adopters (strong leadership), active resistance (strong leadership), and passive resistance (weak leadership). Of course, one should not force categorizing onto the data—cases that do not fit call into question the viability of the typology. Yet the development of typologies—when relevant—is useful heuristically for multiple case study analyses.

Data Analysis in Narrative Approaches

Individual narratives and conversations are revelatory events when analyzed for their cadences, interruptions, intonations, emphases, and lyrical storytelling. Data analyses in narrative approaches draw on literary traditions while reflecting a preoccupation with social and cultural meaning. Narrative data analyses fall roughly into two types: (1) analyses of storytelling (narrative analysis) and (2) analyses of conversational exchanges (discourse or conversation analysis). Under the expansive umbrella of narrative approaches, differing procedures for data analysis can be found.

Following Labov and Waletzky (1967), traditional narrative analysis (NA) involves identifying six elements of a fully formed narrative: *abstract* (summary or précis of the event), *orientation* (time, place, participants, context), *complicating action* (what actually transpired), *evaluation* (meaning and significance of the event), *resolution* (conclusion of the event), and *coda* (giving closure by returning the listener to the present time). A couple of caveats are pertinent here. First, not all narratives contain all six elements, and analysts may reasonably disagree about what

constitutes a coda, evaluation, and so forth. Second, narrative stories may be embedded within a long interview, or they can emerge over a series of interviews (Riessman & Quinney, 2005).

Clandinin and Connelly (2004) recommend three analytic axes for studying narratives: personal and social interaction, continuity (past, present, and future), and setting or situation (of the story or narrative event). The second of these points to the significance of chronological sequencing within and across narratives. Stories are natural places to talk about life-as-lived. Narratives may be the building blocks upon which a larger thematic analysis is conducted, or a single narrative chunk may be dense in meaning such that it is stand-alone.

Riessman (2008) distinguishes between narrative analyses of *content* (what is being said), *structure* (how it is being said), *dialogic/performance* (focusing on the dialogue or to the participant performing the narrative, and, *images* (using photographs or other visual media along with the spoken word). The interpretive turn in qualitative methods shows in these expanded categories.

Thus, NA can take a number of forms ranging from microstructural analyses of texts to examinations of the larger context of the storytelling experience (Riessman, 2008). With respect to the Labov and Waletsky "six elements" approach, Riessman (2008) cautions "not all stories contain all elements, and they can occur in varying sequences" (p.3).

One variant of NA examines the performative aspects of storytelling (Langellier & Peterson, 2004; Riessman, 2008). Echoing Goffman's (1959) work on presentation of self, narrativizing is treated as a dramatic act engaging the teller with the audience. Researchers may examine how respondents "voice" themselves and others, thereby indicating social relationships and the meanings attached to them (Sands, 2004). The act of telling, while having therapeutic effects in itself, is a window into personal identity construction and reconstruction. *Emplotment,* or the stringing together of events into a narrative arc, creates a structure or scaffolding. Illness narratives are among the most popular exemplars of NA (Charmaz, 2014; Mattingly, 1998).

Analyzing naturally occurring speech can uncover social and cultural influences that structure human interaction. *Conversation analysis* (CA) does this by examining turn taking as well as silences and nonverbal utterances that signal gender, age, and race (ten Have, 2014). Box 6.2 demonstrates the detailed system of notation used in CA.

Discourse analysis (DA) includes texts as well as conversation. Analytic procedures center on spotlighting how larger social influences (especially unequal power and dominance) shape modern discourse (Gee, 2005). In conclusion, narrative approaches share a goal of understanding in the

context of talk and verbal interaction. Whether following the arc of a personal narrative or the back-and-forth of a conversation, the analyst's job is to extract meaning (Hyden & Overlien, 2004).

BOX 6.2 NOTATION IN CONVERSATION ANALYSIS: A DETAILED BREAKDOWN OF TEXT

Some of the marks used to transcribe conversations for CA are the usual punctuation marks such as the question mark (?) for rising inflection, the period (.) for a full stop, and the comma (,) for a pause or in a listing. Below are specific additions used in CA transcription:

(.) = a micropause

(2.3) (.6) = a 2.3 or 0.6 second pause (the time lapse of the pause)

[ ] = overlapping speech (brackets used to show where speakers are talking over each other)

_____ = emphasis (underlining used when the speaker's tone is more emphatic)

CAPITAL LETTERS = loud (when the speaker's voice becomes louder)

↑↓ = indicate lowering or rising pitch

: = drawing out the syllable before

° =degree sign used to surround quiet speech

hhh = out-breath

.hhh = in-breath

– = hyphen marks cut-off of preceding sound

> < = arrows surround speeded up talk

= equal sign refers to run-on sentences (within or among speakers)

Example 1: "From that day on he has nev::er put his hand up to me or at me. hhh (.)" This translates as the speaker drawing out the word *never*, then comes to full stop, then exhales at the end of the statement and has a micro-pause in speaking.

Example 2: "He tries sometimes to be intimidating; he can't do that (.5)" This translates as emphasis is put on *that* followed by a 0.5 second pause.

Phenomenological Analyses

Phenomenological analyses (PA) can take different forms, but they share certain features. These include synopses of each SP's experiences and a summary of major themes with associated excerpts from the interviews (Giorgi, 1985; Moustakas, 1994). Moustakas recommends the researcher begin by recording his or her personal experiences with the phenomenon to help set boundaries on limiting (but not eliminating) the influence of those experiences. The concept of *epoche* is used to describe this distancing or bracketing of personal experiences (Moustakas, 1994).

The next step, termed *horizontalization*, is to read across the interviews repeatedly to identify significant statements in the data and group these into themes. Each statement is given equal value. Textural description (Moustakas, 1994) is attached to these themes such that participants' lived experiences are visible. In the next stage of analysis, the researcher goes from *what* to *how* through structural description (a broader examination of the context of the lived experience). For example, a phenomenological study of doctors addicted to painkillers might describe how and where the addiction began. Were they going through a personal life crisis or a serious medical condition? Did another physician provide the opportunity and encouragement? Did the drug use begin outside of the clinic or during work time? The final step in PA is the synthesis of meanings into *essences*. The essence is the condition or quality without which a thing would not be what it is. This is done by using both types of description to arrive at a composite or blended portrayal of the phenomenon (Moustakas, 1994).

Van Manen (1990) positions the researcher within the study as engaging in the data more holistically, selecting and highlighting important statements for later aggregation. A step-by-step example of this is provided by Groenewald (2004) in his phenomenological study of educational programs in South Africa.

Action and Community-Based Participatory Research

Action research and community-based participatory research (CBPR) emphasize cooperation in data collection and analysis. The specific tasks follow the lead of the particular approach being used with the proviso that community partners play a key role in analytic decisions. If time is limited, the more expedient template approach (Crabtree & Miller, 1999) may be used in which key domains structure the data collection and the analyses. This limits the inductive nature of the study but at the least answers the pertinent questions in an efficient way. While some community partners may

be content to leave the analyses to their research partners, this does not exclude them from consultation at each step.

Analysis in Longitudinal Designs

Few qualitative studies are longitudinal in the sense of prospectively collecting data over long periods of time (Flick, 2004), and qualitative methods have offered relatively little guidance in this regard (Saldana, 2003). A number of qualitative approaches are defined by the amount of time needed to carry out the study and the desire to analyze change in some way, so much depends upon the researcher's intentions and resources. An ethnographer may spend months or years in the field yet be less concerned about change than about thick description. Similarly, a researcher could study a fast-moving set of events (the aftermath of a disaster) and focus on change taking place in days and weeks. The study may have specified waves of data collection at preset intervals or it may take place *in situ* over periods of months or years.

The analysis of longitudinal data follows the principles of qualitative analyses in general—it begins early and follows an iterative course. What is distinct is the assumption that change and process are important to the study (hence the longitudinal design). This usually means that the same or similar questions will be posed over time to lay a foundation for temporal contrasts. A key decision point is whether one is coding and aggregating versus keeping the case intact. If the former is chosen, one might code the baseline data then compare and contrast baseline codes with the codes that emerge from subsequent waves. The case study option points to multiple case analyses in which case summaries and other case-based data are analyzed over time to detect trends and types of change. Deep immersion without demarcated data collection points requires keeping track of change through extensive documentation and memos.

Life course studies and *life histories* typically depend on retrospective recall (with the occasional exceptions of prospective longitudinal designs that are almost always quantitative) (Singer, Ryff, Carr, & Magee, 1998). Qualitative studies bring out the dynamic, interactive aspects of lives-as-lived recalled by SPs. As such, they depend heavily on the researcher's ability to "draw the threads" yet maintain the integrity of the individual trajectory—a task similar to cross-case analysis. Despite these challenges, such studies are vital to understanding the full array of influences on individuals as they mature but also the interplay of their lives with historical events and social change (Elder, 1994).

Of course, longitudinal does not have to refer to a lifetime. As mentioned earlier in this chapter, the NYRS involved four waves of interviews over an

18-month period, and we elected to do multiple case study analyses of individual trajectories based upon indicators of mental health recovery including mental health, use of substances, social support, work or school involvement, housing stability, recreation/leisure activities, and physical health. For each of the 38 individuals who completed all 18 months of the study, we had two team members independently read the interview transcripts and case summary then meet to consensually fill out a matrix display based upon the recovery domains. This matrix—a very large spreadsheet—allowed us to read across to see how each individual was doing. We could also read down to look for commonalities across the domains, for example, use of drugs or alcohol. The next step in the analyses was pattern recognition across the individual trajectories to detect trends toward (or away from) recovery and what influenced those outcomes (Padgett, Smith, Choy-Brown, Tiderington & Mercado, 2016).

Analyzing Visual Data

As qualitative researchers expand their data collection to incorporate visual media, new analytic opportunities and challenges arise. Visual data analysis has become the subject of many works bridging the arts and social sciences including a large edited volume (Margolis & Pauwels, 2011). The "language of pictures" (Noth, 2011, p. 299) blends symbolism with images. Thus, a photograph has content (scenes, people, objects, etc.), but it also has meanings filtered through personal predilections as well as cultural and social expectations. The positioning of objects within the frame, the symmetry or asymmetry of the images, use of foregrounding and backgrounding, and center versus periphery placements all convey information.

Visual data tap into emotional reserves in a unique way. The human brain more readily processes visual images than spoken or written language. Neuropsychologists have found that the brain processes pictures and words in differing ways, with the former having more immediate emotional impact (Kim, Yoon, & Park, 2004). According to LeClerc and Kensinger (2011), "For pictures, the effect of emotion might be in evidence immediately and might be evoked relatively automatically, whereas activation of emotional responses for word stimuli may require more in depth and controlled processing" (p. 520).

Researchers can develop typologies of visual images based upon participants' narratives or a prior conceptual schema. An inductive approach that we took in photo-elicitation interviews in the NYRS was to identify two broad categories of the stance to photographing taken by participants. These were "a slice of life" and "then versus now," the former capturing everyday

activities and the latter using the photos to narrate how different their lives were compared to earlier days of homelessness and addiction (Padgett, Tran Smith, Derejko, Henwood, & Tiderington, 2013). Later, we added a typology to distinguish "documentation" photos from "representation and evocation" photos to take into account the accompanying narratives. A photo of a subway stop could be narrated simply as the participant's local station. Or it could form the backdrop to a discussion of getting around the city and mobility (or of the noise, danger, and discomfort of subways) (Tran Smith, Padgett, Choy-Brown & Henwood, 2015). In a final interpretive step, we noted how the act of taking and narrating photos created an opportunity for "identity work" (Snow & Anderson, 1987; Tran Smith et al., 2015).

Figure 6.2 displays a portion of a photo-elicitation interview transcript. The SP (#222) had taken the photo at a community health clinic where he received medications for HIV infection. The quilt on the wall—a memoriam

Figure 6.2   Screenshot From ATLAS.ti: Excerpt From Photo-Elicitation Interview in the NYRS
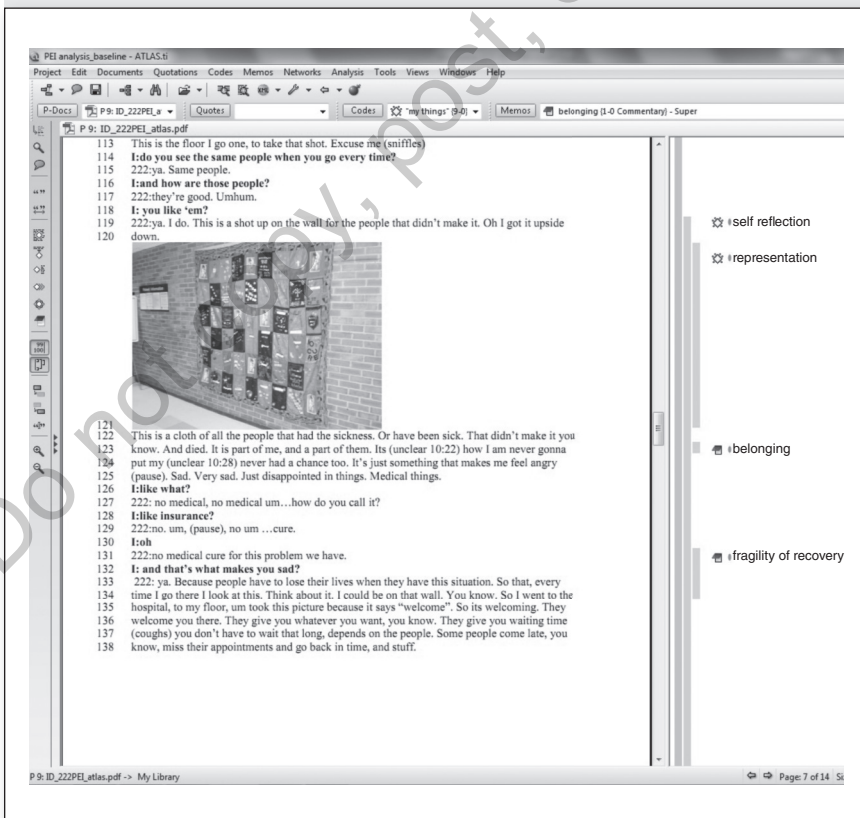
to those who have died of AIDS—prompted him to share a run of emotions, including anger, sadness, and gratitude at how welcome he felt at the clinic. We classified this photo as "representation and evocation" because he used it to represent his health care needs being met, but he also embarked on a broader discussion about his lack of health insurance, the grief of so many deaths, and his good fortune in being alive.

Visual data offer a degree of multidimensionality that lends itself to creative interpretations and analytic decisions. When generated by the researcher, it adds depth to the corpus of data being collected. When participants produce and interpret the visual data, it not only empowers them but it yields a rich dialogic encounter with the researcher.

Coding

Most qualitative researchers who use coding stay with description and interpretation and stop short of theory generation. Flick (2004) asserts that requiring theory development constitutes an excessive and unrealistic burden for many studies, especially graduate theses and dissertations. This, of course, does not preclude theoretical thinking or theorizing (which should be brought to bear early and often).

Coding qualitative data is the most commonly used analytic procedure as it produces the building blocks or scaffolding for the study's interpretive findings (Morse, 2015). That said, there is tremendous variety in how coding is carried out (Saldana, 2015). For example, there are coding techniques independent of GT, including content analysis and methods developed by Boyatzis (1998) and Patton (2002). The boundaries between GT and these other methods are frequently blurry, but here are a few distinguishing features of GT. First, as described in Chapter 2, GT is most often used to describe a process or action. Second, in GT methods, "the ultimate goal of developing theory is never out of the researcher's mind" (Oktay, 2012, p. 53). This means that themes or categories are not the final product—exploring relationships between them is necessary to produce even a "small t" grounded theory. Third, data collection and analyses are iterative and overlapping, and new data collection using theoretical sampling is common.

Varied Approaches to Coding and Co-Coding

Coding breaks the "data apart in analytically relevant ways in order to lead toward further questions about the data" (Coffey & Atkinson, 1996, p. 31). As noted by Tesch (1990), each chunk or quotation has two contexts, one its origin in the narrative and the other a "pool of meaning" located in

higher levels of abstraction. Coding sets the stage for interpretation and *is* interpretation (albeit at a rudimentary stage). At the outset, one begins with close and repeated readings of the transcript (or other text) in search of "meaning units" that are descriptively labeled so that they may serve as building blocks for broader conceptualization. Somewhat like a funnel, coding starts at a broad descriptive level and gradually contracts into greater selectivity and interpretive synthesis. Meaning units often consist of events or incidents and the personal reflections that come with talking about them. Participants' recollections are coded for their meaning with an eye to broader considerations.

Questions and decisions arise early on, for example, where code labels come from, to what extent do these labels draw on *a priori* concepts and theories, and the level of detail attending the analysis (think of a fine-versus a coarse-toothed comb). The answers to these questions depend on the study's overall conceptual framework and design. To be avoided across the board is a mechanistic approach that deprives the study of new insights and interpretive thinking.

Co-coding, or the independent coding of the same data by two or more researchers, is valuable, as leaving this important task to one person runs the risks of veering off course or getting stale after awhile. It is also central to team research and community-based studies where members of the team share in research tasks. During the early stages of open coding, co-coders are likely to come back with different codes and definitions even after being oriented to the study and its goals. This is not a problem—diverse viewpoints are valuable. It does, however, result in a rather messy and time-consuming process of talking through the coding decisions and reaching consensus.

Some more positivist-minded qualitative researchers seek to quantify *intercoder agreement* through calculating Cohen's kappa or another coefficient of agreement (Boyatzis, 1998; Mayring, 2004). If done, this should wait until the codebook is finalized, all co-coders are trained in its use, and the rules for what constitutes "agreement" fully understood. Even when coders agree on the label for a particular passage of text, they often disagree on how much or little to assign to it. I am not a fan of calculating coder agreement as I believe it requires many preparatory steps and borders on mechanistic. It also implies a degree of precision that can squeeze out (or at least undermine) larger interpretations.

Starting Out: Identifying Code-Worthy Material

Most qualitative researchers begin with naïve or open coding (Charmaz, 2006; Ryan & Bernard, 2000). For the novice, this can seem like working the

trapeze without a net, but one need not approach coding as a blank slate (pardon the mixed metaphors here). Grounded theorists refer to *sensitizing concepts* (Glaser, 1978) as providing initial guidance on where to start looking. Thus, a study of persons with schizophrenia would likely consider looking for "stigma," and one examining eating disorders might look at "body image." Regardless of whether sensitizing concepts are invoked, the researcher approaches the text with as few preconceptions as possible and holds the ones she has lightly. Open coding serves another purpose besides organizing the data; it draws in the researcher to the data and prevents him from reverting to preformed ideas or conceptions.

A qualified exception to this comes from studies where codes are preexisting and form the bins that structure the data analysis. As mentioned earlier in this chapter, a *template* approach (Crabtree & Miller, 1999) happens when the data are forced into preselected codes. These codes might be derived from theoretical and conceptual frameworks or from previous research. Though moving the study away from a major strength of qualitative methods (inductive thinking), there are occasions when time is limited, and such structure is necessary.

A template approach was imperative in an evaluation of foster care in New York City given the topic as well as the limited time available (Freundlich, Avery, & Padgett, 2007). Consultation with key stakeholder groups (youths, social workers, attorneys, judges) and the literature produced seven domains that structured the open-ended questions as well as the analyses. These domains were youth involvement, transitioning, recommendations for improved services, quality of placements, safety in the placements, services in the placements, and permanency planning. Such prepackaged codes permit expedited data collection and analysis yet their derivation stayed true to stakeholder opinions.

When open coding, one can use the right-hand margins of the transcript to bracket relevant segments and assign code labels to them. Although this may be carried out directly on the computer screen using QDA software, I prefer marking hard copies first (always using pencils with erasers). Flipping back and forth the pages of a transcript is easier than maneuvering a cursor in a limited-view window (and is also easier to do in a comfortable chair). Before and during coding, I use yellow highlighting when I come across interesting quotes. It is not always easy to flag these, and some are not used in the write-up, but there is no greater pleasure for me than coming across an eloquent statement that perfectly captures a code's meaning.

A few important considerations arise at this point. First, every line of the transcript is not necessarily coded (or code-worthy). Second, a single passage

of text may be so rich that it yields several code-worthy chunks of information. Coding can get messy in such instances—sometimes one must literally circle the relevant text with an arrow leading to the code label in the margin. (Right-hand margins can look like traffic gridlock when an interview yields a lot of important material.) Third, codes need to have clear definitions to guide their usage, that is, what belongs in and what does not. Finally, codes are provisional and subject to change, either through clarification and revision or outright elimination.

Early in data analysis—usually after three or four transcripts—a start-list of codes is compiled and applied to additional transcripts. A commonly used approach is to have two persons independently code the first few transcripts, then meet to discuss their findings and consensually agree on a provisional list of codes. In this way, new codes may be added and excess codes discarded.

Trimming back a proliferating code list is inevitable. Codes get dropped for two primary reasons: (1) they have too few excerpts (or their content is too thin), and (2) they become merged with or absorbed by another code. A code's staying power is not a matter of quantity but quality. After coding a few more transcripts (this number varies depending on the density and richness of the data), the list of codes starts to saturate and no new codes emerge. The size of the final list can vary considerably, but it tends to become unwieldy when codes number more than 30 or 40. Less (or fewer) codes can be more.

Table 6.1 shows a portion of a transcript from the NYRS along with examples of open coding and brief memos in adjacent columns (line numbers next to the codes show the chunk being labeled). Some of the code labels are straightforward descriptors, for example, "loss of job," and others pull in a phenomenon, for example, "supporting the (drug) habit." The use of gerunds suggested by Glaser (1978) can be seen in these two examples, the first a discrete event that did not merit a gerund but the second an ongoing process (burglaries and theft to support drug use) that did. The reader may note that some passages are dense enough to be linked to multiple codes. In the memo column are brief "notes to self" while reflecting inward (to this specific interview's content and meaning) and outward (larger issues that might recur in other interviews). Memos are an analytic conversation and in long form should be recorded in a separate journal or file. Box 6.3 displays what a longer memo looks like when applied to this SP. Call-outs or action notes in Box 6.3 are underlined to alert us to additional work to be done stimulated by this interview.

Table 6.1 Initial Coding and Memos: An Example From the NYRS

Interview Excerpt	Codes	Memos/Queries
1 I lost my job and I didn't 2 work no more after that. 3 The addiction got to hold 4 on me so much that I 5 started stealing for it. Or 6 robbing people, burglary. I 7 was supportin' like a 8 500-1000 dollar a day habit 9 and it got so bad I got 10 arrested for two counts of 11 attempted burglary. And I 12 went back up-state [prison] 13 in '92. And I been in a lotta 14 prisons upstate. 15 **I: So what year did you finish** 16 **the sentence?** 17 10: Oh, 2006. I was still 18 getting high and stuff like 19 that [in prison]. Somebody 20 slipped us some angel dust. 21 Now I always heard voices 22 since I was 14 years old. 23 But the angel dust enhanced 24 it. So one night, I wind up 25 assaulting a correction 26 officer 'cause the voices 27 getting to me. So I did 6 28 additional years. All 29 together, I did something 30 like 28 years out of my 51 31 years. And they gave me 5 32 years in solitary 33 confinement, in the box. 34 **I: Oh my. . . .** 35 10: They let me out 10 36 months early for good 37 behavior. When I got out in 38 2006, I went to a shelter 39 and ever since then I've been	*Loss of job (1-2)* *Becoming addicted (3-5)* *Supporting the habit (3-11)* *Incarceration experience (9-17)* *Drug use in prison (17-28)* *Hearing voices- beginning (21-27)* *Violent drug reaction (23-28)* *In the "box" (29-33)* *Seeking a better life (35-43)*	Downward spiral leading to 14 years in prison Criminal activity— all confined to drug habit? 14-year stretch in prison Was SP treated for mental illness in prison? Assume that drugs are easily available there—learn more? Did SP receive treatment for mental illness in teen years? An adult life lost to prison

(Continued)

Table 6.1 (Continued)

Interview Excerpt	Codes	Memos/Queries
40 trying to right my life, I 41 stopped using drugs in '99. I 42 also stopped hearing the 43 voices in '99. 44 **I: How did all that happen?** 45 10: I assume from the 46 medication they been giving 47 me. They been giving me 48 Zyprexa, Seroquel, and 49 Abilify which I currently 50 take now.	*Ending drug use (37-41)* *Hearing voices-end of (42-43)* *Psychiatric medications help (45-50)*	Check on recent research on detrimental effects of the "box" on persons with mental illness? A clear turning point—how was he able to do this while in prison? Recovery from addiction in prison Attributes recovery to medications (not all SPs agree with this)

BOX 6.3 EXAMPLE OF A MEMO
FOR INTERVIEW EXCERPT IN TABLE 6.1

SP is a middle-aged African American man who has spent most of his adult life in prison for drug-related crimes. He suffered from a serious mental illness that went untreated for decades. Spending time in the "box" (solitary confinement) was, to say the least, not helping him cope with his mental illness. The availability of drugs such as angel dust inside the prison seriously exacerbated the violent behavior he attributes to the voices in his head. Action note: check on how common this is (illicit drug use in prison and long stints in the box and whether it is related to untreated

mental illness). Although SP does not use the term as such, his life reached a turning point in 1999. In a later interview, SP reveals that he was diagnosed with schizophrenia while still in prison in 1999 and put on medication. Does this mean his medication worked? Is there a link to his stopping drug use at about the same time? Action note: Ask SP about this in next interview. Upon his release from prison, the SP went to a shelter, a place hardly conducive to positive change, but he had already persevered in overcoming drug dependence and mental illness while in prison. Questions going forward: Can we assume that the "box" was associated with a worsening of untreated mental symptoms? When illegal drugs are available in prison, what strategies are needed to abstain? Is drug use a form of self-medication? After release from prison, how did SP manage so well?

A few caveats immediately come to mind when regarding Table 6.1. First, these code labels and memos are not the only way to go; another researcher might reasonably use others. Second, as shown by the line numbers, decisions have to be made about how much material to grab. There are no hard and fast rules here. Some researchers prefer more and others less. Finally, each code label must earn its way by having representation in this and other interviews. A researcher knowledgeable about the population of study (and prior research) is more likely to identify salient codes, but he is not infallible. I have returned to a coded transcript and noticed some passages I overlooked or codes I could have invoked.

In the same manner, some analytic memos are more consequential than others—it all depends on the study's ultimate goals. For example, a researcher interested in mental illness and incarceration might put more time and analysis into experiences of the "box," or solitary confinement. There is a growing literature on this subject and on the effects of mass incarceration in the United States (Alexander & West, 2012). For our study, mental health recovery being the focus shaped how we appraised interview content. Thus, we were struck by how the SP matter-of-factly attributed his improved mental health to his medications (other SPs resisted such conclusions or cited side effects as superseding any positive effects). All of this is grist for the interpretive mill.

Labeling Coded Material and Developing a Codebook

Each researcher brings to coding an array of personal and professional experiences and a lexicon for naming or labeling them. As a rule, one should resist the temptation to use professional jargon in labeling codes. Staying

close to the data helps prevent this from happening because few individuals express themselves this way in normal conversation (e.g., referring to their "denial" or "coping style"). Code labels should be brief yet descriptive. In the NYSS, we used the code "living independently" to refer to occasions when study participants talked about the benefits of having an apartment of their own. The use of a gerund conveyed the activities of apartment living—cooking, cleaning, relaxing—rather than a static expression such as "my own apartment."

Code labels should be compelling and interesting when possible. Statements like "I take my nephews to school every day" and "I get medicines for my elderly neighbor" might be coded rather dryly as "altruistic actions" or more evocatively as "helping others." Less inductive are code labels that correspond directly to the question that was asked. Thus, a code "next step" might be used to label participants' responses to the question "what is your next step?"

Code labels may be *in vivo,* emerging directly from participants' words. *In vivo* codes are pithy comments made by participants that have meaning beyond their immediate connotation. Sometimes an *in vivo* code is the product of jargon or street talk, for example, study participants who talk about their struggles with addiction might speak of "hitting bottom." Used as a code label, this phrase describes a critical turning point in one's recovery. An *in vivo* code we used early on in our research ("I'm not like them") was a phrase used to convey a sense of being superior to or apart from others within the same treatment program, shelter, or psychiatric hospital. This sentiment connoted frustration with being housed and treated alongside other psychiatric patients who were perceived as more disturbed.

Code labels may come from the researcher's knowledge of the literature, what Oktay (2012) refers to as "theoretical" codes. Incurring a higher risk of forcing the data, theoretical codes should be used judiciously and with good reason. Tiderington (2015) used the code "boundaries" to describe how case managers navigate their meetings with clients and maintain professionalism. For social workers, "boundaries' refer to clinical theory regarding the therapist's avoidance of personal disclosures and honoring the client's privacy. Here is a quote that fell under the code given by a case manager describing how she overlooks her client's crack cocaine use as long as he hides it during her apartment visits. "But please, when I come . . . you know I'm coming because you know I have a schedule, please don't have that on the table. Please put that stuff up! And they respect that" (Tiderington, 2015, p. 86).

Table 6.2 shows a codebook developed during the NYSS. There is no standard format for this; every codebook has its own logic and procedures. Below are a few aspects of this codebook worth noting.

Table 6.2 Example of Codebook From the NYSS

Abbrv	Code	Definition/Guide For Usage/ Commentary
AgeEff	Aging Effects	Effects of getting older and maturation (mainly around SD/A but can be around other issues)
CC	Current Challenges	Current struggles or obstacles that SP faces (this is different from CLS because it is more specific and refers to SP's response to the question of challenges)
ChildEx +/−	Childhood Experiences	Experiences during childhood – positive or negative
CLS	Current Life Situation	Includes how things are currently going in SP's life – positive or negative. See subcode below
CLS-DRout	Curr. Life Sit.-Daily Routines	Includes what SP does on a daily basis
EmoEx	Emotional Expression	Coming to terms with emotions – positive or negative
FamR +/−	Family Relationships	Relationships with family members – positive or negative; excludes parenting role of SP
GBetter	Getting Better	Includes steps or plans taken to improve one's life (e.g., road to recovery); can include actions surrounding substance abuse, mental health, work, education, etc.
HO	Helping Others	Includes activities or efforts that SP makes to help another individual; includes sense of giving back
HL	Homeless Experiences	Includes process of becoming homeless and "lived experience" of being undomiciled
HousEx +/−	Housing Experiences	Includes process of obtaining housing and "lived experience" of being domiciled – positive or negative – see subcodes below!

(Continued)

Table 6.2 (Continued)

Abbrv	Code	Definition/Guide For Usage/ Commentary
HousEx-BenH	Housing Experiences-Benefits of Housing	Positive aspects of having an apartment
HousEx-FLH	Housing Experiences-Fears of Losing Housing	Thoughts and worries over losing program housing
HousEx-NH +/−	Housing Experiences-Neighborhood	Descriptions or feelings about surrounding neighborhood – positive or negative
HousEx-ObH +/−	Housing Experiences-Obtaining Housing	Experience of getting housing – positive or negative
MIE	Mental Illness Experiences	Onset of symptoms and reflections on 'lived experience' of symptoms and their impact
MIE-PracStrat	Mental Illness Experience-Practical Strategies	Active steps taken or avoided by SP to deal with mental illness
MM +/−	Money Matters	Includes financial difficulties, debt, independence, and management – positive or negative
ObServ +/−	Obtaining Services	Experiences getting and receiving services – positive or negative
P/LI +/−	Partner/Love Interest	Relationships with a significant other or love interest; includes desire for partner and/or sexual intimacy – can be positive or negative
Par +/−	Parenting	Experience of being a parent – can be positive or negative
PE-CPE +/−	Program Exp.-Current Program Experiences	Experiences in current program – can be positive or negative
PE-OPE +/−	Program Experiences-Other Program Experiences	Experience at other housing programs – can be positive or negative
PE-STurn	Program Exp.-Staff Turnover	Experience of change in staff – usually negative

Abbrv	Code	Definition/Guide For Usage/ Commentary
PE-ViewsP +/−	Program Exp.-Views of Providers	Opinions and statements about providers – can be positive or negative (can include occurrences of special care or concern given by provider)
PhysHealth	Physical Health	Includes any issues around physical health (e.g., weight problems/loss, change in eating habits, exercise, physical ailments, non-psychiatric meds, etc.)
PsyMeds	Psychiatric Medications	Includes process of getting on/off medications, type, symptoms, and side-effects
PTL	Positive Things in Life	Things that are going well in one's life
SA/U	Substance Abuse/Use	Includes reasons for using and triggers
SD/A	Stopping Drugs/ Alcohol	Includes process that led to getting clean and sober, current attempts to maintain stability, and meetings/ service use
Self-Det	Self-Determination	Using one's own strength, advocacy, and determination to accomplish a goal or task or overcome an obstacle; includes yearning for as well as acting on determination
Self-Ref	Self-Reflection	Includes one's own insights and reflections on what's going on in one's life; includes one's conception or expression of self (excludes Thoughts About the Future–see below)
SocRel +/−	Social Relationships	Non-intimate relationships (e.g., friends, acquaintances, etc; NOT with providers) – can be positive or negative

(Continued)

Table 6.2   (Continued)

Abbrv	Code	Definition/Guide For Usage/ Commentary
Spir/Rel	Spirituality/Religiosity	Refers to belief in a higher being or feelings of spirituality
Stig	Stigma	SP talk about negative experiences as a result of mental illness, homelessness, or substance use
Suicide	Suicide Attempt	SP refers to wanting to or actually trying to commit suicide, i.e., feeling no reason to live
TAF +/–	Thoughts About the Future	Reflections, hopes, and plans for the future – can be positive and negative
TP +/–	Turning Point	Includes significant experiences in SP's life that have affected him/her – can be positive or negative (this needs to be from SP and not our interpretation)
Trauma	Traumatic Experiences	Experience of a traumatic event by SP
WMiss	What's Missing	Things missing in one's life
WorkEx +/–	Work Experiences	Includes experience of being on the job, the pursuit of work, or aspirations for work (can be paid, unpaid, or volunteer opportunities)–can be positive or negative

• Several codes capture responses to standardized open-ended interview questions. These were "current life situation," "homeless experiences," "program experiences," "substance abuse/use," "social relationships," "thoughts about the future," and "what's missing." The other codes were inductively derived.

• Some codes are divided into subcodes. For example, "housing experiences" was a topic about which we probed extensively to understand participants' experiences (e.g., the benefits of having housing) as well as feelings (e.g., fears of losing their housing). In our experience, subcodes are

inductively derived, a reflection of the expanded meaning accorded a topic by participants. The broader a code's presence in the data, the more likely it is to be subcoded.

• We abbreviated code labels, for example, "mental illness experience" became "MIE." This made hard copy coding easier and faster (a time-saving step not needed when pulling from a software code menu).

• Each code or subcode had a definition that was both inclusive and exclusive to reduce coding errors, for example, "self reflection" was defined to exclude "thoughts about the future" as this was a code unto itself.

• When a code represented an experience that could be positive or negative we used the shortened "+" or "−" to show valence differences.

• Some of the codes had relatively thin representation but were too important to leave out given the focus of our research, for example, suicide, stigma, and work experience. Put another way, only a few participants revealed suicidality, had work experience to talk about, or reflected on being stigmatized (for being mentally ill, homeless, or addicted), but all of these rare occurrences were too important to overlook.

• Two of the codes proved to have too little grab and were ultimately discarded but remained alive through memos. "Aging effects," for example, was incorporated into our findings to connote maturation and recovery from drug or alcohol abuse (Henwood, Padgett, Tran Smith & Tiderington, 2012). "Turning point" was a code we identified early on, but it subsequently did not hold up, that is, participants did not narrate their lives in this way. Yet we kept this idea in mind as we examined meaningful life events in larger contexts and through a retrospective lens.

Documenting Coding Procedures

Coding is a profoundly discretionary activity; it involves painstaking sifting and sorting, but it is also intellectually demanding. At the outset, it is not unusual to have dozens or even hundreds of codes. (When two or more persons are involved in coding, one person needs to be in charge of the code master list to maximize coordination.) To avoid descending into a black box obscuring all that happened, the researcher should document coding procedures in a way that does not interfere with the inductive and serendipitous course that coding takes.

In what Miles and Huberman (1994) refer to as choreography, this coordinated multi-tasking invites the use of a data management log. In her dissertation

research, Tiderington (2015) kept such a log with dates and tasks accomplished. Iterative versions of coding decisions, sensitizing concepts used and dropped, consensus meetings with co-coders, "breakthroughs" or insights that later yield themes, and meetings with her dissertation advisor are all documented in the log (Tiderington, 2015). If a team of researchers is involved, one person may keep the log or members may take turns.

Co-coding raises questions about how to deal with disagreement. As discussed earlier, statistical analyses are available for calculating inter-coder agreement, but they impose a degree of mechanization on the coded data. I prefer consensual validation in which co-coders meet to compare their results, relying on cogent arguments and persuasion grounded in the data. That this process is organic and iterative ensures flexibility and openness to change. Of course, it is untidy in the early stages, and disagreements are almost inevitable. Thinking about codes, discussing and defending them, and reaching consensus are valuable aspects of the process, not something to avoid or prematurely conclude. These activities honor the richness of the data and take into account the inevitability of multiple standpoints. Documenting this process helps make it more transparent and meaningful to those involved.

Comparing and Contrasting: Memo Writing as Forward Motion

Memo writing is central to the process in which one documents thoughts and ideas that emerge through interacting with the data (Saldana, 2015). Strauss and Corbin (1994) distinguish between three types of memos: *code notes, theory notes,* and *operational notes.* Code memos are the basis for definitional statements and documentation of their reason for being. Theory notes are a record of ideas and hunches about what is going on in the data. Operational notes are placeholders for logistical and other concerns. Whether one wishes to categorize memos or not, they are safety zones for discovery and creativity, a place for hunches and conjecture. They may be shared with one's advisor or collaborators but otherwise should remain private repositories of ideas.

As coding and data analysis proceed, the analyst remains cognizant of similar incidents in other interviews as well as the larger context, searching for patterns but also remaining alert to negative instances and irregularities. Keeping track of this with memos helps to propel forward the analytic process. Here is where reflexivity surfaces again as critical. As the researcher dives deeper into the data, analytic isolation brings the risk of going off-track, either through inviting in preconceptions or through getting lost in the weeds

or minutiae. Being mindful of this, it helps to periodically think through one's role as immersed but still analytic.

What grounded theorists refer to as *constant comparative analysis* describes a systematic search for similarities and differences across interviews, incidents, and contexts (Strauss & Corbin, 1994). A constant comparative analysis stays close to the data, but its ultimate value comes from an ability to make sense of myriad comparisons, winnowing through them to note what is meaningful. In practice, comparative analysis is cyclical, beginning as inductive, then becoming deductive, and then returning to the inductive. This cycle can be repeated many times over.

Memos evolve and become more focused as patterns are recognized and interpretations come into play. Being part of a team, debriefing with another qualitative researcher or having a like-minded mentor can be extremely helpful as one shares memos and thoughts, testing them out and refining them to stay close to the data but also venture into higher-level abstraction and interpretation. As important as it is, coding is only the starting point in data analysis. Subsequent cycles of coding help to narrow the analyses to ever-more important findings.

Secondary Analyses of Qualitative Data

Given the sizable investments of time and resources that go into a qualitative study, it makes sense that many qualitative researchers are willing to share their data with others. As a general rule, richer and complex data offer more fertile ground for secondary analyses than narrow or thin data. Secondary analyses extend the life of a study and are an efficient use of resources. Although they do not provide the warmth and good cheer that follow a successful interview or day in the field, their availability is a viable trade-off (Williams & Collins, 2002).

Thorne (1998) distinguishes five types of secondary analysis beginning with *analytic expansion*, in which the researcher ventures into new topics using her own data. *Retrospective interpretation* involves going back to the data to further develop themes. *Armchair induction* applies new textual analytic techniques to existing data. *Amplified sampling* involves comparing several distinct databases for broader analysis. Lastly, *cross-validation* takes the researcher beyond her immediate findings to seek confirming or disconfirming evidence from other databases. From a logistical standpoint, the analysis may approach the raw data for open coding or it may work with codes developed in the earlier study.

The original research team may carry out secondary analyses, or some of the team's members may collaborate with new researchers. This is preferable to sharing data with a new investigator who has minimal knowledge of the original study. The new researcher, for example, will not likely be able to return to study participants for additional data collection nor would he have the same intimate knowledge of the data. Regardless of who is involved, there is the potential problem of retrofitting new research questions to the earlier data (Thorne, 1998; Williams & Collins, 2002). Although usually more open and raw than quantitative datasets, qualitative data have undergone their own filtering and sorting processes unknown to new investigators. The norms for sharing memos and analytic decisions are far from agreed on within qualitative research, and many investigators do not keep such documentation in the first place. Finally, the interconnectedness of researcher and participant, one of the most rewarding and informing aspects of qualitative research, is missing from secondary analyses. Qualitative researchers who prefer collaborative models of inquiry with their study participants would find this unsatisfying.

On the positive side, gaining institutional review board (IRB) approval for secondary analyses is usually much easier because interacting with "human subjects" is not involved. Yet, secondary analyses are not without ethical risks. Identifying information, for example, can inhere in the data even when the names of participants are not included (Thorne, 1998). The respect for privacy and awareness of context that characterized earlier relationships may be missing on the second go-around. Data from a study of abortion among college students, for example, could become the basis for interpretations that range well beyond what the study participants believe they had signed on for in the first place. Such ethical concerns must take priority in determining with whom and how qualitative data are shared. In addition, participants consented to the first study, but should they be asked to consent to this second round? Consultation with one's local IRB is highly recommended, as there are no set rules for navigating this process.

Hybrid and Mixed Qualitative Approaches

As discussed in Chapter 2, researchers often choose to mix and match qualitative approaches. This can occur at different stages of a study and unfold in differing combinations and for different purposes. It can also introduce problems in the form of method and data incongruities (Johnstone, 2004; Wimpenny & Gass, 2000). As noted by Annells (2006), mixing at the analytic level can be problematic if the underlying philosophical paradigms are in conflict—a lesser concern for pragmatists. Arguing in

favor of hybrid vigor, Fereday and Muir-Cochrane (2006) used inductive and deductive thematic analyses by mixing Boyatzis's (1998) inductive methods with Crabtree and Miller's (1999) template style of coding to study nurses in their day-to-day performance. Thus, data-driven codes from participant interviews, such as "trust and respect" were combined with theory-driven codes such as "reciprocity" to produce an integrated model of performance feedback and self-assessment in nursing practice.

An example of sequential mixing during analyses can be found in Beck's (1993) study of postpartum depression in which she conducted phenomenological analyses followed by grounded theory analyses of the data. Close concordance was found between the two sets of findings, thus leading to the development of a substantive theory explaining the onset and course of depression shortly after the birth of a child (Beck, 1993). Agar and MacDonald (1995) used juxtaposition to compare the results of conversation analyses of focus group data where teens discussed drug abuse with their ethnographic observations of adolescent drug use. An important caveat applies here: Mixing can lead to conscious or unconscious blurring of the analytic approaches. Keeping intact the analytic procedures takes a degree of vigilance to ensure each is making a contribution.

Summary and Concluding Thoughts

This chapter began by offering guidelines for managing and analyzing data and strengthening the development of conceptual schemas via negative case analysis, theoretical sampling, and other strategies. Computer software facilitates these activities in a number of helpful ways, but it cannot analyze the data.

Despite an array of possibilities, most qualitative data analyses have the following in common: (1) full and repeated immersions in the data; (2) going "deep" into descriptive specificity as well as "across" with pattern recognition; (3) attending to context—temporal and environmental; and (4) proceeding "up and out" to weave in theoretical and empirical knowledge from the literature (more on this in the next chapter). Analysis begins inductively, but the pathways to its completion often include deductive thinking as well. The insider perspective is an invaluable part of this process, but the ultimate contribution of a qualitative study depends on the probity and intellectual clarity of its interpretations.

Each of the six qualitative approaches has its own analytic traditions, yet the emphasis in this chapter was given to what is done most often—coding and thematic development. Whether this leads to a fully developed grounded theory or, more commonly, an interpretive thematic framework, such analytic

involvement is an exercise in restraint (from becoming weighed down by *a priori* ideas and concepts) and creativity (comparing and contrasting, searching for what is unusual and unknown). Despite its demands, the initial stages of qualitative data analysis are an exciting and necessary step to making previous efforts come to fruition.

Exercises

1. Conduct and audiotape a brief (15-minute) interview with a colleague or classmate asking for his or her most memorable childhood experiences (good or bad). Transcribe the audiotape. How long did it take to transcribe? Were there vocal utterances or other sounds during the interview that were meaningful but not captured in the words?

2. Take the first five pages of your transcript from Exercise #1 and open code it following the instructions in this chapter. At the same time, write two to three memos on what you are hearing and what might be going on with regard to childhood experiences and their contexts.

3. Go to a qualitative journal listed at the end of Chapter 1, and locate a study that uses a noncoding form of analysis. How are the methods described? How are the findings presented?

Additional Readings

Bernard, H. R., & Ryan, G. W. (2009). *Analyzing qualitative data: Systematic approaches*. Thousand Oaks, CA: Sage.

Charmaz, C. (2014). *Constructing grounded theory: A practical guide through qualitative analysis* (2nd ed.). Thousand Oaks, CA: Sage.

Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data*. Thousand Oaks, CA: Sage.

Dey, I. (1993). *Qualitative data analysis: A user-friendly guide for social scientists*. New York, NY: Routledge.

Dey, I. (1999). *Grounding grounded theory: Guidelines for qualitative inquiry*. San Diego, CA: Academic Press.

Flick, U. (Ed.). (2013). *The Sage handbook of qualitative data analysis*. Thousand Oaks, CA: Sage.

Gee, J. P. (2005). *An introduction to discourse analysis: Theory and method*. London, UK: Routledge.

Grbich, C. (2012). *Qualitative data analysis: An introduction*. Thousand Oaks, CA: Sage.

Harding, J. (2013). *Qualitative data analysis from start to finish*. Thousand Oaks, CA: Sage.

Hsieh, H., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*, 1277–1288.

Lofland, J., & Snow, D. A. (2005). *Analyzing social settings: A guide to qualitative observation and analysis.* Belmont, CA: Wadsworth.

Miles, M. B., & Saldana, J. (1994). *Qualitative data analysis* (3rd ed.). Thousand Oaks, CA: Sage.

Moustakas, C. (1994). *Phenomenological research methods.* Thousand Oaks, CA: Sage.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Riessman, C. K. (2008). *Narrative methods for the human sciences.* Thousand Oaks, CA: Sage.

Saldana, J. (2012). *The coding manual for qualitative researchers.* Thousand Oaks, CA: Sage.

Silverman, D. (2015). *Interpreting qualitative data* (5th. ed.). Thousand Oaks, CA: Sage.

Stake, R.E. (2005). *Multiple case study analysis.* Thousand Oaks, CA: Sage.

Strauss, A. L., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques.* Newbury Park, CA: Sage.

ten Have, P. (2007). *Doing conversation analysis* (2nd ed.). Thousand Oaks, CA: Sage.

Thorne, S. (2000). Data analysis in qualitative research. *Evidence-Based Nursing, 3,* 68–70.

Weston, C., Gambell, T., Beauchamp, J., McAlpine, N., Wiseman, C., & Beauchamp, C. (2001). Analyzing interview data: The development and evolution of a coding system. *Qualitative Sociology, 24*(3), 381–400.

Yin, R. K. (2013). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage.

QDA Software Resources

Readings

Bazeley, P., & Jackson, K. (2013). *Qualitative data analysis with NVIVO.* Thousand Oaks CA: Sage.

Drisko, J. W. (2004). Qualitative data analysis software. In D. K. Padgett (Ed.), *The qualitative research experience* (pp. 189–205). Belmont, CA: Thomson.

Friese, S. (2014). *Qualitative data analysis with ATLAS.ti.* Thousand Oaks, CA: Sage.

Gibbs, G. R. (2007). Media review: ATLAS.ti software to assist in the qualitative analysis of data. *Journal of Mixed Methods Research, 1*(1), 103–104.

Kelle, U. (1996). *Computer-aided qualitative data analysis: Theory, methods, and practice.* Thousand Oaks, CA: Sage.

Lewins, A., & Silver, C. (2007). *Using software in qualitative research: A step-by-step guide.* Thousand Oaks, CA: Sage.

Weitzman, E., & Miles, M. (1995). *Computer programs for qualitative data analysis: A software sourcebook.* Thousand Oaks, CA: Sage.

Software Information

An excellent independent resource (not supported by a software company) can found on the Web at http://caqdas.soc.surrey.ac.uk

Products

General product information: http://www.scolari.com

ATLAS.ti: http://www.atlasti.com

Dedoose http://www.dedoose.com

The Ethnograph: http://www.qualisresearch.com

HyperRESEARCH: http://www.researchware.com

NVivo: http://www.qsrinternational.com

QDA Miner: http://provalisresearch.com/products/qualitative-data-analysis-software

QDAP: http://www.umass.edu/qdap

QUIRKOS: http://www.quirkos.com