

Beyond Numbers: Qualitative Research Methods for Oriental Medicine

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9.1

Introduction

Qualitative research is the term given to the branch of scientific research that emphasizes the collection and study of perceptions and experiences – the “stories” – of living people. Stories are powerful. Some years ago, I was sitting in the treatment trailer at a city jail listening to women receiving acupuncture detoxification (detox) talk about their lives, their addictions, and their experiences of acupuncture care. All of it was interesting. But near the end of the visit, one woman uttered a few poignant words that encapsulated everyone’s hopes and reminded the practitioners of their deep task: “I chose acupuncture because I figured if a needle got me into this mess in the first place, maybe a needle could get me out.”

Words can be needles, too. By gathering the thoughts and feelings of people – patients, practitioners, lawmakers, teachers, students – one can learn more about the “why” and “how” of people’s preferences and decisions, the images that compel and the emotions that propel, than by any other method. Qualitative research encourages people to speak their lives, beliefs, dreams, and visions, their experiences and interpretations of events, their motivations. From their words comes a better understanding of “what matters” to those who speak. This is information that those who listen can put to work usefully to solve problems.

This chapter introduces the basic ideas and methods of qualitative research for practitioners of oriental medicine. Because some qualitative techniques use skills already familiar to clinicians, office-based practitioners can easily adapt them to use in assessing elements of their own practice and in planning for survey research.

9.2

Qualitative Research Is Scientific

There is a tendency among quantitative researchers to view “stories” as anecdotes – minor if interesting sidelights on the “real” stuff, that is, distributions expressed as statistical probabilities. Qualitative researchers take a rather different view, one which we must understand from the outset.

The “anecdote” is a single story without context. It is used to make a specific point. The quotation that appears in the first paragraph above is anecdotal because it is segregated from the other data gathered that same day, on subsequent days in the same locale, and from other settings in which jailed women received detox acupuncture.

Anecdotes are not scientific; at the same time, they are not worthless: they draw one's attention, help memory, provide imagery, succinctly summarize complexities, and often serve to "put a human face" on medicine. The fact is, everyone relishes a good anecdote.

However, the focus of qualitative research is not on anecdote. Instead, like quantitative researchers, qualitative researchers apply the usual rules of science:

- To gather and analyze information systematically
- To do so with attention to minimizing bias
- To achieve data that is accurate, valid, credible, and usable to answer questions, predict behaviors, and plan for the future.

Qualitative research is as scientific as quantitative research, but it starts from different premises and demands different techniques for both data gathering and data analysis [1-3, 5, 7, 16, 20]. Frequently, qualitative and quantitative methods are applied in the same research task. As might be expected, this is called "mixed qualitative-quantitative" research.

9.3 Gathering Qualitative Data

9.3.1 Identifying the Research Question

As in all research, the qualitative researcher first must identify an appropriate study question. The best uses of qualitative research are in finding out the parameters of a new subject (exploratory research) and gathering detail about the *meanings* of events. Table 1 compares the kinds of questions best asked of quantitative and qualitative research. Note that only qualitative and experimental laboratory research can answer the questions "why?" and "how?" - that is, provide *explanations*. Other research - archival, survey, clinical outcomes, and clinical trials research - provides rich descriptive data, including statistical distributions that define "who, what, where, when, how many, and how much" but cannot detail the linkages that explain behaviors. Therefore, if you are interested in why people do what they do - their perceptions and motivations - use qualitative research methods.

Table 1. Questions that research can answer

Scientific function	Questions asked	Research types
Description	Who? What? When? Where? How many? How much?	All types of scientific research produce descriptive data: archival, qualitative, quantitative (survey, clinical outcomes and trials, laboratory experiment)
Prediction	If (a), then does (b)?	Some types of scientific research produce data that can be used for prediction: qualitative, quantitative (clinical outcomes and trials, laboratory experiment)
Explanation	Why? How?	Few types of research produce data that can explain: qualitative, laboratory experiment

When very little is known about a topic, qualitative research is time and cost effective for finding out generally what people think is going on. Oriental medicine is full of such areas of mystery:

- Does needle depth matter?
- Do the patients of practitioners of TCM, Worsley Five Element, French Energetic, and *Toyo Hari* styles have significantly different experiences with acupuncture?
- Are students at schools that provide a cultural context for Chinese medicine more secure in their knowledge afterwards than students from schools that do not?
- What does it mean when practitioners claim to be "holistic" healers?
- Are the concepts of "energy" and "qi" combined for American practitioners?
- What factors help make for successful practitioners 5 years out of school?
- What do *qi gong* practitioners experience when they "throw" *qi*?
- What do patients understand about the theory of oriental medicine after a course of treatment?

There are also many situations where it is useful simply to know what people perceive and interpret and what experiences they take away from an event, for example, acupuncture care. Such information can be used immediately to remedy fault lines in the design of an office or in the delivery of care, or it can be used to help create survey and clinical trials designs that accurately reflect the wants, values, and needs of research participants.

To illustrate the latter use, suppose a group of practitioners in a large private clinic suspected that many of their clients were dissatisfied with their clinic experiences and wanted to identify points of strain in their receipt of oriental medical care. The practitioners could sit down and create a survey questionnaire containing questions concerning the waiting room, practitioners' behavior, attitudes toward needles, quality of parking, and so forth. Once a sufficiency of clients had ticked off answers on this survey form, the practitioners would receive data - quantitative data. But would these really answer the core question they hoped to ask? Perhaps not, for the questions the practitioners thought to ask might not cover the whole range of issues important to the patients. Something crucial might have been left out. In order to get at the *clients'* issues - which are after all what matter most if clients are showing signs of discomfort and distress - these practitioners must make it possible for the clients to tell them what is right and not so right with their clinic. How? - Ask them directly.

To ask people directly is at the core of the qualitative method. It sounds so simple, but it is surprising how often research is designed in accord with researchers' assumptions, without direct knowledge of the client population. The classic approach is via in-depth interviews with a sample of the patients, the gathering of qualitative data. In our example, the practitioners could use the analyzed results of a series of interviews either to make immediate modifications in their office procedures or, if they wanted more data on a larger sample, to construct a high quality survey form that both reflected the clients' issues and phrased them in the clients' language. The quantitative data from this new questionnaire would more accurately report client issues (the technical term is "be more valid") and therefore could be more safely applied to making effective changes in clinic arrangements.

A similar procedure is appropriate when, for example, an oriental medicine professional organization wants to survey members or a school wants to survey alumni:

Table 2. Qualitative data collection techniques discussed in this chapter

Direct techniques	In-depth interview Focus-group interview Diary Open-ended written response on questionnaire Case study/series
Indirect techniques	Card-sort

first collect a detailed, small scale qualitative sample and use the qualitative data later to create a large scale survey questionnaire to sample the whole membership. A questionnaire designed this way – with a firm understanding of the importance of knowing respondents' issues and reflecting their language habits – has (another technical term) *high model fit validity*. Validity is a measure of whether a piece of research gathers data that *actually answers the research question asked*¹. The model one wishes to fit, in this case, is the model of reality held by the respondent population. This is partly conscious and expressible, partly unconscious, which brings us to the next issue: how do you actually collect experiential data from people?

9.3.2

Direct Data Collection Techniques

There are two ways to gather qualitative data, direct and indirect (Table 2). Direct methods help respondents talk about what they know “at the top of the mind.” Indirect methods allow respondents to reveal what they don't realize they know – such as attitudes, assumptions, and logical structures that can markedly affect their responses to treatment, teaching, or practice.

Although there are many other qualitative techniques, for our purposes only those listed in Table 1 will be described. The most popular direct methods are the oral interview, the written diary, and the case study. The focus group and written techniques are frequently used in mixed qualitative-quantitative research.

9.3.2.1

In-Depth Interviews

The most important direct research method in qualitative research is the in-depth interview [12, 17]. One interviewer (researcher) talks with one respondent about a fairly broad topic such as (with a patient) what experiences they have had with acupuncture or (with a practitioner or student) why they chose to study oriental medicine and how it is or is not rewarding. The interviewer prepares a short list of *open-ended questions* intended to allow respondents to describe their experiences and reflect on them. An open-ended question is one which sets a topic but does not lead

¹ Validity (also called credibility) is the most important of several mechanisms – called criteria of soundness – that are designed to minimize bias in scientific research [15, 16]. There are many subtypes of validity. Other mechanisms that will not be discussed in this paper include precision, reliability, and transferability. The exception is model fit validity, which is a form of validity identified by this author [4, 5]

the respondent to answer in any particular direction. For example, one might ask: “What made you decide to study acupuncture?” Because no answer is implied, respondents are free to “tell their story” as they wish.

Besides using open-ended questions, in-depth interviewers must develop another skill, which is to listen attentively, so-called active listening. After asking a main question, the interviewer tries not to interrupt. At most, he or she uses affirmative “hmmm” and “mm” or very short *probe* questions – “Yes?” “Oh?...” or “What happened next?” – to keep the respondent talking. Another technique is to *reflect* the respondent's words back to him. To illustrate these points, here are two brief excerpts taken from interviews with acupuncture patients at a school clinic:

Interviewer: *What helped you make the final decision to come [for acupuncture care]?*

Respondent: *Honestly?*

I: *Honestly.*

R: *It was the discount on the money.*

I: *Can you tell me about some of the bad stuff?*

R: *Well, the very first treatment they did on me, I cried through the whole thing. I didn't really want to come back. But [practitioner's name] assured me the next one wouldn't be as bad [respondent laughs] – and it wasn't. It was better. The next one, better. And each time I came, I felt different.*

I: *In what way?*

R: *In a good way. I felt better in a good way.*

I: *What was that? What's your “better in a good way?”*

R: *I guess the best way to describe it is I feel more grounded and, before, I didn't.*

Practitioners will recognize that many of the skills of the clinical interview are transferable to the informational interview. However, there is a mistake clinicians can easily make and must avoid: transforming an informational interview into a medical interview. Note that this may be especially troublesome if the respondent is in fact one of the interviewer's patients. Thus, clinicians must keep very clear throughout research interviews that they are “wearing a researcher hat,” not a practitioner hat. The following excerpt illustrates this mistake. As we begin, the interviewer functions as researcher, but by the second question he has stepped into practitioner mode. Rather than gathering detail on the concepts broached by the respondent – the idea that all things are interrelated – he is gathering detail on the patient's pain:

I: *What is your expectation of acupuncture?*

R: *I learned from physical therapy that everything can affect everything else...so I'm open to the idea that just tension or stress in one part of the body can trigger something somewhere else and bring down a whole raft of symptoms. For example, my teeth ache, but [the dentist] says there's nothing wrong with my teeth.*

I: *When you talk about them aching, what is the sensation in your body?*

R: *It's just the teeth themselves ache. It's not like a toothache from decay.*

I: *It's ongoing and you feel it all different times of the day?*

R: *All different times of the day. And then also, my life's gone down the drain, emotionally, socially, everything else.*

I: *Due to these complications?*

R: *Yes. Too many times you find out who your friends really are—*

I: *Has that been hard, giving up the relationship?*

This excerpt also illustrates another common error in interviews, that of putting words into the respondent's mouth. This occurs in this interview in the third interviewer remark. Here he *suggests* to the respondent that the pain is ongoing and his teeth ache at all times of the day. These are not ideas that the respondent has previously stated. As clinicians, we can understand that this interviewer (functioning as clinician) is searching for symptom patterns that matter in oriental medicine; in the process, however, he is preventing the respondent from telling his own story in his own words. *Qualitative interviewers must allow respondents to speak for themselves.* Indeed, as far as possible, the qualitative interviewer should become virtually invisible to the respondent.

This idea of "invisibility" implies one more extremely important feature of the in-depth interview: it must be *nonjudgmental* in tone. The interviewer's task is to gather information, *not* to guide, correct, or offer advice to the respondent. This point is extremely important: the informational interview is not a clinical interview. The qualitative interviewer stands in a position of open listening, of learning; he or she must not stand in the position of expert. Sometimes this requirement may be difficult for a clinician to heed, but it is necessary if one wishes to do research rather than practice one's medicine.

Is this unfair, unfeeling? Does it sound like the bogey of the manipulative scientist in the white coat? It shouldn't. The fact is, when people volunteer to be interviewed, there is no expectation that the quality of their beliefs or health will be called into question. The interviewer and respondent establish a bond of trust, but it is a different bond than that between clinician and patient. In the qualitative interview, the researcher's task is to pay attention, listen, and be an open well into which the respondent can pour the water of his/her life. Interestingly, most respondents report that they thoroughly enjoy being the focus of in-depth interviews. In many cases, an interview is the first time that they have felt really heard, the first time they could "tell it like it is" to someone who would not interrupt and correct and advise. This is rewarding to the respondent; it is also rewarding to the interviewer!

In-depth interviews are long – 45 to 90 minutes is not unusual – and repeated interviews with the same respondent may be arranged. It is wise to audiotape all lengthy interviews. You must receive the respondent's permission to interview and to tape-record. Use a brief written consent form to explain the uses that will be made of the data. Additionally, after you turn on the tape recorder, ask the respondent to answer out loud with a clear "yes" to your first question, "Is it all right with you if I tape-record this interview?" Assure the respondent that you will turn off the tape recorder if he or she wishes to discuss something private. You may take notes during the interview – as long as you keep good eye contact with your interviewee – but stop writing if the respondent indicates a wish to speak privately.

Needless to say, a single interview does not a research project make! In order to understand a topic thoroughly, the researcher must perform in-depth interviews with a number of people. As in quantitative research, qualitative researchers develop an appropriate *sampling frame* to select the interviewees, for example, by sex, age, location, specialty, length of experience – whatever is most relevant to the research issue.

They are also concerned with *sample size*. However, in contrast to quantitative research, the goal is not "large" samples, but samples that best reveal all facets of the issue. Therefore, qualitative researchers typically do not set the sample size before beginning research. Instead, they let the research itself guide sample size. Suppose the

task were to find out the experiences of practitioners in treating migraine-type headaches in the Portland, Oregon region. The researcher would begin by identifying as many practitioners as possible who are known to emphasize the care of headaches. When interviewing these specialists, the researcher would ask if the respondent can recommend anyone else who is well-known for treating migraine headaches. By this method, the researcher would gradually locate all the people regionally who have special interest or expertise with headaches.

The researcher might interview all these people or might sample among them. For example, one might wish to know the various explanations practitioners give for the causes of migraine-type headaches. In this case, one would continue interviewing until explanations kept recurring and could then say with some certitude that there are, for example, ten explanations of cause for migraine-type headaches among the study population, of which four are widely shared (mentioned by nearly everyone in the sample), four are shared by several respondents, and two are mentioned by only one respondent each. This information is interesting in itself. It could also be used secondarily to help guide the design of a survey instrument, if the researcher wished to expand his research but knew that he could not do nationwide in-depth interviews. In this case, he would be sure to include the four most popular options on the survey instrument and would add a space labeled "other" so respondents could write in other explanations which might or might not be the same as those mentioned in Portland.

Note that with in-depth interviews, the rules of science listed above are followed. Data collection is systematic: there are a specific research question, sampling frame, and sample size, and there are formal parameters to the interview process. There is attention to minimizing bias: the interviewer adopts a special stance and uses special techniques to ensure that the ideas and experiences of the respondent are revealed as accurately and completely as possible – that is, validly and credibly. Once analyzed, such data can be used to offer interpretation and explanation, predict behaviors, and plan for the future.

9.3.2.2

Focus-Group Interview

In this form of interview, several people are interviewed at once [12, 20]. A main interviewer asks the questions and an assistant runs tapes, observes people as they answer, and "spells" the main interviewer when necessary. This approach is appropriate when the topic under study is broad and the answers needed are relatively easy for people to discuss publicly. Groups are formed that share important characteristics – such as age and sex – plus the focus issue. The group of jailed women receiving acupuncture detox mentioned at the beginning of this paper were interviewed in an informal focus-group manner.

Focus-group interviewing can be carried out as a qualitative *or* a quantitative procedure. As a qualitative procedure, the interviewing goals – and most of the methods – are the same as for in-depth interviews: researchers want to find out what meanings are contained in an issue. In the quantitative procedure, interviewers use a predetermined closed-ended set of questions and carry out what is essentially an oral opinion survey. This approach is popular with those who measure attitudes to new products, politicians, or public issues.

Some differences are introduced by having many people involved at once. For example, trust must now be established not merely between two people but among many. This is best achieved by being sure the sample membership shares similarities and by a lead interviewer who is skilled at helping people establish rapport. It is also important to establish ground rules for the respondents from the outset – for example, that although they may respond to others' comments and should express their opinions, they must not be harshly judgmental nor should they give advice.

9.3.2.3

Keeping a Diary or Journal

In this method, participants in research track their attitudes and experiences by writing about them every day, generally at home [8, 20]. In its simplest form, the diary is completely open-ended, with respondents simply asked to describe “whatever” about their lives with regard to, say, receiving or studying acupuncture care. Commonly, diaries are added to clinical trials or outcome studies of specific topics and used to gauge participant perception and interpretation of test interventions. In this case, respondents still talk about their lives, but this time with a focus on the test issue. For example, if one were comparing the recovery of stroke patients, some of whom received standard care and some of whom received standard care plus acupuncture, one might use the diary method to find out how participants perceive their progress. One could also use in-depth interviews in this situation, but the diary has the advantage of tracking change over time and not requiring as much time investment by the researchers.

Note that the word “diary” is applied in two very different situations. The true diary is a qualitative method in which the writer is simply asked to report “what is happening” with regard to some issue. A quantitative procedure version of the diary is not open-ended and instead resembles a survey form that one must fill out repeatedly at specified intervals.

9.3.2.4

Open-Ended Response on a Survey Questionnaire

In this example of mixed quantitative-qualitative research, a quantitative survey questionnaire includes space for personal responses. This can be done by adding *white space* at the end of forced-choice survey questions or it can be done by providing space at the end of the survey and inviting respondents to add their own comments. Here's an example of the first type, adding white space after a forced-choice question:

Many different methods of paying for acupuncture care have been considered. Which of the following payment options would you prefer, if you could choose any of them? (Select one).

Insurance that covers 80 % of my bill and does not limit my choice of acupuncturists but does limit the number of times I can visit my acupuncturist.

Membership in a preferred provider organization that limits my choice of acupuncturists but covers all costs except for a small copayment.

Membership in a referral organization that offers a select group of acupuncturists and a 20 % discount on care.

The way it is for most of us right now. I choose my acupuncturist and pay directly for my care.

Please use the space below to explain briefly your choice from the above list.

9.3.2.5

Case Study, Case Series

In a case study, the researcher examines a single example of the issue in extreme detail [22]. This form of study is very popular in medicine, where it is often called a case history; it is a relatively easy entree to research for clinicians. Case studies usually describe and analyze puzzling clinical situations and report how the practitioners handled and often solved them [18]. In the sense that they describe single events, case studies are like extended anecdotes. However, when well-done, case studies can meet scientific criteria for systematic collection and analysis of data. They are useful to other practitioners and may even spur focused research.

At the same time, the danger always exists in case studies that the practitioner misinterprets the event or his part in it. Thus, when careful practitioners think they've found a novel way to help people with a distinct pattern of malfunction, they will attempt to collect a whole series of similar cases. Each must be collected in much the same way – reporting the symptomatology, previous care, test care, response of the patient, and how long the improvement lasted. The researcher then tries to draw conclusions from the massed data and tries to make generalizations linking the specific cases. When convincing, case series serve two important functions: they allow a researchable hypothesis to emerge from clinical data and they provide pilot data for writing proposals to examine the hypothesis via a quantitative design, such as a clinical trials design. Thus, case series – a qualitative technique – are often used to fuel subsequent quantitative research.

9.3.3

Indirect Data Collection Techniques

The techniques summarized above emphasize the collection of information that the respondent can fairly easily think about and verbalize, that is, information that is consciously known. It is also possible to gather information that respondents do not know consciously or do not realize they know. Suppose you want to know what factors in patient beliefs affect the probability that they will recover from illness. Asking a direct question such as: “Do you want to get well?” is likely to provoke a knee-jerk response: “Of course!” However, you observe that some people who answer this way do get well while others linger in illness. Supposing you have already deleted “easy” causes such as different degrees of severity, what explains such differences? Research has shown that it is often differences in unconscious values, beliefs, and logical structures [21].

To gather information on unconscious knowledge, researchers have developed a set of techniques called *projective tests*. There are many. In this chapter, I will describe just one which is simple enough for office-based practitioners to use in concert with in-depth interviews. This is called the *card-sort method* [20]. Most people respond to it as a game and enjoy it.

In this method, the researcher prepares a set of cards on each of which is printed a single word or short phrase; each card is also numbered. The respondent is asked to sort the cards into stacks that “make sense.” The researcher records the content of each stack by recording the numbers and then asks the respondent to “name” the stack and to explain why the cards that are in it go together. The respondent may also be asked to sort within a stack, for example, to sort disorders by severity. Once such data has been gathered from a sample of respondents, the researcher can analyze it by frequency (a quantitative function) and by content (a qualitative function).

Here is a simple example. Suppose a researcher wrote the names of acupuncture points on cards and asked practitioners to sort them “in any way that makes most sense to you.”

- The set: SI.16, SI.17, Du15, Du16, Du26, Lu.11, Sp.1, Sp.6.
- Respondent 1 sorts by meridians: SI.16, 17; Du 15, 16, 26; Lu.11; Sp.1, 6.
- Respondent 2 sorts by location: shoulder and neck SI.16, 17, Du 15, 16; face Du 26; arm Lu.11; leg Sp.1, 6.
- Respondent 3 sorts by specialty: window of the sky point SI.16, 17, Du 15, 16; ghost point Du 26, Lu.11, Sp.1; three yin leg point Sp.6.

Note that all these sorts are “correct,” although correctness is not the issue. Instead, we are interested in the different ways that people choose to organize data. Such differences could have clinical or other significance.

In a real example that was part of a team effort to remedy inadequacies in a national questionnaire, I wrote terms descriptive of “mental illness” on a set of 50 cards and asked respondents to a survey of “attitudes to mental illness” to sort them into stacks. They were given no further guidance, although the task I’d been given as researcher was to assess public attitudes to five common conditions including “depression.” All respondents did, in fact, create stacks of cards containing words like “blue,” “down,” “depressed,” “sad,” and so forth. The fact that they selected the same words out of 50 means that all respondents perceived certain sensations as belonging together, forming a pattern. However, only one of 16 respondents used the psychologists’ term and named the stack “depression.” All the others used different descriptors such as “this is a person who doesn’t feel too good about himself.”

When respondents were asked to sort within the stack for severity, they revealed unconscious beliefs that were novel to psychology: that most words relating to the psychologists’ construct “depression” were *not* considered pathological by respondents (although they were by psychologists) and that the adjective “depressed” was considered much less serious a condition than the noun “depression.” No one could have verbalized these points individually, but the card-sort method allowed unconscious knowledge to “speak” and (in this case) showed that it is similarly framed among the people sampled. Additionally – and here we arrive at an example of qualitative research providing explanations that quantitative methods cannot provide – the data helped explain the rather large gap between public behavior around “depression” symptoms and the perception by psychologists that “people don’t come for treatment soon enough.” According to the card-sort data, this is at least partly because they do not interpret the symptoms as pathological nearly as soon as psychologists do.

These data also illustrate how the language of questions may inadvertently mislead researchers: a change such as that from adjective to noun in the questions below may mean that questions are interpreted very differently by respondents:

In the last 3 weeks, how often have you experienced a depressed mood?

In the last 3 weeks, how often have you been depressed?

The card-sort technique is relatively easy to develop and respondents are often surprised and fascinated by the decisions they find themselves making. If they are encouraged to verbalize their processing of the card sort, the researcher may gain rich additional material for an in-depth interview.

9.3.4

Data Analysis Techniques

In all research, one must first gather data, then analyze and interpret it. In quantitative research, the data collection process is usually more time-consuming than analysis; the reverse is true of qualitative research.

In quantitative research, a limited number of possible answers are provided. This means that computer programs can easily manage them and statistical programs can easily count responses and show distributions of the data points. With qualitative research, in contrast, respondents use their own words to talk about issues in ways that are generally not predictable ahead of time. The analytic task, then, is not to count responses but to study the words so as to identify distinctive themes and shared perceptions among the respondents [2, 11, 19]. For example, when some people say “acupuncture makes me feel more grounded,” do they mean much the same thing as those who say “acupuncture makes me feel more centered?” This process of analyzing the verbal, metaphorical, thematic, and other content of qualitative data is formally called *content analysis*. Content analysis often suggests that there are other issues worth pursuing; in this case, one may apply other analytic methods such as cognitive mapping, an illustration of which is given below.

9.3.4.1

Content Analysis

Content analysis can often be done by hand. This is appropriate if the data set is quite small – for example, 30 or fewer respondents. However, if one is working with a large data set, nowadays it is much easier to use one of several qualitative analysis software packages on the market. In either case, the first step is to transcribe the interview tapes or written material from survey questionnaires or diaries into typed or word processed form so that they can be printed out and made easy to read. This unanalyzed data is called *raw data*.

In the next step, the researcher reads the material – usually several times – to “get a feel” for its overall content. At this point, he is trying to find ways to analyze the data that will accurately reflect what has been said. For example, when people are asked “What has acupuncture been like for you?” they may answer by describing:

1. How their health has changed
2. What their practitioner is like

3. What they think about the health care they received before acupuncture
4. How their relationship to their spouse, children, job, or school has changed
5. How their attitudes to life have changed

A given person may discuss several of these themes; others may focus on just one. Some people speak poetically, using many metaphors and much imagery; others speak emotionally, yet others analytically. Some laugh while they describe their experiences, others weep. Some use strong language. As the researcher studies the raw data, he must decide which of the many issues and values are actually relevant to the research. Is it worth studying the metaphors people use? Does it matter if one person cries and another laughs? Additionally, the researcher must decide how to “cut” the data – one type of cut is shown by the five categories above.

Supposing our researcher decides to use these five categories. He can now use a software program to help with the analysis. Most of the programs work more or less in the same fashion:

The researcher moves the raw data from the word processing program into the qualitative analysis program, using identifiers as specified by the program. He then reads through the material, marking the themes as they appear, again according to the format of the particular software program. Once the themes are marked, the program can capture each theme with identifiers and print them out together. Now every instance of any theme, such as “practitioner description,” is centralized in one file and can be printed out for further study.

Such a treated theme is now much easier to study. Usually it rewards further subdivision, for example, descriptions featuring particular words or images: practitioner as genuine, caring or loving, skilled, knowledgeable, insightful, or trustworthy. In each case, negative descriptors are also recorded, that is: practitioner as untrustworthy, uncaring, and so forth.

Now notice that one can make a count of images at this point – one can say, for example, how many times practitioners are described as genuine. However, the resulting number is *not* a valid indicator of how often acupuncture practitioners are viewed as genuine by patients, because *this was not the question asked*. What it actually measures is how often respondents *thought to use the word “genuine”* when describing their practitioner. And the reasons for thinking to use this word are potentially legion. For example, it could be a popular word in a particular region, while in other regions people prefer other terms such as “trustworthy.” In a real case, I found that patients in two sites referred to their acupuncturist as “doctor,” while in other sites patients used terms like “guide,” “friend,” and “partner.” Was there a major difference in perception of practitioners going on between sites? The answer was no; in the two sites where “doctor” was used, the practitioner held a doctoral degree; in the other sites, the practitioners did not [6].

In sum, when reporting frequencies of themes or imagery in qualitative research, researchers must avoid statistical formulations (“10% of respondents said...”), and instead use appropriate relativistic language: *many, a minority, frequently, generally, rarely*. In the context of qualitative research, such terms are not vague; they are accurate because the research set out to find patterns and perceptions, not frequencies.

9.3.4.2

Interpretation

Notice that qualitative, similar to quantitative, research is heavily dependent on researcher interpretation. This means that the researcher must know as much as possible about the vagaries of interpretation and his or her own assumptive habits. This topic is developed in many methods texts, e.g., Bernard 1998 [2]. An example of (almost) letting one’s own issues or hypotheses color the interpretation was mentioned above (“I wonder if practitioners called ‘doctor’ are authoritarian?”). The solution was also mentioned: first try to find an explanation within the data by going back to the source.

This example signposts an important “rule” of scientific method (often called Occam’s Razor): seek the simpler answer, because it is likely to be more trustworthy. In short, do not develop unnecessarily complex interpretations.

9.3.5

Data from a Qualitative Study of Oriental Medicine Patients

Several qualitative studies of oriental medicine patients have been published. For example, Martha Hare studied the design of acupuncture health care delivery in private and public (including detox) clinics in New York City [13, 14]. Mitra Emad richly analyzed patient and practitioner experiences and perceptions [10] and discussed the meaning of pain during acupuncture needling [9]. Several similar studies are ongoing as of this writing.

To provide readers with an on-the-ground example of qualitative research, I will describe data and details of the logic of data collection and analysis from my own survey of Chinese medicine patients in six private acupuncture clinics in five states (for the complete report, see [6]). As we move through this section, notice that raw data become increasingly refined and abstracted – the proper process of science – and that, at the end, some highly practical generalizations emerge, each of which is based solidly on data from the survey.

9.3.6

Developing the Survey Questionnaire

With the intention of developing a quantitative survey questionnaire with high model fit validity, the study began with a preliminary qualitative research step: we performed in-depth interviews with 60 present and former patients of Chinese medicine. Each was asked six open-ended questions; all interviews were audiotaped. The tapes were transcribed and their content analyzed to identify issues important to respondents. These were used to develop questions about, for example, reasons for selecting acupuncture, attitudes to practitioners, presenting or chief complaints, changes in health in the presence of acupuncture, how relevant they thought acupuncture was in explaining their health improvements, how cost effective they thought acupuncture was, and so on. Practitioners and selected patients were invited to critique the questionnaire that emerged from this qualitative analytic process. (Normally, during this phase of questionnaire development, one would also study existing questionnaires

designed to survey similar populations; but with Chinese medicine this is rarely possible, since so little survey research has been performed.)

After developing a questionnaire that reflected the language and issues of patients and also satisfied practitioners, we performed two pilot tests. These test not only the questionnaire but the survey process; they are used to identify weaknesses in design. Adjustments were made in response to the pilot results and finally the pretested, mixed qualitative-quantitative questionnaire survey was run in six clinics that met predefined criteria for “large client population size.” The survey received 575 responses, including 460 questionnaires that contained written or qualitative material.

9.3.7

Analyzing the Qualitative Data

The quantitative and qualitative data from this survey were separately analyzed using statistical, word processing, and qualitative analysis software, as appropriate. Here I will discuss only the qualitative survey segment, specifically the search for themes in the handwritten responses to an open-ended final question inviting respondents to discuss their experiences with Chinese medicine.

1. After transcribing the handwritten responses into the word processor, I printed them out and began to read and reread them, the first step in content analysis. The task is to know the material well enough to identify which themes best describe the material. I chose to list two types of themes separately, those that the respondents themselves identified and those that I felt emerged organically from their responses, such as popular metaphors about the body or being.
2. Eventually, I identified five respondent-identified themes. Chinese medicine (as practiced in these clinics):
 - a. Relieves symptoms and improves function.
 - b. Improves physiological coping or adaptive ability.
 - c. Improves psychosocial coping or adaptive ability.
 - d. Involves a close patient-practitioner relationship.
 - e. Treats the “whole” body/mind/spirit/social person.

As you see, these themes are abstract: no respondents used exactly these words in writing about their experiences nor, had I asked directly, would anyone have said: “Oh yes, my experience can be broken down into the following themes...”

In short, I used the specific – stories – to abstract and study larger issues. I used individual accounts to identify commonalities that matter in the delivery of health care. No statistical analysis was involved, but the result is similar to what one would receive from quantitative analysis: general findings that can be applied to describe why American patients select and appreciate acupuncture care. In addition, the analysis allowed me to examine some broader issues, especially why Chinese medicine as framed in the U. S. fulfills many of the characteristics of the low-tech, low-cost, high-relational “new” medicine that health care planners wish to see emerge.

Within each of the major themes were subthemes for which I could adduce evidence – that is, provide the words of respondents. For example, one subtheme within Theme 1 was “decreases the frequency, intensity, or duration of chronic complaints.”

Comments that sounded this message were frequent; one example reads: “Acupuncture makes the pain go away part of the time and each time staves it off for longer amounts of time. Soon I hope to be pain-free.” No other respondent, of course, spoke exactly like this; qualitative researchers must pay attention to the content of each sentence to identify when respondents are sounding a particular analytic theme. Notice how different this situation is from that in quantitative research, where a forced-choice question might ask respondents to say how much they agreed with a set phrase, such as “With acupuncture my pain is less severe.” In the latter case, respondents can reveal degrees of acceptance of a question put to them by researchers, but they cannot reveal their own issues, put their own “spin” on issues, or talk about their hopes and fears (“Soon I hope to be pain-free”).

9.3.8

Cognitive Mapping

Certain words appeared in so many respondents’ stories that it was obvious that these words were especially important to people in trying to express their relationship to Chinese medicine. I decided to follow up on these words to explore whether the ideas behind Chinese medicine had penetrated to patients. For example, Theme 3 – Chinese medicine improves psychosocial coping or adaptive ability – contained a popular subtheme which I called “engenders a sense of wholeness, balance, centeredness, well-being.” Were these words and similar ones like “calm” and “grounded” all describing much the same response to Chinese medicine? With what other terms were these words associated? Specifically, were they associated with Chinese medicine terms like *qi* or its popular transfiguration as “energy”?

To find out, I carried out an analytic procedure – not very difficult – called *cognitive mapping* [19]. In this procedure, you identify *cue words* that appear in many responses. You then use a simple “find” function in a word processing program to count how often these words occur. Using a qualitative analysis program, you can also print out the cue words with the two preceding and succeeding lines of type. You now begin to map: for example, how often does a “self-awareness/wholeness” word (calm, peaceful, centered, grounded, whole...) occur within two lines of a “Chinese medicine” word (*qi*, *shen*, *yang*, deficiency, sedate...), an “energy” cue word, or a “stress” cue word? Basically, you simply find all instances in which categories of cue words occur together and count them. (Notice that quantitative data is emerging from this qualitative analytic method.) The map consists of stating how close one set is to the next.

In the present case, I found some surprising results: the strongest association was between self-awareness/holism words and stress words – when cue words occurred together, 40 % of the time it was these two kinds together; the second strongest link was between “energy” and “self-awareness” (21.5 % of sample). There were, however, very few links between “Chinese medicine” and any other category, including “energy.”

What was I to make of this map? First of all, it was clear that respondents were not using the language of Chinese medicine to describe their experiences. In fact, only seven used any language relating to Chinese medicine theory and not even one of the 460 respondents used the cue word *qi*. On the other hand, a majority of respondents

used words redolent of the language and concepts of holism. In fact, what they were saying was “this thing called Chinese medicine delivers holistic care and allows me to convert stress to self-awareness/wholeness.”

Based on such information, one could argue that acupuncturists and herbalists are doing a poor job of teaching their clients the explanatory model of oriental medicine. Other qualitative data – specifically, the fact that respondents claimed that their practitioners were good teachers – suggested this is not the best explanation. Another possibility was that practitioners have successfully translated the oriental medicine idiom into an acceptable English language idiom featuring words such as stress, energy, and balance. This is the interpretation I chose. Such words are also used by practitioners of other alternative medical practices and are abroad in the society whenever people discuss the construct called “holism.” Thus, based on story content, word use and cognitive mapping, I concluded that it appears that many consumers of Chinese medicine are purchasing not an exotic Chinese philosophy or theory but a home-grown holism.

From this example, readers can understand not only the technique of cognitive mapping but also see how words and their patterns and the contents of handwritten or oral “stories” can be studied and abstracted to create generalizations. But of what use is it to know that American consumers are purchasing holism more than Chinese medicine *per se*? Actually, it has several practical applications. Let me quote from the end of the article:

“...the present study is important not only because it reveals patient perceptions and values, but also because it defines theoretical components of holism, shows how these might be actualized in practice, and then goes on to show that, in at least one case, a large sample of patients are receiving care that they experience and define as holistic. This is all the more remarkable as these patients are located in clinics that are geographically remote from each other. What links the clinics, then, is not location or experience, but a construct called ‘Chinese medicine’ – and this medicine, whatever the case elsewhere in the world, or even in other American settings, emerges in this setting as holistic.”

“This study, then, can serve as a model not only of what holism feels like to patients, but also of what it might look like in practice. And what it ‘looks like’ is very much what health care philosophers and planners are seeking: a low-tech, high-relationship practice with users experiencing both relief of presenting complaints and expanded effects of care including improved self-reliance, plus high satisfaction with the care and the experience.”

9.4

Qualitative Research Needs in Oriental Medicine

I hope that this discussion and the illustrations have piqued the interest of readers. Clearly, some aspects of qualitative research lend themselves to use by acupuncture practitioners, even if they are not formally trained in research methods. I particularly recommend the in-depth interview, the card-sort technique, using initial qualitative research to develop quantitative survey questionnaires, and using qualitative diaries during clinical outcomes and trials research.

Anyone deciding to do such research is also well-advised to consult a specialist to check whether his or her plans meet the formal criteria for good qualitative research. If you don’t know a qualitative researcher, contact a nearby university or college for help. Look for qualitative specialists especially in anthropology, sociology, and nursing departments.

Here is a sampling of appropriate questions that will reward qualitative research – it’s easy to add many more – and notice that all are pragmatic:

1. What is most meaningful to experienced practitioners about their work?
2. What features of their education reaffirm student decisions to stay in school and which make them want to drop out of the field?
3. What characteristics of acupuncture practitioners are most valued by acupuncture patients?
4. What messages from practitioners are most rewarding to patients and which are least rewarding?
5. How can practitioners speak so as best to motivate their patients to make needed changes in lifestyle?
6. What easily identifiable features make patients most or least likely to respond to acupuncture care?
7. How would patients like most to pay for their care? What is the reasoning behind their choice?
8. What practitioner characteristics are most common in those who have rewarding full-time practices 5 and 10 years after graduating from school, respectively? Can success of incoming students be predicted by these parameters?
9. Does needle depth matter?
10. Do the patients of practitioners of TCM, Worsley Five Element, French Energetic, and *Toyo Hari* styles have significantly different experiences with acupuncture?
11. Are students at schools that provide a cultural context for Chinese medicine more secure in their knowledge afterwards than students from schools that do not?
12. What does it mean when practitioners claim to be “holistic” healers?
13. What is the relationship between the concepts of “energy” and “qi” for American practitioners?
14. What do *qi gong* practitioners experience when they “throw” *qi*?
15. What do patients understand about the theory of oriental medicine after a course of treatment?
16. What do practitioners say about the “intentionality” of their care?

9.5

Uses of Qualitative Research

In this chapter, I have defined qualitative research and given examples of its use and advantages in a number of situations. Still, qualitative research remains the “mystery stepchild” in the minds of many researchers and in the public mind. Why is this? A full answer is too complicated for this chapter, but it is worth mentioning that the issue is partly one of cultural values and perception.

When asking “Does oriental medicine work?” it is common for people to focus on comparative clinical questions such as “Is acupuncture as effective as standard care in the treatment of a given condition?” This is the familiar biomedical formulation and

