

Qualitative Measures

Qualitative research is a vast and complex area of methodology that can easily take up whole textbooks on its own. The purpose of this section is to introduce you to the idea of qualitative research (and how it is related to quantitative research) and give you some orientation to the major types of qualitative research data, approaches and methods.

There are a number of important questions you should consider before undertaking qualitative research:

- **Do you want to generate new theories or hypotheses?**

One of the major reasons for doing qualitative research is to become more experienced with the phenomenon you're interested in. Too often in applied social research (especially in economics and psychology) we have our graduate students jump from doing a literature review on a topic of interest to writing a research proposal complete with theories and hypotheses based on current thinking. What gets missed is the direct experience of the phenomenon. We should probably require of all students that before they mount a study they spend some time living with the phenomenon. Before doing that multivariate analysis of gender-based differences in wages, go observe several work contexts and see how gender tends to be perceived and seems to affect wage allocations. Before looking at the effects of a new psychotropic drug for the mentally ill, go spend some time visiting several mental health treatment contexts to observe what goes on. If you do, you are likely to approach the existing literature on the topic with a fresh perspective born of your direct experience. You're likely to begin to formulate your own ideas about what causes what else to happen. This is where most of the more interesting and valuable new theories and hypotheses will originate. Of course, there's a need for balance here as in anything else. If this advice was followed literally, graduate school would be prolonged even more than is currently the case. We need to use qualitative research as the basis for direct experience, but we also need to know when and how to move on to formulate some tentative theories and hypotheses that can be explicitly tested.

- **Do you need to achieve a deep understanding of the issues?**

I believe that qualitative research has special value for investigating complex and sensitive issues. For example, if you are interested in how people view topics like God and religion, human sexuality, the death penalty, gun control, and so on, my guess is that you would be hard-pressed to develop a quantitative methodology that would do anything more than summarize a few key positions on these issues. While this does have its place (and its done all the time), if you really want to try to achieve a deep understanding of how people think about these topics, some type of in-depth interviewing is probably called for.

- **Are you willing to trade detail for generalizability?**

Qualitative research certainly excels at generating information that is very detailed. Of course, there are quantitative studies that are detailed also in that they involve collecting lots of numeric data. But in detailed quantitative research, the data themselves tend to both shape and limit the analysis. For example, if you collect a simple interval-level quantitative measure, the analyses you are likely to do with it are

fairly delimited (e.g., descriptive statistics, use in correlation, regression or multivariate models, etc.). And, generalizing tends to be a fairly straightforward endeavor in most quantitative research. After all, when you collect the same variable from everyone in your sample, all you need to do to generalize to the sample as a whole is to compute some aggregate statistic like a mean or median.

Things are not so simple in most qualitative research. The data are more "raw" and are seldom pre-categorized. Consequently, you need to be prepared to organize all of that raw detail. And there are almost an infinite number of ways this could be accomplished. Even generalizing across a sample of interviews or written documents becomes a complex endeavor.

The detail in most qualitative research is both a blessing and a curse. On the positive side, it enables you to describe the phenomena of interest in great detail, in the original language of the research participants. In fact, some of the best "qualitative" research is often published in book form, often in a style that almost approaches a narrative story. One of my favorite writers (and, I daresay, one of the finest qualitative researchers) is Studs Terkel. He has written intriguing accounts of the Great Depression (Hard Times), World War II (The Good War) and socioeconomic divisions in America (The Great Divide), among others. In each book he follows a similar qualitative methodology, identifying informants who directly experienced the phenomenon in question, interviewing them at length, and then editing the interviews heavily so that they "tell a story" that is different from what any individual interviewee might tell but addresses the question of interest. If you haven't read one of Studs' works yet, I highly recommend them.

On the negative side, when you have that kind of detail, it's hard to determine what the generalizable themes may be. In fact, many qualitative researchers don't even care about generalizing -- they're content to generate rich descriptions of their phenomena.

That's why there is so much value in mixing qualitative research with quantitative. Quantitative research excels at summarizing large amounts of data and reaching generalizations based on statistical projections. Qualitative research excels at "telling the story" from the participant's viewpoint, providing the rich descriptive detail that sets quantitative results into their human context.

- **Is funding available for this research?**

I hate to be crass, but in most social research we do have to worry about how it will get paid for. There is little point in proposing any research that would be unable to be carried out for lack of funds. For qualitative research this is an often especially challenging issue. Because much qualitative research takes an enormous amount of time, is very labor intensive, and yields results that may not be as generalizable for policy-making or decision-making, many funding sources view it as a "frill" or as simply too expensive.

There's a lot that you can (and shouldn't) do in proposing qualitative research that will often enhance its fundability. My pet peeve with qualitative research proposals is when the author says something along these lines (Of course, I'm paraphrasing here. No good qualitative researcher would come out and say something like this directly.):

This study uses an emergent, exploratory, inductive qualitative approach. Because the basis of such an approach is that one does not predetermine or delimit the directions the investigation might take, there is no way to propose specific budgetary or time estimates.

Of course, this is just silly! There is always a way to estimate (especially when we view an estimate as simply an educated guess!). I've reviewed proposals that say almost this kind of thing and let me assure you that I and other reviewers don't judge the researcher's credibility as very high under these circumstances. As an alternative that doesn't hem you in or constrain the methodology, you might reword the same passage something like:

This study uses an emergent, exploratory, inductive qualitative approach. Because the basis of such an approach is that one does not predetermine or delimit the directions the investigation might take, it is especially important to detail the specific stages that this research will follow in addressing the research questions. [Inset detailed description of data collection, coding, analysis, etc. Especially note where there may be iterations of the phases.]. Because of the complexities involved in this type of research, the proposal is divided into several broad stages with funding and time estimates provided for each. [Provide detail].

Notice that the first approach is almost an insult to the reviewer. In the second, the author acknowledges the unpredictability of qualitative research but does as reasonable a job as possible to anticipate the course of the study, its costs, and milestones. Certainly more fundable.

The Qualitative-Quantitative Debate

There has probably been more energy expended on debating the differences between and relative advantages of qualitative and quantitative methods than almost any other methodological topic in social research. The "qualitative-quantitative debate" as it is sometimes called is one of those hot-button issues that almost invariably will trigger an intense debate in the hotel bar at any social research convention. I've seen friends and colleagues degenerate into academic enemies faster than you can say "last call."

After years of being involved in such verbal brawling, as an observer and direct participant, the only conclusion I've been able to reach is that this debate is "much ado about nothing." To say that one or the other approach is "better" is, in my view, simply a trivializing of what is a far more complex topic than a dichotomous choice can settle. Both quantitative and qualitative research rest on rich and varied traditions that come from multiple disciplines and both have been employed to address almost any research topic you can think of. In fact, in almost every applied social research project I believe there is value in consciously combining both qualitative and quantitative methods in what is referred to as a "mixed methods" approach.

I find it useful when thinking about this debate to distinguish between the general *assumptions* involved in undertaking a research project (qualitative, quantitative or mixed) and the *data* that are collected. At the level of the data, I believe that there is little difference between the qualitative and the quantitative. But at the level of the assumptions that are made, the differences can be profound and irreconcilable (which is why there's so much fighting that goes on).

Qualitative and Quantitative Data

It may seem odd that I would argue that there is little difference between qualitative and quantitative *data*. After all, qualitative data typically consists of words while quantitative data consists of numbers. Aren't these fundamentally different? I don't think so, for the following reasons:

- All qualitative data can be coded quantitatively.

Anything that is qualitative can be assigned meaningful numerical values. These values can then be manipulated to help us achieve greater insight into the meaning of the data and to help us examine specific hypotheses. Let's consider a simple example. Many surveys have one or more short open-ended questions that ask the respondent to supply text responses. The simplest example is probably the "Please add any additional comments" question that is often tacked onto a short survey. The immediate responses are text-based and qualitative. But we can always (and usually will) perform some type of simple classification of the text responses. We might sort the responses into simple categories, for instance. Often, we'll give each category a short label that represents the theme in the response. What we don't often recognize is that even the simple act of categorizing can be viewed as a quantitative one as well. For instance, let's say that we develop five themes that each respondent could express in their open-ended response. Assume that we have ten respondents. We could easily set up a simple coding table like the one in the figure below to represent the coding of the ten responses into the five themes.

Person	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5
1	✓	✓		✓	
2	✓		✓		
3	✓	✓		✓	
4		✓		✓	
5		✓		✓	✓
6	✓	✓			✓
7			✓	✓	✓
8		✓		✓	
9			✓		✓
10				✓	✓

This is a simple qualitative thematic coding analysis. But, we can represent exactly the same information quantitatively as in the following table:

Person	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Totals
1	1	1	0	1	0	3
2	1	0	1	0	0	2
3	1	1	0	1	0	3
4	0	1	0	1	0	2
5	0	1	0	1	1	3
6	1	1	0	0	1	3
7	0	0	1	1	1	3
8	0	1	0	1	0	2
9	0	0	1	0	1	2
10	0	0	0	1	1	2
Totals	4	6	3	7	5	

Notice that this is the exact same data. The first would probably be called a qualitative coding while the second is clearly quantitative. The quantitative coding gives us additional useful information and makes it possible to do analyses that we couldn't do with the qualitative coding. For instance, from just the table above we can say that Theme 4 was the most frequently mentioned and that all respondents touched on two or three of the themes. But we can do even more. For instance, we could look at the similarities among the themes based on which respondents addressed them. How? Well, why don't we do a simple correlation matrix for the table above. Here's the result:

	Theme 1	Theme 2	Theme 3	Theme 4
Theme 2	0.250			
Theme 3	-0.089	-0.802		
Theme 4	-0.356	0.356	-0.524	
Theme 5	-0.408	-0.408	0.218	-0.218

The analysis shows that Themes 2 and 3 are strongly negatively correlated -- People who said Theme 2 seldom said Theme 3 and vice versa (check it for yourself). We can also look at the similarity among respondents as shown below:

	P1	P2	P3	P4	P5	P6	P7	P8	P9
P2		-0.167							
P3		1.000	-0.167						
P4		0.667	-0.667	0.667					
P5		0.167	-1.000	0.167	0.667				
P6		0.167	-0.167	0.167	-0.167	0.167			
P7		-0.667	-0.167	-0.667	-0.167	0.167	-0.667		
P8		0.667	-0.667	0.667	1.000	0.667	-0.167	-0.167	
P9		-1.000	0.167	-1.000	-0.667	-0.167	-0.167	0.667	-0.667
P10		-0.167	-0.667	-0.167	0.167	0.667	-0.167	0.667	0.167

We can see immediately that Persons 1 and 3 are perfectly correlated ($r = +1.0$) as are Persons 4 and 8. There are also a few perfect opposites ($r = -1.0$) -- P1 and P9, P2 and P5, and P3 and P9.

We could do much more. If we had more respondents (and we often would with a survey), we could do some simple multivariate analyses. For instance, we could draw a similarity "map" of the respondents based on their intercorrelations. The map would have one dot per respondent and respondents with more similar responses would cluster closer together.

The point is that the line between qualitative and quantitative is less distinct than we sometimes imagine. All qualitative data can be quantitatively coded in an almost infinite varieties of ways. This doesn't detract from the qualitative information. We can still do any kinds of judgmental syntheses or analyses we want. But recognizing the similarities between qualitative and quantitative information opens up new possibilities for interpretation that might otherwise go unutilized.

Now to the other side of the coin...

- **All quantitative data is based on qualitative judgment.**

Numbers in and of themselves can't be interpreted without understanding the assumptions which underlie them. Take, for example, a simple 1-to-5 rating variable:

Capital punishment is the best way to deal with convicted murderers.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Here, the respondent answered 2=Disagree. What does this mean? How do we interpret the value "2" here? We can't really understand this quantitative value unless we dig into some of the judgments and assumptions that underlie it:

- Did the respondent understand the term "capital punishment"?
- Did the respondent understand that a "2" means that they are disagreeing with the statement?
- Does the respondent have any idea about alternatives to capital punishment (otherwise how can they judge what's "best")?
- Did the respondent read carefully enough to determine that the statement was limited only to convicted murderers (for instance, rapists were not included)?
- Does the respondent care or were they just circling anything arbitrarily?
- How was this question presented in the context of the survey (e.g., did the questions immediately before this one bias the response in any way)?
- Was the respondent mentally alert (especially if this is late in a long survey or the respondent had other things going on earlier in the day)?
- What was the setting for the survey (e.g., lighting, noise and other distractions)?
- Was the survey anonymous? Was it confidential?
- In the respondent's mind, is the difference between a "1" and a "2" the same as between a "2" and a "3" (i.e., is this an interval scale)?

We could go on and on, but my point should be clear. All numerical information involves numerous judgments about what the number means.

The bottom line here is that quantitative and qualitative data are, at some level, virtually inseparable. Neither exists in a vacuum or can be considered totally devoid of the other. To ask which is "better" or more "valid" or has greater "verisimilitude" or whatever ignores the intimate connection between them. To do good research we need to use both the qualitative and the quantitative.

Qualitative and Quantitative Assumptions

To say that qualitative and quantitative data are similar only tells half the story. After all, the intense academic wrangling of the qualitative-quantitative debate must have some basis in reality. My sense is that there are some fundamental differences, but that they lie primarily at the level of assumptions about research (epistemological and ontological assumptions) rather than at the level of the data.

First, let's do away with the most common myths about the differences between qualitative and quantitative research. Many people believe the following:

- Quantitative research is confirmatory and deductive in nature.
- Qualitative research is exploratory and inductive in nature.

I think that while there's a shred of truth in each of these statements, they are not exactly correct. In general, a lot of quantitative research tends to be confirmatory and deductive. But there's lots of quantitative research that can be classified as exploratory as well. And while much qualitative research does tend to be exploratory, it can also be used to confirm very specific deductive hypotheses. The problem I have with these kinds of statements is that they don't acknowledge the richness of both traditions. They don't recognize that both qualitative and quantitative research can be used to address almost any kind of research question.

So, if the difference between qualitative and quantitative is not along the exploratory-confirmatory or inductive-deductive dimensions, then where is it?

My belief is that the heart of the quantitative-qualitative debate is philosophical, not methodological. Many qualitative researchers operate under different **epistemological assumptions** from quantitative researchers. For instance, many qualitative researchers believe that the best way to understand any phenomenon is to view it in its context. They see all quantification as limited in nature, looking only at one small portion of a reality that cannot be split or unitized without losing the importance of the whole phenomenon. For some qualitative researchers, the best way to understand what's going on is to become immersed in it. Move into the culture or organization you are studying and experience what it is like to be a part of it. Be flexible in your inquiry of people in context. Rather than approaching measurement with the idea of constructing a fixed instrument or set of questions, allow the questions to emerge and change as you become familiar with what you are studying. Many qualitative researchers also operate under different **ontological assumptions** about the world. They don't assume that there is a single unitary reality apart from our perceptions. Since each of us experiences from our own point of view, each of us experiences a different reality. Conducting research without taking this into account violates their fundamental view of the individual. Consequently, they may be opposed to methods that attempt to aggregate across individuals on the grounds that each individual is unique. They also argue that the researcher is a unique individual and that all research is essentially biased by each researcher's individual perceptions. There is no point in trying to establish "validity" in any external or objective sense. All that we can hope to do is interpret our view of the world as researchers.

Let me end this brief excursion into the qualitative-quantitative debate with a few personal observations. Any researcher steeped in the qualitative tradition would certainly take issue with my comments above about the similarities between quantitative and qualitative data. They would argue (with some correctness I fear) that it is not possible to separate your research assumptions from the data. Some would claim that my perspective on data is based on assumptions common to the quantitative tradition. Others would argue that it doesn't matter if you can code data thematically or quantitatively because they wouldn't do *either* -- both forms of analysis impose artificial structure on the phenomena and, consequently, introduce distortions and biases. I have to admit that I would see the point in much of this criticism. In fact, I tend to see the point on both sides of the qualitative-quantitative debate.

In the end, people who consider themselves primarily qualitative or primarily quantitative tend to be almost as diverse as those from the opposing camps. There are qualitative researchers who fit comfortably into the post-positivist tradition common to much contemporary quantitative research. And there are quantitative researchers (albeit, probably fewer) who use quantitative information as the basis for exploration, recognizing the inherent limitations and complex assumptions beneath all numbers. In either camp, you'll find intense and fundamental disagreement about both philosophical assumptions and the nature of data. And, increasingly, we find researchers who are interested in blending the two traditions,

attempting to get the advantages of each. I don't think there's any resolution to the debate. And, I believe social research is richer for the wider variety of views and methods that the debate generates.

Qualitative Data

Qualitative data is extremely varied in nature. It includes virtually any information that can be captured that is not numerical in nature. Here are some of the major categories or types:

- **In-Depth Interviews**

In-Depth Interviews include both individual interviews (e.g., one-on-one) as well as "group" interviews (including focus groups). The data can be recorded in a wide variety of ways including stenography, audio recording, video recording or written notes. In depth interviews differ from direct observation primarily in the nature of the interaction. In interviews it is assumed that there is a questioner and one or more interviewees. The purpose of the interview is to probe the ideas of the interviewees about the phenomenon of interest.

- **Direct Observation**

Direct observation is meant very broadly here. It differs from interviewing in that the observer does not actively query the respondent. It can include everything from field research where one lives in another context or culture for a period of time to photographs that illustrate some aspect of the phenomenon. The data can be recorded in many of the same ways as interviews (stenography, audio, video) and through pictures, photos or drawings (e.g., those courtroom drawings of witnesses are a form of direct observation).

- **Written Documents**

Usually this refers to existing documents (as opposed transcripts of interviews conducted for the research). It can include newspapers, magazines, books, websites, memos, transcripts of conversations, annual reports, and so on. Usually written documents are analyzed with some form of [content analysis](#).

Qualitative Approaches

A qualitative "approach" is a general way of thinking about conducting qualitative research. It describes, either explicitly or implicitly, the purpose of the qualitative research, the role of the researcher(s), the stages of research, and the method of data analysis. here, four of the major qualitative approaches are introduced.

Ethnography

The ethnographic approach to qualitative research comes largely from the field of anthropology. The emphasis in ethnography is on studying an entire culture. Originally, the idea of a culture was tied to the notion of ethnicity and geographic location (e.g., the culture of the Trobriand Islands), but it has been broadened to include virtually any group or organization. That is, we can study the "culture" of a business or defined group (e.g., a Rotary club).

Ethnography is an extremely broad area with a great variety of practitioners and methods. However, the most common ethnographic approach is [participant observation](#) as a part of field research. The ethnographer becomes immersed in the culture as an active participant and records extensive field notes. As in grounded theory, there is no preset limiting of what will be observed and no real ending point in an ethnographic study.

Phenomenology

Phenomenology is sometimes considered a philosophical perspective as well as an approach to qualitative methodology. It has a long history in several social research disciplines including psychology, sociology and social work. Phenomenology is a school of thought that emphasizes a focus on people's subjective experiences and interpretations of the world. That is, the phenomenologist wants to understand how the world appears to others.

Field Research

Field research can also be considered either a broad approach to qualitative research or a method of gathering qualitative data. The essential idea is that the researcher goes "into the field" to observe the phenomenon in its natural state or in situ. As such, it is probably most related to the method of [participant observation](#). The field researcher typically takes extensive field notes which are subsequently coded and analyzed in a variety of ways.

Grounded Theory

Grounded theory is a qualitative research approach that was originally developed by Glaser and Strauss in the 1960s. The self-defined purpose of grounded theory is to develop theory about phenomena of interest. But this is not just abstract theorizing they're talking about. Instead the *theory* needs to be *grounded* or rooted in observation -- hence the term.

Grounded theory is a complex *iterative* process. The research begins with the raising of *generative questions* which help to guide the research but are not intended to be either static or confining. As the researcher begins to gather data, *core theoretical concept(s)* are identified. Tentative *linkages* are developed between the theoretical core concepts and the data. This early phase of the research tends to be very open and can take months. Later on the researcher is more engaged in verification and summary. The effort tends to evolve toward one *core category* that is central.

There are several key analytic strategies:

- *Coding* is a process for both categorizing qualitative data and for describing the implications and details of these categories. Initially one does *open coding*, considering the data in minute detail while developing some initial categories. Later, one moves to more *selective coding* where one systematically codes with respect to a core concept.
- *Memoing* is a process for recording the thoughts and ideas of the researcher as they evolve throughout the study. You might think of memoing as extensive marginal notes and comments. Again, early in the process these memos tend to be very open while later on they tend to increasingly focus in on the core concept.
- *Integrative diagrams and sessions* are used to pull all of the detail together, to help make sense of the data with respect to the emerging theory. The diagrams can be any form of graphic that is useful at that point in theory development. They might be concept maps or directed graphs or even

simple cartoons that can act as summarizing devices. This integrative work is best done in group sessions where different members of the research team are able to interact and share ideas to increase insight.

Eventually one approaches *conceptually dense theory* as new observation leads to new linkages which lead to revisions in the theory and more data collection. The core concept or category is identified and fleshed out in detail.

When does this process end? One answer is: never! Clearly, the process described above could continue indefinitely. Grounded theory doesn't have a clearly demarcated point for ending a study. Essentially, the project ends when the researcher decides to quit.

What do you have when you're finished? Presumably you have an extremely well-considered explanation for some phenomenon of interest -- the grounded theory. This theory can be explained in words and is usually presented with much of the contextually relevant detail collected.

Qualitative Methods

There are a wide variety of methods that are common in qualitative measurement. In fact, the methods are largely limited by the imagination of the researcher. Here I discuss a few of the more common methods.

Participant Observation

One of the most common methods for qualitative data collection, participant observation is also one of the most demanding. It requires that the researcher become a participant in the culture or context being observed. The literature on participant observation discusses how to enter the context, the role of the researcher as a participant, the collection and storage of field notes, and the analysis of field data. Participant observation often requires months or years of intensive work because the researcher needs to become accepted as a natural part of the culture in order to assure that the observations are of the natural phenomenon.

Direct Observation

Direct observation is distinguished from participant observation in a number of ways. First, a direct observer doesn't typically try to become a participant in the context. However, the direct observer does strive to be as unobtrusive as possible so as not to bias the observations. Second, direct observation suggests a more detached perspective. The researcher is watching rather than taking part. Consequently, technology can be a useful part of direct observation. For instance, one can videotape the phenomenon or observe from behind one-way mirrors. Third, direct observation tends to be more focused than participant observation. The researcher is observing certain sampled situations or people rather than trying to become immersed in the entire context. Finally, direct observation tends not to take as long as participant observation. For instance, one might observe child-mother interactions under specific circumstances in a laboratory setting from behind a one-way mirror, looking especially for the nonverbal cues being used.

Unstructured Interviewing

Unstructured interviewing involves direct interaction between the researcher and a respondent or group. It differs from traditional [structured interviewing](#) in several important ways. First, although the researcher

may have some initial guiding questions or core concepts to ask about, there is no formal structured instrument or protocol. Second, the interviewer is free to move the conversation in any direction of interest that may come up. Consequently, unstructured interviewing is particularly useful for exploring a topic broadly. However, there is a price for this lack of structure. Because each interview tends to be unique with no predetermined set of questions asked of all respondents, it is usually more difficult to analyze unstructured interview data, especially when synthesizing across respondents.

Case Studies

A case study is an intensive study of a specific individual or specific context. For instance, Freud developed case studies of several individuals as the basis for the theory of psychoanalysis and Piaget did case studies of children to study developmental phases. There is no single way to conduct a case study, and a combination of methods (e.g., unstructured interviewing, direct observation) can be used.

Qualitative Validity

Depending on their [philosophical perspectives](#), some qualitative researchers reject the framework of [validity](#) that is commonly accepted in more quantitative research in the social sciences. They reject the basic realist assumption that there is a reality external to our perception of it. Consequently, it doesn't make sense to be concerned with the "truth" or "falsity" of an observation with respect to an external reality (which is a primary concern of validity). These qualitative researchers argue for different standards for judging the quality of research.

For instance, Guba and Lincoln proposed four criteria for judging the soundness of qualitative research and explicitly offered these as an alternative to more traditional quantitatively-oriented criteria. They felt that their four criteria better reflected the underlying assumptions involved in much qualitative research. Their proposed criteria and the "analogous" quantitative criteria are listed in the table.

Traditional Criteria for Judging Quantitative Research	Alternative Criteria for Judging Qualitative Research
internal validity	credibility
external validity	transferability
reliability	dependability
objectivity	confirmability

Credibility

The credibility criteria involves establishing that the results of qualitative research are credible or believable from the perspective of the participant in the research. Since from this perspective, the purpose of qualitative research is to describe or understand the phenomena of interest from the participant's eyes, the participants are the only ones who can legitimately judge the credibility of the results.

Transferability

Transferability refers to the degree to which the results of qualitative research can be generalized or transferred to other contexts or settings. From a qualitative perspective transferability is primarily the

responsibility of the one doing the generalizing. The qualitative researcher can enhance transferability by doing a thorough job of describing the research context and the assumptions that were central to the research. The person who wishes to "transfer" the results to a different context is then responsible for making the judgment of how sensible the transfer is.

Dependability

The traditional quantitative view of [reliability](#) is based on the assumption of replicability or repeatability. Essentially it is concerned with whether we would obtain the same results if we could observe the same thing twice. But we can't actually measure the same thing twice -- by definition if we are measuring twice, we are measuring two different things. In order to estimate reliability, quantitative researchers construct various hypothetical notions (e.g., [true score theory](#)) to try to get around this fact.

The idea of dependability, on the other hand, emphasizes the need for the researcher to account for the ever-changing context within which research occurs. The researcher is responsible for describing the changes that occur in the setting and how these changes affected the way the research approached the study.

Confirmability

Qualitative research tends to assume that each researcher brings a unique perspective to the study. Confirmability refers to the degree to which the results could be confirmed or corroborated by others. There are a number of strategies for enhancing confirmability. The researcher can document the procedures for checking and rechecking the data throughout the study. Another researcher can take a "devil's advocate" role with respect to the results, and this process can be documented. The researcher can actively search for and describe and *negative instances* that contradict prior observations. And, after he study, one can conduct a *data audit* that examines the data collection and analysis procedures and makes judgements about the potential for bias or distortion.

There has been considerable debate among methodologists about the value and legitimacy of this alternative set of standards for judging qualitative research. On the one hand, many quantitative researchers see the alternative criteria as just a relabeling of the very successful quantitative criteria in order to accrue greater legitimacy for qualitative research. They suggest that a correct reading of the quantitative criteria would show that they are not limited to quantitative research alone and can be applied equally well to qualitative data. They argue that the alternative criteria represent a different philosophical perspective that is subjectivist rather than realist in nature. They claim that research inherently assumes that there is some reality that is being observed and can be observed with greater or less accuracy or validity. if you don't make this assumption, they would contend, you simply are not engaged in research (although that doesn't mean that what you are doing is not valuable or useful).

Perhaps there is some legitimacy to this counter argument. Certainly a broad reading of the traditional quantitative criteria might make them appropriate to the qualitative realm as well. But historically the traditional quantitative criteria have been described almost exclusively in terms of quantitative research. No one has yet done a thorough job of translating how the same criteria might apply in qualitative research contexts. For instance, the discussions of external validity have been dominated by the idea of statistical sampling as the basis for generalizing. And, considerations of reliability have traditionally been inextricably linked to the notion of true score theory.

But qualitative researchers do have a point about the irrelevance of traditional quantitative criteria. How could we judge the external validity of a qualitative study that does not use formalized sampling methods? And, how can we judge the reliability of qualitative data when there is no mechanism for estimating the true score? No one has adequately explained how the operational procedures used to assess validity and reliability in quantitative research can be translated into legitimate corresponding operations for qualitative research.

While alternative criteria may not in the end be necessary (and I personally hope that more work is done on broadening the "traditional" criteria so that they legitimately apply across the entire spectrum of research approaches), and they certainly can be confusing for students and newcomers to this discussion, these alternatives do serve to remind us that qualitative research cannot easily be considered only an extension of the quantitative paradigm into the realm of nonnumeric data.

Unobtrusive Measures

Unobtrusive measures are measures that don't require the researcher to intrude in the research context. Direct and participant observation require that the researcher be physically present. This can lead the respondents to alter their behavior in order to look good in the eyes of the researcher. A questionnaire is an interruption in the natural stream of behavior. Respondents can get tired of filling out a survey or resentful of the questions asked.

Unobtrusive measurement presumably reduces the biases that result from the intrusion of the researcher or measurement instrument. However, unobtrusive measures reduce the degree the researcher has control over the type of data collected. For some constructs there may simply not be any available unobtrusive measures.

Three types of unobtrusive measurement are discussed here.

Indirect Measures

An indirect measure is an unobtrusive measure that occurs naturally in a research context. The researcher is able to collect the data without introducing any formal measurement procedure.

The types of indirect measures that may be available are limited only by the researcher's imagination and inventiveness. For instance, let's say you would like to measure the popularity of various exhibits in a museum. It may be possible to set up some type of mechanical measurement system that is invisible to the museum patrons. In one study, the system was simple. The museum installed new floor tiles in front of each exhibit they wanted a measurement on and, after a period of time, measured the wear-and-tear of the tiles as an indirect measure of patron traffic and interest. We might be able to improve on this approach considerably using electronic measures. We could, for instance, construct an electrical device that senses movement in front of an exhibit. Or we could place hidden cameras and code patron interest based on videotaped evidence.

One of my favorite indirect measures occurred in a study of radio station listening preferences. Rather than conducting an obtrusive survey or interview about favorite radio stations, the researchers went to local auto dealers and garages and checked all cars that were being serviced to see what station the radio was currently tuned to. In a similar manner, if you want to know magazine preferences, you might rummage through the trash of your sample or even stage a door-to-door magazine recycling effort.

These examples illustrate one of the most important points about indirect measures -- you have to be very careful about the ethics of this type of measurement. In an indirect measure you are, by definition, collecting information without the respondent's knowledge. In doing so, you may be violating their right to privacy and you are certainly not using informed consent. Of course, some types of information may be public and therefore not involve an invasion of privacy.

There may be times when an indirect measure is appropriate, readily available and ethical. Just as with all measurement, however, you should be sure to attempt to estimate the reliability and validity of the measures. For instance, collecting radio station preferences at two different time periods and correlating the results might be useful for assessing test-retest reliability. Or, you can include the indirect measure along with other direct measures of the same construct (perhaps in a pilot study) to help establish construct validity.

Content Analysis

Content analysis is the analysis of text documents. The analysis can be quantitative, qualitative or both. Typically, the major purpose of content analysis is to identify patterns in text. Content analysis is an extremely broad area of research. It includes:

- Thematic analysis of text

The identification of themes or major ideas in a document or set of documents. The documents can be any kind of text including field notes, newspaper articles, technical papers or organizational memos.

- Indexing

There are a wide variety of automated methods for rapidly indexing text documents. For instance, Key Words in Context (KWIC) analysis is a computer analysis of text data. A computer program scans the text and indexes all key words. A key word is any term in the text that is not included in an exception dictionary. Typically you would set up an exception dictionary that includes all non-essential words like "is", "and", and "of". All key words are alphabetized and are listed with the text that precedes and follows it so the researcher can see the word in the context in which it occurred in the text. In an analysis of interview text, for instance, one could easily identify all uses of the term "abuse" and the context in which they were used.

- Quantitative descriptive analysis

Here the purpose is to describe features of the text quantitatively. For instance, you might want to find out which words or phrases were used most frequently in the text. Again, this type of analysis is most often done directly with computer programs.

Content analysis has several problems you should keep in mind. First, you are limited to the types of information available in text form. If you are studying the way a news story is being handled by the news media, you probably would have a ready population of news stories from which you could sample. However, if you are interested in studying people's views on capital punishment, you are less likely to find an archive of text documents that would be appropriate. Second, you have to be especially careful with sampling in order to avoid bias. For instance, a study of current research on methods of treatment for cancer might use the published literature as the population. This would leave out both the writing on cancer that did not get published for one reason or another as well as the most recent work that has not yet

been published. Finally, you have to be careful about interpreting results of automated content analyses. A computer program cannot determine what someone meant by a term or phrase. It is relatively easy in a large analysis to misinterpret a result because you did not take into account the subtleties of meaning.

However, content analysis has the advantage of being unobtrusive and, depending on whether automated methods exist, can be a relatively rapid method for analyzing large amounts of text.

Secondary Analysis of Data

Secondary analysis, like content analysis, makes use of already existing sources of data. However, secondary analysis typically refers to the re-analysis of quantitative data rather than text.

In our modern world there is an unbelievable mass of data that is routinely collected by governments, businesses, schools, and other organizations. Much of this information is stored in electronic databases that can be accessed and analyzed. In addition, many research projects store their raw data in electronic form in computer archives so that others can also analyze the data. Among the data available for secondary analysis is:

- census bureau data
- crime records
- standardized testing data
- economic data
- consumer data

Secondary analysis often involves combining information from multiple databases to examine research questions. For example, you might join crime data with census information to assess patterns in criminal behavior by geographic location and group.

Secondary analysis has several advantages. First, it is efficient. It makes use of data that were already collected by someone else. It is the research equivalent of recycling. Second, it often allows you to extend the scope of your study considerably. In many small research projects it is impossible to consider taking a national sample because of the costs involved. Many archived databases are already national in scope and, by using them, you can leverage a relatively small budget into a much broader study than if you collected the data yourself.

However, secondary analysis is not without difficulties. Frequently it is no trivial matter to access and link data from large complex databases. Often the researcher has to make assumptions about what data to combine and which variables are appropriately aggregated into indexes. Perhaps more importantly, when you use data collected by others you often don't know what problems occurred in the original data collection. Large, well-financed national studies are usually documented quite thoroughly, but even detailed documentation of procedures is often no substitute for direct experience collecting data.

One of the most important and least utilized purposes of secondary analysis is to replicate prior research findings. In any original data analysis there is the potential for errors. In addition, each data analyst tends to approach the analysis from their own perspective using analytic tools they are familiar with. In most research the data are analyzed only once by the original research team. It seems an awful waste. Data that might have taken months or years to collect is only examined once in a relatively brief way and from one analyst's perspective. In social research we generally do a terrible job of documenting and archiving the data from individual studies and making these available in electronic form for others to re-analyze. And,

we tend to give little professional credit to studies that are re-analyses. Nevertheless, in the hard sciences the tradition of replicability of results is a critical one and we in the applied social sciences could benefit by directing more of our efforts to secondary analysis of existing data.