

CHAPTER 3



Research Design and Research Methods

Overview

This chapter uses an emphasis on research design to discuss qualitative, quantitative, and mixed methods research as three major approaches to research in the social sciences. The first major section considers the role of research methods in each of these approaches. This discussion then provides a basis for comparing qualitative and quantitative research as the two traditional alternatives in social science research. The third section examines the specific strengths of various qualitative and quantitative methods and illustrates how these strengths can be used in mixed methods research. The final section considers the situation of mixed methods research as a newer and thus less fully developed approach to doing social science research.

In social science research, one of the most basic choices you are likely to face is between using qualitative methods and quantitative methods, or some combination of the two. But is this really just a question about *methods*, or does some larger distinction among *qualitative research*, *quantitative research*, and *mixed methods research* need to be made? In large part, the answer depends on what the difference is between “qualitative” and “quantitative” approaches to research.

Although the use of words versus numbers as data may seem like an obvious way to distinguish whether a piece of research is qualitative or quantitative, there is a broad consensus that this is not an effective way to make the distinction (e.g., Hammersley, 1992). In particular, you can use content analysis to convert the texts produced by qualitative methods into numbers for quantitative analysis (Neuendorf, 2002; Weber, 1990); alternatively, you can also convert quantitative data into cases for qualitative analysis (e.g., Onwuegbuzie, Slate, Leech, & Collins, 2007, 2009; Thoits, 1995). Further, although this book concentrates on studies that collect *both* qualitative and quantitative data, some authors define mixed methods research as including also a single data set that is either collected qualitatively and analyzed quantitatively or vice versa (e.g., Teddlie & Tashakkori, 2009, 2010). Thus, there are issues concerning not only the type of data you collect but also how you analyze the data.

Once you recognize that different kinds of research involve more than the format of the data, it is only a short step to realizing that the terms *qualitative* and *quantitative* involve more than the kinds of methods you use. Although it is common to speak of participant observation and open-ended interviewing as “qualitative methods” and survey interviewing and experimental interventions as “quantitative methods,” the real distinction is in the way that these methods are used. As Lincoln and Guba (1985) noted, methods are not intrinsically associated with one kind of research or another, so the key concern is not which methods are used to generate data but how they are used and for what purposes.

Rather than thinking of methods as the key features that distinguish different approaches to research, it is more helpful to think of methods as tools that provide a set of strengths that you can use to accomplish a range of goals. In other words, there is more to doing “qualitative research” than merely using qualitative methods, and the same is true for the link between “quantitative research” and quantitative methods. Consequently the remainder of this chapter will use the capitalized terms *Qualitative Research* and *Quantitative Research* to avoid confusion with the specific methods that are associated with them; likewise, the term *Mixed Methods Research* will be capitalized going forward in this chapter. (For similar arguments on the limited role that methods play in defining the difference between Qualitative and Quantitative Research, see Hammersley, 1992; Smith & Heshusius, 1986.)

Thus, to think about the differences between Qualitative and Quantitative Research, as well as where Mixed Methods Research fits into this picture, you need to consider both the more theory-driven set of procedures associated with the level of “research,” as well as the more technical set of procedures associated with “methods.” The next section will examine how decisions about

research design link your purposes to the broader, more theoretical aspects of procedures for conducting Qualitative, Quantitative, and Mixed Methods Research, while the following section will examine decisions about research methods as a narrower, more technical aspect of procedures.

COMPARING QUALITATIVE AND QUANTITATIVE RESEARCH

This section begins with a systematic comparison of Qualitative and Quantitative Research, withholding the comparison to Mixed Methods Research until the end of the section. One reason for starting with these two long-standing approaches to social science research is that understanding their separate strengths is crucial for understanding the Mixed Methods approaches of combining those strengths. Another reason for beginning with Qualitative and Quantitative Research is that this comparison is such a well-known topic in textbooks on research methods. In contrast, there is currently less consensus about the various purposes and procedures involved in combining qualitative and quantitative methods. The first part of this section thus paves the way for the comparison of research design procedures in Qualitative and Quantitative Research.

By tradition, introductory textbooks on social science research compare Qualitative and Quantitative Research through side-by-side comparisons of a number of key features in these two approaches (see Reichardt & Cook, 1979, for an early and influential version of such a comparison). Table 3.1 compares these two forms of research according to three basic distinctions: Qualitative Research is typically inductive, subjective, and contextual, while Quantitative Research is typically deductive, objective, and general. Although most other efforts to compare Qualitative and Quantitative Research contain several more dimensions than the three shown here, those lists often contain a mixture of both broad research *purposes* and specific research *procedures*. In contrast, Table 3.1 brings together both purposes and procedures in a more compact list of essential features.

Induction and Deduction

The distinction between induction and deduction is a fundamental difference between Qualitative and Quantitative Research. In particular, the inductive purposes associated with Qualitative Research typically start with observations, which you then use to create theory or generate hypotheses. This inductive

Qualitative Research	Quantitative Research
<p style="text-align: center;">Induction</p> <p>Purposes</p> <ul style="list-style-type: none"> • Generates theory from observations. • Oriented to discovery, exploration. <p>Procedures</p> <ul style="list-style-type: none"> • Emergent design. • Merges data collection and analysis. 	<p style="text-align: center;">Deduction</p> <p>Purposes</p> <ul style="list-style-type: none"> • Tests theory through observations. • Oriented to cause and effect. <p>Procedures</p> <ul style="list-style-type: none"> • Predetermined design. • Separates data collection and analysis.
<p style="text-align: center;">Subjectivity</p> <p>Purposes</p> <ul style="list-style-type: none"> • Emphasizes meanings, interpretation. • Tries to understand others' perspectives. <p>Procedures</p> <ul style="list-style-type: none"> • Researcher is involved, close to the data. • Researcher is the "research instrument." 	<p style="text-align: center;">Objectivity</p> <p>Purposes</p> <ul style="list-style-type: none"> • Emphasizes things that can be measured. • Results do not depend on beliefs. <p>Procedures</p> <ul style="list-style-type: none"> • Researcher is detached, distant from the data. • Relies on standardized protocols.
<p style="text-align: center;">Context</p> <p>Purposes</p> <ul style="list-style-type: none"> • Emphasizes specific depth and detail. • Analyzes holistic systems. <p>Procedures</p> <ul style="list-style-type: none"> • Uses a naturalistic approach. • Relies on a few purposively chosen cases. 	<p style="text-align: center;">Generality</p> <p>Purposes</p> <ul style="list-style-type: none"> • Emphasizes generalization and replication. • Analyzes variables. <p>Procedures</p> <ul style="list-style-type: none"> • Uses experimental and statistical controls. • Works across a larger number of cases.

process of beginning with observations leads to goals such as discovery and exploration. In contrast, the deductive purposes in Quantitative Research typically begin with theories and hypotheses, which you evaluate through observations. This deductive process of moving from theory to observations is also associated with goals such as linking causes to effects.

This distinction between inductive and deductive purposes also has a procedural dimension. Inductive purposes aimed at theory generation and discovery correspond to an "emergent" approach to research design. In particular, the ongoing, open-ended observations that are the hallmark of induction can lead to shifts in both your data collection and analysis strategies. For example, your decisions about what to do next in a qualitative study often emerge from

your earlier observations and interviews. This approach calls for a flexible merger of data collection and analysis, since it is impossible to know when your observations will become analytic insights. The procedures associated with deduction are, necessarily, quite different. In particular, theory testing requires you to rely on predetermined designs that first collect and then analyze data. For example, only severe problems would justify the alteration of either a survey questionnaire or an experimental intervention once the data collection was under way.

Thus, the emphasis on induction in Qualitative Research is related to theory creation and discovery through flexible, emergent research designs. In comparison, the emphasis on deduction in Quantitative Research is related to theory testing through explicit, predetermined research designs.

Subjectivity and Objectivity

Qualitative Research captures a set of purposes associated with meaning and interpretation. This emphasis on subjectivity applies to both how you do your research and what you study—acknowledging your own interpretive actions as a researcher as well as the importance of meanings in the lives of the people you study. In contrast, Quantitative Research pursues a set of purposes associated with objectivity. This emphasis on objectivity typically leads to a concern with detached measurement and a goal of minimizing your own impact.

There is also a procedural dimension to the distinction between subjectivity and objectivity. In Qualitative Research, the subjective purposes aimed at meaning and interpretation also involve close, personal contacts that use the researcher as the “instrument” for recording observations. For example, as you conduct your qualitative observations and interviews, your own beliefs and experiences will affect not only how you collect data but also the conclusions that you draw from what you see and hear. Objective procedures reverse this, emphasizing instead standardized measurement protocols. For example, when you set up your procedures in a survey project or an intervention, you want to be sure that other researchers who use similar procedures will reach similar results.

Thus, the subjective purposes that characterize Qualitative Research are related to meaning and interpretation, based on close contacts between researchers and the people they study. In comparison, the purposes that characterize Quantitative Research are related to measurement and detachment, based on a careful separation between researchers and the people they study.

Context and Generality

The third set of purposes and procedures in Table 3.1 distinguishes the context-oriented purposes of Qualitative Research from Quantitative Research's emphasis on greater generality. Qualitative Research typically examines specific situations or sets of people in depth and detail. In addition, this approach often relies on a holistic approach that examines as many of the relevant elements as possible. Alternatively, Quantitative Research typically tries to understand larger numbers of people in ways that apply to a wider range of settings. This emphasis on generality also leads to the expression of research questions in terms of variables that often act as elements in abstract models.

Procedurally, the attention that Qualitative Research gives to the holistic understanding of specific contexts is paired with studying behavior as it occurs naturally, with a minimum of intrusion by the researcher. When combined with an emphasis on depth and detail, this necessarily leads to studying relatively few, carefully chosen cases. In participant observation, for example, you would often concentrate on understanding as much as possible about a single, well-chosen setting. Similarly, in-depth interviewing often leads you to study a wide range of factors that influence your research topic, an approach that often produces a large amount of data on a small number of people who meet some specific set of criteria. In contrast, the emphasis on generality associated with Quantitative Research leads to efforts at controlling "extraneous" factors so that the research can apply to a wide range of people or settings. For example, in a survey, you would rely on well-defined samples and carefully constructed variables so your results will represent equivalent variables in larger populations. Similarly, in experiments and program interventions, you want to concentrate on the factors that interest you most so your results will relate to a wider range of people and settings.

Thus, the emphasis on context in Qualitative Research generates detailed understandings of holistic systems through naturalistic studies with relatively small numbers of cases. In comparison, the emphasis on generality in Quantitative Research produces broadly applicable information through well-controlled procedures with larger numbers of cases.

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This conceptual framework makes it easier to understand what Qualitative Research and Quantitative Research are all about. On the one hand, Qualitative

Research consists of purposes and procedures that integrate inductive, subjective, and contextual approaches. On the other hand, Quantitative Research integrates purposes and procedures that are deductive, objective, and generalized. The next section moves from this relatively abstract discussion of Qualitative and Quantitative Research to the more concrete realm of qualitative and quantitative methods.

THE STRENGTHS OF QUALITATIVE AND QUANTITATIVE METHODS

Because Mixed Methods Research combines the strengths of qualitative and quantitative methods, one must know what it means to say that a method is either qualitative or quantitative. Participant observation and open-ended interviewing are the common forms of qualitative methods, and what makes them “qualitative” is a set of strengths that are well suited to the purposes associated with Qualitative Research (see Box 3.1). In terms of the previous section, this amounts to saying that when your research goals emphasize the inductive-subjective-contextual purposes associated with Qualitative Research, then methods such as participant observation and open-ended interviewing are likely to provide the strengths you require. Equivalently, if your purposes emphasize the deductive-objective-generalized purposes associated with Quantitative Research, then you are likely to find the strengths you need in quantitative methods such as survey interviewing and experimental interventions.

BOX 3.1 Strengths of Qualitative and Quantitative Methods

Qualitative Methods

Participant Observation

- Starts with observations as a basis for generating theory. (Induction)
- Concentrates on meaning of observations. (Subjectivity)
- Studies events as they occur in naturalistic settings. (Context)

Qualitative Interviewing

- Allows interview topics to emerge during conversation. (Induction)
- Listens to others’ interpretations and perspectives. (Subjectivity)
- Can collect depth and detail on a range of factors related to a topic. (Context)

(Continued)

(Continued)

Quantitative Methods

Survey Interviewing

- Can test hypotheses across a wide variety of variables. (Deduction)
- Uses standardized procedures for questions and answers. (Objectivity)
- Can apply results to a wider range of people or settings. (Generality)

Experimental Interventions

- Creates preplanned changes and tests outcomes. (Deduction)
- Relies on procedures that can be reproduced by other researchers. (Objectivity)
- Concentrates on key variables by “controlling” other factors. (Generality)

As Box 3.1 shows, each of these methods has strengths that correspond to the broader purposes and procedures associated with either Qualitative Research or Quantitative Research. This does *not*, however, imply that any use of qualitative (or quantitative) methods means you are automatically doing Qualitative (or Quantitative) Research. Recall, in this regard, the argument from the beginning of this chapter that what matters most is not *what* methods you use but *how* you use them and *why* you use them that way (i.e., your purposes and procedures). For the two qualitative methods mentioned above, participant observation and open-ended interviews, this section examines how the strengths of those methods match the inductive-subjective-contextual purposes and procedures that characterize Qualitative Research. Similarly, the strengths of survey interviews and experimental interventions are examined in terms of their match to the deductive-objective-generalized purposes and procedures in Quantitative Research.

In addition, the strengths of each method will be considered in terms of their potential role in Mixed Methods Research. To illustrate these possibilities, each method will be paired with one of four sequential contributions designs described in Chapter 1 (which are also the subject of Chapters 6–9).

Participant Observation

The inductive goals of Qualitative Research are particularly well suited to the strengths of participant observation, since this method continually asks the

researcher to encounter and make sense of unfamiliar events and settings. In essence, each day of participant observation gives you the opportunity to discover new things by exploring the research setting. Ultimately, however, the goal of participant observation is to build these observations into a broader account that not only describes the research site but also provides an understanding of why things are the way they are. This progression from observation to theory is the heart of the inductive approach.

Subjectivity is also a strength of participant observation, both in terms of your interpretation of others' perspectives and your own efforts to create meaning. Observing others' lives allows you to immerse yourself in their world in an attempt to understand what that world means to them. At the same time, being close to what you are trying to understand lets you pursue your own emerging interpretations. Participant observation thus makes it possible for you to probe the subjective understandings of the people you study at the same time as you engage in a subjective effort to give meaning to your observations.

The ability to investigate context is another clear strength of participant observation. In particular, any event that you observe is connected to both the setting in which it occurs and the participants who are involved. This allows you to describe things in depth and detail while also using your observations to create a more holistic understanding of why things happen the way they do. Of course, participant observation always involves a choice to pay more attention to some things and less to others, but it also forces you to recognize that anything you observe is connected to everything else and nothing is context-free.

Overall, it should be obvious why social scientists classify participant observation as a "qualitative method," since its strengths are so well suited to the goals of Qualitative Research. This does not mean, however, that these strengths have to be used solely for Qualitative Research. Indeed, the ability to observe behavior in naturalistic settings can be of value for a great many research purposes. For example, consider what Chapter 1 termed preliminary qualitative designs (*qual* → *QUANT*). If your ultimate goal is to design an effective intervention program, then it could be helpful to begin by observing how similar programs are currently operating. In a preliminary qualitative design, the strengths of participant observation help you get close enough to the situation to discover how the things that interest you operate in their natural context, and this information allows you to improve the effectiveness of the quantitative portion of the project. Thus, the close match between the strengths of participant observation and the purposes of Qualitative Research does not in any way prohibit other kinds of research from using those same strengths for other purposes.

Qualitative Interviewing

The most obvious strength that open-ended interviewing brings to inductive research is the ability to pursue topics that emerge during the course of the conversation. Thus, the typical semi-structured interview includes both the topics of interest to you as a researcher and the additional interests and insights that the research participant raises. You can then use later interviews to pursue things that you heard earlier. In particular, as you develop tentative conclusions from your earlier work, you can challenge, refine, and extend those ideas in your further conversations. Once again, the data collection process facilitates the essential inductive movement from observations to theoretical summaries.

Open-ended interviewing also provides strengths with regard to the dual subjectivity in Qualitative Research. In particular, you must make sense of what the research participant is telling you to increase your understanding of that person's perspective on your research topic. This kind of interview inevitably emphasizes not only the research participant's beliefs and interpretations but also the researcher's subjective processes. This is a major strength of qualitative interviewing because it gives the researcher an opportunity to learn more about others' beliefs and meanings—including the subjective preferences and expectations that underlie their outwardly observable behaviors.

The concentration on context that occurs in open-ended interviewing is not limited to the immediate situation or setting in which the interview occurs. In addition, this interview format gives you the ability to ask about an exceptionally wide range of factors that may be relevant and to pursue the connections among those factors. For example, this kind of qualitative interviewing often takes a life history approach, which asks participants to construct narratives that connect your research topics to as much of their personal experience as possible. Thus, each person's experiences and beliefs are treated as occurring within a specific context that consists of their whole life as well as the larger cultural and social forces that shaped their life.

Overall, the strengths that open-ended interviewing offers are well suited to the inductive-subjective-contextual purposes associated with Qualitative Research. Yet, these same strengths can also be used for a variety of other purposes. For example, in a follow-up qualitative study (*QUANT* → *qual*), you might begin with a survey and then pursue in-depth interviews to help you understand unanticipated results from your quantitative analyses. If your goal is to interpret the quantitative findings, then qualitative interviews can help you explore the specific experiences and perspectives of the survey respondents themselves. Once again, it is the strengths of the method that determine when and how you use it.

Survey Interviewing

As a “quantitative method,” surveys are well suited to deductive hypothesis testing, because they can measure a relatively large number of variables and investigate the relationships among them. For example, if a theory discusses differences between men and women, then a survey can ask questions that test whether these predictions match the data. For this purpose, the content of the survey is defined according to the needs of the survey, and the resulting data are used to assess the adequacy of theory.

Surveys have a particular strength with regard to objectivity because of the use of easily examined and reproduced questionnaires to generate data. In principle, the results from any survey should be the same (within specifiable statistical limits) whenever the same questions are asked of equivalent samples of research participants. Procedurally, this emphasis on objectivity corresponds to asking each respondent a standardized set of questions and recording his or her answers in a fixed set of response categories. It is thus no accident that these questionnaires are often referred to as survey “instruments,” thereby capturing the sense that anyone who uses this tool appropriately will obtain an equivalent indication of the data.

In terms of producing generalized results, the overall set of strengths that surveys offer in this regard should not be confused with the more specific goal of *generalizability*. Generalizability depends on statistical procedures for drawing the sample of survey respondents in a way that specifies the likelihood that the sample represents the properties of the larger population. This ability to represent populations from samples may be the ultimate in generality, but the basic process of survey interviewing is also “generalized” in the sense of treating every respondent in a context-free fashion, regardless of the sampling procedures used. Rather than treating respondents as unique individuals, survey data summarizes each case as a set of values for a collection of variables, producing results that can be stated in general terms as relationships among these variables.

Overall, surveys have obvious strengths for providing the deductive-objective-generalized data that are associated with Quantitative Research. Yet this does not limit surveys to research that fits within this particular configuration of purposes and procedures. For example, in a preliminary quantitative design (*quant* → *QUAL*), highly comparable data and relatively large samples from survey data can be very useful as a preliminary step in locating potential participants for a qualitative study. If your goal is to interview a theoretically interesting but relatively rare category of research participants, then you might be able to locate these informants with a systematic search through a standardized

set of data that was available on everyone in a large sample. Thus, even though the standardized procedures of survey methods are typically more suited to Quantitative rather than Qualitative Research, they may still play a useful role in the latter.

Experimental Interventions

Experiments have a notable set of strengths for meeting the deductive goals associated with Quantitative Research. In particular, experiments are designed to provide clearly observable links between experimentally manipulated causes and well-defined outcomes that serve as effects. With experiments, you can intervene in the world and determine whether the intervention, or “treatment,” changes the world in the ways that you predicted. With the exception of social psychology, in which research often occurs in “labs,” most experimental research in the social sciences takes the form of program interventions. For example, you might modify the services that an organization delivers and then determine whether that organization’s clients either use more services or receive greater benefits from those revised services.

Objectivity is a good fit to the standard of replicability, which is one of the key features of experimental methods. This emphasis on objectivity is also evident in the fixed, predetermined procedures that are essential to well-conducted experiments. Hence, you should be able to reproduce other researchers’ experimental results as long as you follow exactly the same procedures they used. While laboratories with standardized instrumentation offer the ultimate in terms of objectivity, program interventions follow the same logic by establishing experimental protocols that guide both the treatment of each research participant and the measurement of the outcomes from those treatments.

Experimental methods are also well known for their strengths in producing results that apply to generalized processes rather than to specific individuals or settings. In particular, experimental designs attempt to control for other potentially relevant factors so you can examine the clearest possible version of the relationship between the variables of interest. Program interventions and other quasi-experimental methods also seek to control or eliminate nonexperimental influences to generate greater confidence that the intervention can be applied to other organizations that share the same basic characteristics.

Overall, experimental interventions definitely deliver a set of strengths that are well matched to purposes and procedures of Quantitative Research. Once again, however, these same strengths can also contribute to studies that are largely qualitative in nature. For example, in a follow-up quantitative design

(*QUAL*→*quant*), it might be desirable to extend an in-depth case study with a small demonstration program. If your goal is to demonstrate that the insights from your qualitative work can be transferred to other settings, then an experiment can demonstrate your ability to convert those ideas into standardized program activities that produce the predicted results in other settings. Of course, the vast majority of Qualitative Research studies will have little need for this particular kind of follow-up study, but there certainly are circumstances in which the additional strengths of an experimental study could make a notable contribution to your larger purposes.

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The key message from this section is that the distinctions among Qualitative Research, Quantitative Research, and Mixed Methods Research depend less on which methods you use and more on the ways that you use them. Thus, the same strengths that make methods useful in either the inductive-subjective-contextual package of Qualitative Research or the deductive-objective-general package of Quantitative Research can also serve other purposes. In particular, the illustrations from the four designs associated with sequential contributions show how the strengths from one type of method can contribute either preliminary inputs or follow-up extensions that enhance the performance of a different method.

THE STATUS OF QUALITATIVE, QUANTITATIVE, AND MIXED METHODS RESEARCH

Qualitative Research, Quantitative Research, and Mixed Methods Research each represent different approaches to producing knowledge in the social sciences. As the two best-known and most fully developed approaches, Qualitative and Quantitative Research offer the clearest packages of purposes and procedures, and one or the other will often be the best choice for a research project. One obvious advantage of these two traditional approaches is that each provides a well-understood basis for linking purposes and procedures. As a result, working within either the Qualitative or Quantitative Research tradition simplifies the process of describing both what you are doing (i.e., your research purposes) and why you are doing it the way you are (i.e., your research procedures).

Qualitative and Quantitative Research are not the only alternatives, however. Mixed Methods Research makes it possible to do things that would be

more difficult or even impossible to accomplish by operating solely within either the inductive-subjective-contextual or the deductive-objective-general packages that characterize the two more traditional approaches. This flexibility, however, comes at the cost of greater uncertainty about the purposes and procedures associated with Mixed Methods Research. The lack of a set of established traditions for Mixed Methods Research can make it more difficult to convince others of either the value of your research or the appropriateness of your research procedures.

With regard to your research goals, the fact that Mixed Methods Research projects pursue combinations of purposes that do not fit neatly within the traditional boundaries of Qualitative or Quantitative Research makes this approach more likely to require direct discussions about why you are doing this kind of research. The mere recognition that different methods have different strengths is not enough to support a decision to do Mixed Methods Research. Instead, you need to demonstrate how this approach allows you to accomplish purposes that would be more difficult to achieve with either Qualitative or Quantitative Research alone. Thus, one of the challenges that you will face in doing Mixed Methods Research is a requirement for more explicit arguments to convince others that your research goals are indeed worthwhile.

Once you can clearly state the purposes that guide your research, then you must design a set of procedures that will meet those purposes. The choice of which methods to use and how to apply those methods is, again, more straightforward within the well-developed traditions of Qualitative and Quantitative Research. The range of design options—and the reasons for selecting one option over another—are continually evolving within both Qualitative and Quantitative Research; however, these new developments are based on a well-known foundation of prior practices. For Mixed Methods Research, even when you can clearly state a set of meaningful purposes, the lack of established traditions can still make it difficult to justify your claims about the appropriate procedures for accomplishing those purposes.

Because Mixed Methods Research projects use a combination of the strengths that are traditionally associated with either qualitative or quantitative methods, you have to provide justifications that go beyond asserting the value of each separate method. In particular, you need to demonstrate how your research design *integrates* a specific combination of strengths that can do a better job of meeting your research goals than you could do with either qualitative or quantitative methods alone. At present, however, Mixed Methods Research provides less practice-based guidance about either the design options that are available to you or the criteria you would use to evaluate these options. This lack of ready-made, taken-for-granted justifications means that you will

often need to produce explicit arguments about the appropriateness of using a given set of procedures to accomplish a particular set of purposes.

Ultimately, Mixed Methods Research may also develop into a well-understood tradition that is implicitly associated with a set of clearly understood purposes and procedures. Until that time, you are much more likely to receive requests for explicit justifications related to your research goals and procedures when you do Mixed Methods Research rather than Qualitative or Quantitative Research. Hence, one of the major goals of this book is to create not only a better understanding of the purposes and procedures associated with Mixed Methods Research but also a better sense of how they can be integrated within a Mixed Methods Research design.

CONCLUSIONS

1. *Every successful research project requires two things: a meaningful research question and an appropriate way to answer that question.*

All the other choices that you make during your research flow from your initial choice of a research question. In particular, you need to decide if you will use Qualitative, Quantitative, or Mixed Methods Research. Each of these approaches offers different ways to make decisions about both the broad purposes that guide your research and the specific procedures you use. These choices are easier within both Qualitative and Quantitative Research, because these well-established traditions offer consensual understandings about the types of questions they ask and the types of methods they use to answer those questions. In contrast, Mixed Methods Research is still working on these issues. The differences between Mixed Methods Research and the two more traditional approaches are even greater with regard to how they use the different strengths of different methods. In particular, Mixed Methods Research sees the strengths of methods as distinct from the routine ways that those methods are used within either Qualitative or Quantitative Research. Hence, the best way to answer your research question may be to use one strength from what is typically considered a qualitative method and a different strength from a quantitative method.

From a pragmatic perspective, it is important to reemphasize the earlier point that it is not qualitative and quantitative methods that define the difference between Qualitative and Quantitative Research; instead, it is the way those methods are *used*. Concentrating on how methods are used means that they are best understood as tools with different strengths, but these strengths need to be defined according to the research questions they address. In particular, any given Mixed Methods Research project needs to consider the strengths of qualitative and quantitative methods within the context of a specific research question. The pragmatic link between beliefs and consequences thus means that,

without the tools to put beliefs about purposes and procedures into action, those beliefs become detached from the practice of research.

2. Deciding how to do your research depends on a clear understanding of why you are doing the research.

Qualitative Research and Quantitative Research represent well-understood options for linking an understanding of why you want to do your research and decisions about how to do your research. Qualitative Research emphasizes connections between purposes and procedures that are inductive, subjective, and contextual, while Quantitative Research equivalently matches purposes and procedures that are deductive, objective, and generalized. Consequently, these two approaches offer well-established guidelines for reasoning back and forth among your research questions, your research design, and your research methods. This consensus about both research purposes and procedures provides a framework in which well-developed justifications for research designs connect the strengths of specific methods to those broader purposes and procedures. In contrast, Mixed Methods Research is still developing this kind of consensus about both research purposes and the justifications that link those purposes to research designs. Once again, this book places responsibility on research design as the fundamental process for connecting specific research procedures (“how to”) with broad research purposes (“why to”). In particular, the next chapter will present three broad sets of purposes for combining qualitative and quantitative methods.

Pragmatism’s emphasis on the linkage between beliefs and their consequences corresponds to the connection between the broader purposes in each research tradition and the conduct of research in those traditions. In particular, research designs connect beliefs about meaningful research questions (“why to”) with appropriate methods for answering those questions (“how to”). From a pragmatic point of view, this need to connect purposes and procedures with research is equally important in Qualitative, Quantitative, and Mixed Methods Research. The difference between Mixed Methods Research and the other approaches is the higher degree of consensus about how to connect purposes and procedures in Qualitative and Quantitative Research, as opposed to the relatively low degree of consensus about such connections within Mixed Methods Research.

3. Choosing research methods that can accomplish your research goals requires knowing both what your options are and how to evaluate those options.

Qualitative methods, quantitative methods, and mixed methods represent three different sources of techniques for answering research questions. In some cases, the choice may be straightforward. This is certainly the case when you choose Qualitative Research as a way to match purposes and procedures that are inductive, subjective, and contextual with methods such as participant observation and open-ended interviewing. Similarly, deductive, objective, and generalized purposes are well matched to quantitative methods such as experimental interventions and survey interviewing. In contrast, Mixed Methods Research

requires a conscious decision about which strengths you need from specific qualitative and quantitative methods. Even then, it is one thing to describe the combination of qualitative and quantitative methods that you want you use and quite another to specify a strategy for integrating the different results that those methods produce.

Because pragmatism emphasizes the different consequences that can arise from making different decisions, it corresponds naturally to making choices about how to do your research. For a developing field like Mixed Methods Research, this translates into the need to develop the kinds of consensual beliefs about purposes and procedures that will provide solid guidance for choices among different research methods. According to pragmatism, such guidance is crucial because it provides you with ways to trace the connections between your beliefs and the likely consequences of doing your research one way rather than another. The outcomes of your research will depend on your decisions about which methods to use as well as your more detailed decisions about how to use those methods and integrate their results. Consequently, the bulk of this book will concentrate on presenting a series of practical research designs that demonstrate both a range of options and a set of rationales for using your research goals to choose among these options.

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Although this book provides one set of answers about the connection between meaningful research questions and appropriate ways to answer those questions, it is important to recognize that there are other possible answers. Consequently, the next chapter will present three broad sets of purposes for combining qualitative and quantitative methods, while Chapters 6 through 9 present four specific research designs for integrating qualitative and quantitative methods. Differences over the specifics of Mixed Methods Research are less important, however, than the need for a consensual framework about purposes and procedures, which can also provide clear guidance about the most effective ways to bring together the different strengths of different methods. This book provides one such framework.

SUMMARY

It is important to distinguish between the larger purposes served by Qualitative and Quantitative Research and the specific methods that are used to collect and analyze either qualitative or quantitative data. There are three basic ways to compare Qualitative and Quantitative Research. First, induction and deduction compare the way that qualitative approaches work from observations up to theories (induction) with the way that quantitative approaches work from theories down to observations (deduction). Second, subjectivity and objectivity compare Qualitative Research, which emphasizes getting close to research participants to understand meaning (subjectivity), to Quantitative Research,

which tries to minimize the impact of researchers as they attempt to understand things through measurement (objectivity). Finally, context and generality compare qualitative approaches that concentrate on research results in their specific, local circumstances (context) with quantitative approaches that try to place research results into a broader realm (generality). Qualitative and quantitative methods are designed to meet these objectives: Qualitative methods produce data by emphasizing induction, subjectivity, and context, while quantitative methods produce data using deduction, objectivity, and generality. For Mixed Methods Research, however, these three dimensions represent different strengths that can be met by qualitative and quantitative methods. Hence, a Mixed Methods project might combine a qualitative method that is used primarily for induction and a quantitative method that is used primarily for deduction, and so on.

DISCUSSION QUESTIONS

How important is the distinction between Qualitative and Quantitative Research and qualitative and quantitative methods? If Mixed Methods Research is primarily about combining methods, then how important is it to consider the two broader approaches to research?

Mixed Methods Research argues that it is possible to separate qualitative and quantitative methods from the original justifications for those methods. This means induction, subjectivity, context, and so forth do not have to work together in guiding research. Is this separation so simple, or is it difficult to separate methods from the purposes they were originally designed to serve?

ADDITIONAL READINGS

For more information about participant observation, see the following:

Fetterman, D. M. (2009). *Ethnography: Step-by-step* (3rd ed.). Thousand Oaks, CA: Sage.

For more information about qualitative interviewing, see the following:

Rubin, H. J., & Rubin I. S. (2004). *Qualitative interviewing: The art of hearing data* (2nd ed.). Thousand Oaks, CA: Sage.

For more information about program interventions, see the following:

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin.

For more information about survey research, see the following:

Fowler, F. J. (2008). *Survey research methods* (4th ed.). Thousand Oaks, CA: Sage.