

CHAPTER 1



An Introduction and Overview

Overview

This chapter is introductory in two senses. First, you should be able to read it quite easily, even if you have only a minimal background on the topic of combining qualitative and quantitative methods. In particular, the discussion of the literature is postponed until the later chapters, which means this chapter has few references. Second, this chapter is introductory in the sense that it summarizes the basic arguments for the book as a whole. Consequently, the chapter begins with summaries of the chapters in Part 1 followed by an overview of the four basic research designs that make up Part 2 of the book.

PART 1: THE LOGIC OF MIXED METHODS RESEARCH (CHAPTERS 1 TO 5)

An Introduction and Overview (Chapter 1)

Different methods have different strengths. Almost every argument for combining qualitative and quantitative methods relies on this basic insight, but the attraction of combining methods with separate sets of strengths has to be balanced against the complexity of research projects that use multiple methods. The additional value that you get by combining methods has a cost, which

comes from the serious challenges in designing and executing this kind of research. In fact, combining two methods often involves more than twice as much work as using a single method, since you must not only use each separate method effectively but also integrate them effectively. Simply having more results or different kinds of results does not inherently improve your work; in addition, you must bring those results together in a way that demonstrates the value of your additional effort. Hence, research projects that use multiple methods are not automatically preferable to studies that use just one method.

Both the appeal and the difficulty of integrating multiple methods are especially obvious when you want to bring together qualitative and quantitative methods. On the one hand, using very different methods is appealing because these methods possess very distinctive strengths. On the other hand, combining qualitative and quantitative methods can raise difficult problems precisely because they are so different. You may thus be attracted by the separate strengths of qualitative and quantitative methods but end up frustrated by practical problems in integrating both their different procedures and their different results. Hence, it is important to avoid an “anything goes” approach to combining methods—sometimes called methodological eclecticism. Example 1.1 illustrates the kinds of problems encountered by those who hold the simplistic belief that merely using more methods will lead to better results.

Example 1.1 A Personal Experience With Methodological Eclecticism

My first experience in combining qualitative and quantitative methods was more than 25 years ago, when in my dissertation I studied how social networks influenced the sense of community in a retirement home. During the course of the research, I took extensive field notes, conducted in-depth interviews, collected two waves of surveys, kept systematic records of interaction patterns, and tracked a naturally occurring experiment as the home reorganized its basic structure.

Gathering this wealth of data was an exhilarating experience. Making sense of it was another matter. Ultimately, I used the different methods for a variety of purposes throughout my dissertation. For example, an early descriptive chapter began with global information from the survey data followed by several brief biographies from the in-depth interviews. The bulk of the data that I reported came from my participant observation, but one chapter presented complex statistical analyses of the interaction patterns as social networks.

At the conclusion of my dissertation defense, I wanted to know what my committee members thought of my efforts. One of my advisers, who was known for his extended metaphors, compared it to a Jell-O salad in which a number of things were held together by something that wasn't nearly as interesting as the bits and pieces themselves. Sadly, he was right. I had relied on a naive faith that merely using more methods would lead to a better understanding of what I was studying. Even though both the qualitative "bits" and the quantitative "pieces" had much to offer, I hadn't found a successful approach to integrating them.

The best way to resolve this dilemma is to create a careful connection between your reasons for using both qualitative and quantitative methods and a research design that suits those purposes. Thus, the real challenge is to integrate the different strengths that qualitative and quantitative methods offer; hence, the title of this book is *Integrating Qualitative and Quantitative Methods*. It is also worth noting that there are any number of other labels for the general goal of using both qualitative and quantitative methods within a single research project. Up until this point, the label *mixed methods research* has been replaced by phrases such as "combining qualitative and quantitative methods" or "integrating multiple methods." The reason for avoiding the term is that it can feel too casual—as if combining multiple methods involves little more than putting them together in the same project. In contrast, the current argument is that *integrating* qualitative and quantitative methods can be a very demanding task, and a number of researchers made similar arguments when the name *mixed methods* first appeared. Since that time, the name *mixed methods research* has become so well entrenched that it would be almost impossible not to recognize its dominance; hence, that terminology will appear throughout the remainder of the book.

The book's subtitle also indicates a *pragmatic approach* to these issues. At the most fundamental level, this amounts to linking your *purposes* (in terms of research questions) and your *procedures* (in terms of research methods) at every step. Choosing an appropriate research design means finding a match between the purposes that motivate your research and the procedures you use to meet those goals. In some cases, your best choice will be to rely on a single research method; in other cases, an integrated combination of methods will best serve your purposes. In the end, any decision to combine qualitative and quantitative methods must start with a careful consideration of why you want to do mixed

methods research before you can decide how to do so. Again, using two methods can be more than twice as difficult as using one method because of the additional effort required to integrate the separate sets of results. Example 1.2 shows what can happen if you don't plan for this additional work right from the start.

Example 1.2**A Personal Experience With Ignoring the Need to Integrate Results**

One of my first large-scale research projects combined data from focus groups and surveys to study the experiences of families who were caring for someone with Alzheimer's disease. The goal of the project was to compare the social support networks of family caregivers who were still providing care in the community with those who had placed their family member in a nursing home. At that time, there was little research on family caregivers in nursing homes, so the focus groups used open-ended discussions to explore differences in the experiences of community-based and nursing home-based caregivers. In contrast, the surveys relied on well-established procedures from the social support literature to measure the positive and negative relationships that the caregivers reported.

Everything went smoothly until I began to compare the data analyses. According to the surveys, there were many supportive relationships and few negative relationships. Yet, when those same caregivers discussed their experiences in the focus groups, they were more likely to mention negative relationships. A lengthy series of further analyses eventually led to the conclusion that negative relationships were indeed rare (thus matching the survey data) but they were quite important when they did occur (thus matching the focus group data). This additional analysis was a time-consuming process: Because my original research design did not include any plan for dealing with this kind of discrepancy, the only option was to "dig through" the data for an answer.

Looking back, it is easy to see that my original design provided a good justification for using a qualitative method (i.e., exploring something that was poorly understood) and an equally good justification for the quantitative method (i.e., relying on well-developed measurement procedures). The problem was that I hadn't paid enough attention to *why* I was combining these different methods and *how* I would do so. Either of these studies would have worked well on its own, but I did not have a plan for *integrating* the two of them into a coherent whole.

Once you have reached the conclusion that using both qualitative and quantitative methods does make sense, you then face the further choice about how to do it. Because integrating different methods requires extra effort and resources, it would be foolish to attempt such a complex task without a solid strategy for accomplishing your goals. At present, however, there is little consensus about how to bring together qualitative and quantitative methods. Hence, when you do mixed methods research, you need to pay even more attention to research design than when you use a single method. This book cannot promise to resolve all of those issues, but it will provide you with both a set of practical research designs and a broader conceptual framework for making decisions about when to use those designs.

Research design is all about making decisions. To make good choices about research design, you need to know both what your options are and how to evaluate those options. Consequently, the core of this book devotes a chapter apiece to four research designs that give you practical options for integrating qualitative and quantitative methods, along with guidance on the specific purposes that each of these designs can serve. Thus, you can choose a specific design only after considering the broader issues that are the subject of the chapters in Part 1 of this book.

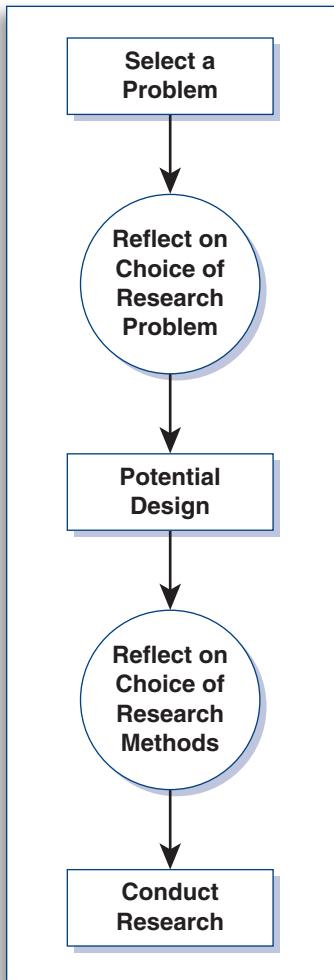
Pragmatism as a Paradigm for Mixed Methods (Chapter 2)

Chapter 2 lays out the connections between pragmatism as a philosophy and mixed methods research as a way of doing social science research. The essence of pragmatism can be found in its root word, *pragma*, from the Greek word for “action,” which indicates that knowledge comes from taking action and learning from the outcomes. From a pragmatic point of view, this principle applies to all of human experience, and research is simply a more self-conscious and careful effort to link actions with their likely consequences.

Within pragmatism, *inquiry* is the specific term that is applied to processes such as research. Inquiry is an explicit attempt to produce new knowledge by taking actions and experiencing their results. Inquiry occurs when you confront situations that fall outside your existing knowledge and then take action to extend your knowledge so you know how to proceed when you encounter similar situations. The products of inquiry are “warranted beliefs” about actions and their likely consequences. It is important to note, however, that human experience occurs within historical and cultural contexts, so your current warranted beliefs can evolve as you encounter new situations.

Figure 1.1

Dewey's Five-Step Model of Inquiry as Applied to Research



Examining inquiry as a formal process, Figure 1.1 shows that inquiry begins with a problem or question that needs to be answered. At the next step, you reflect on the nature of the problem as you seek possible solutions. In addressing research questions, these potential solutions typically take the form of a research design. Once you have generated this potential research design, you reflect further on what it implies about the actual methods involved in your research (i.e., the data collection and analysis that are the ultimate actions in any research project).

This summary of pragmatic inquiry highlights the importance of research design as a link between your broader purposes, as represented by the initial research question, and your specific procedures, as represented by research methods. Figure 1.1 points to this central role of research design as a pivot point between your purposes and your procedures. On the one hand, it is the key link to your research questions; on the other hand, it is the main determinant of your research methods.

As a paradigm, pragmatism gives mixed methods researchers a shared view of how to conduct research. The kind of consensus implied by a paradigm does not, however, apply at the technical level of research methods. Instead, it implies a more conceptual agreement about research in terms of both the purposes it pursues and the procedures it uses to pursue those purposes. In particular, mixed methods researchers follow a pragmatic path by consistently asking, What difference would it make to do your research one way rather than another? Pragmatism can thus be considered a “paradigm of choices,” a description that is particularly appropriate for mixed methods research because of the complexity of the choices involved in integrating qualitative and quantitative methods.

Research Design and Research Methods (Chapter 3)

Chapter 3 compares *qualitative research* and *quantitative research* as opposed to qualitative methods and quantitative methods. These two approaches to researching the social world emphasize both different purposes and different

procedures for meeting those purposes. As Table 1.1 shows, qualitative research concentrates on a set of purposes (or research goals) that are typically *inductive*, *subjective*, and *contextual*, while the purposes associated with quantitative research are typically *deductive*, *objective*, and *general*. In addition, both approaches use a set of procedures (i.e., research methods) that are particularly appropriate for their own purposes.

Saying that qualitative research uses induction means that this approach emphasizes using your observations to generate theory. Saying it relies on subjectivity emphasizes using your research experience to interpret the social world. Saying it relies on context emphasizes collecting detailed data that tell you about specific settings and circumstances. For example, when you do participant observation, you typically work within a particular location (context) to understand the lives of community members (subjectivity) in ways that help you describe their perspective on the social world (induction).

In contrast, saying that quantitative research uses deduction emphasizes using your observations to test theories. Saying it relies on objectivity emphasizes minimizing your impact as a researcher on the results. Saying it relies on generality emphasizes collecting data you can apply to a wide variety of settings and circumstances. For example, when you conduct a survey, you want the results to apply to a broad range of people (generality) in ways that treat every research participant alike (objectivity) so you can determine whether your observations match your hypotheses (deduction).

How are actual research methods related to these larger packages of purposes and procedures? The research methods covered in this book are primarily tools for collecting data. Qualitative methods, such as participant observation and open-ended interviewing, have strengths that are especially useful for inductive-subjective-contextual research, while quantitative methods, such as survey interviews and experimental interventions, are especially well suited to deductive-objective general research. Thus, both qualitative and quantitative research provide well-developed matches between a set of research purposes and a corresponding set of research procedures. Mixed methods research, however, is still developing a clear conception of both its typical research goals and the methods that match those goals. Hence, Chapter 4 considers three different motivations for integrating qualitative and quantitative methods.

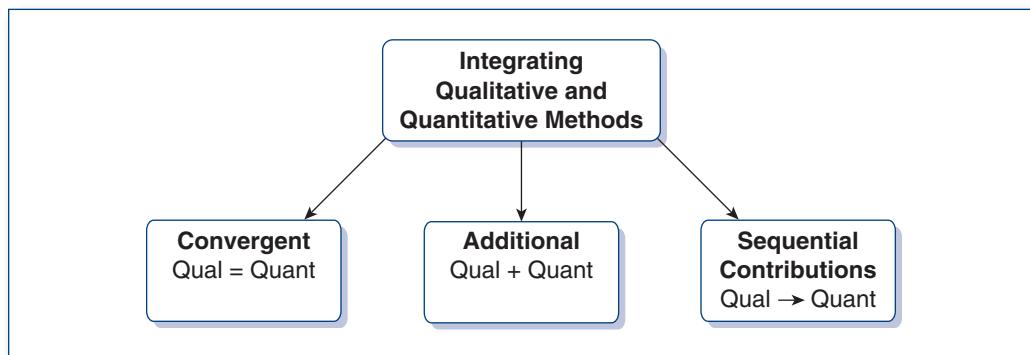
Qualitative Research	Quantitative Research
Induction	Deduction
Subjectivity	Objectivity
Context	Generality

Motivations for Using Mixed Methods Research (Chapter 4)

Social scientists have developed a range of reasons for integrating the different strengths of qualitative and quantitative methods. This chapter provides an overview of three broad purposes for combining qualitative and quantitative methods, but this book does not attempt to cover each of these motivations. Instead, it provides a detailed examination of research designs that fall within a single broad motivation for combining methods: *sequential contributions*. In research motivated by sequential contributions, your goal is to use the strengths of one method to enhance the performance of another method. This approach relies on a division of labor in which each method serves a different purpose and one method builds on what you learned from the other. For example, you might link qualitative methods as an input to designing a program intervention, or you might start with a preliminary survey to locate appropriate participants for a core qualitative study. Thus, in Figure 1.2, which compares sequential contributions to two other motivations, the symbol for sequential contributions is an arrow that links the two methods.

The goal of producing sequential contributions is not the only reason for combining qualitative and quantitative methods, however, and Chapter 4 also covers the two other basic motivations that are shown in Figure 1.2: *convergent findings* and *additional coverage*. It is important to understand how sequential contributions differs from these other options, because each results in conducting mixed methods research for fundamentally different purposes—which often leads to very different research designs.

Figure 1.2 Three Motivations for Combining Qualitative and Quantitative Methods



Among the various motivations for integrating multiple methods, one of the best-known goals is to produce convergent findings across different methods that each address the same research question, as symbolized by an equal sign. For example, you might want to examine the same research question using both a survey and qualitative interviews to determine whether the results are similar. This motivation, also known as triangulation or cross-validation, signals that your goal is to produce similar results from methods with different strengths. The main difference between convergent findings and sequential contributions is that the former compares the results from different methods that investigate the same research question, while the latter uses the results from one method to contribute to the needs of another.

In contrast, studies that pursue mixed methods through additional coverage, as symbolized by a plus sign, match the strengths of each method to a specific purpose or set of purposes and then use each method to study a separate part of the overall question. For example, you might collect most of your data for a case study of a community through participant observation and also conduct a small survey to cover a topic of special interest. Like research that uses sequential contributions, studies based on additional coverage also rely on a division of labor between methods. Therefore, you choose your methods according to their strengths for accomplishing specific tasks within the project as a whole. The difference is that additional coverage assigns each method to its own separate purpose within the larger project, while sequential contributions explicitly uses the results of one method to enhance the effectiveness of another.

Although sequential contributions, convergent findings, and additional coverage motivations all recognize that different methods have different strengths, each uses that basic insight in different ways to pursue different purposes. Yet the same message comes through in every case: The research design that you choose must link your purposes to your procedures. A research design that provides a useful combination of strengths for some purposes may be completely inappropriate for other purposes. Hence, it is crucial to begin with a clear understanding of the purposes that motivate your decision to integrate qualitative and quantitative methods.

The Sequential Priorities Model (Chapter 5)

In studies that are motivated by the goal of producing sequential contributions, qualitative and quantitative methods serve separate but closely linked purposes so that the results of one can enhance the effectiveness of the other.

This book concentrates on a set of research designs that use this basic logic to assign different roles to the qualitative and quantitative methods. These research designs arise from two fundamental principles:

1. *Prioritizing*. A division of labor assigns different roles to a *core method*, which supplies the key strengths your project requires, and a *supplementary method*, which contributes additional strengths to enhance the effectiveness of your core method. Either a qualitative or a quantitative method can serve as your core method, depending on which one best serves the overall goals of your project. The designs in this book match both a core method that is qualitative with a supplementary method that is quantitative and a core quantitative method with a supplementary qualitative method. For example, if your main purpose was to generate theory, then a core qualitative method would be most likely to meet that goal; alternatively, if your highest priority was generalizing to other populations, you would want to use a core quantitative method.

2. *Sequencing*. The methods are used in a specific order such that the supplementary method is either an input to or a follow-up on the core method. The place of the supplementary method within the sequence depends on whether your core method is more likely to benefit from a *preliminary input* or a *follow-up extension*. For the designs in this book, a sequence that begins with a qualitative method will proceed to a quantitative method, while a sequence that begins with a quantitative method will proceed to a qualitative method. For example, you might use a supplementary quantitative method that came either before or after a core qualitative method, depending on the strengths that the supplementary method was contributing to that core method.

Combining these two principles leads to four basic research designs for pursuing sequential contributions, as shown in Table 1.2. The columns in the diagram reflect the fact that the core method may be either qualitative or quantitative, depending on the goals of your project. The rows reflect the fact that the supplementary method can be either an input or an extension to the core method. Each of the four cells also contains a pictorial summary of the corresponding research design, using a notation developed by Janice Morse (1991). In this notation, the core method is shown in capital letters and the supplementary method in small letters, while an arrow shows the sequence.

Starting in the top row of Table 1.2, designs based on *preliminary qualitative inputs* begin with a qualitative study that contributes inputs to a largely quantitative project; for example, if you need insights into designing a program evaluation, you could use a set of focus groups as a first step. Equivalently, designs based

Table 1.2 Sequential Contributions Model for Integrating Qualitative and Quantitative Methods			
Sequence of Methods		Priority of Methods	
		Quantitative Priority	Qualitative Priority
	Preliminary Contribution	Preliminary Qualitative qual→QUANT	Preliminary Quantitative quant→QUAL
Follow-Up Contribution	Follow-up Qualitative QUANT→qual	Follow-up Quantitative QUAL→quant	

on *preliminary quantitative inputs* use a quantitative study as an input to a largely qualitative project; for example, if you need to locate specific categories of people for qualitative interviews, you could search for them in an existing database.

In the bottom row, designs based on *follow-up qualitative extensions* extend the results from a largely quantitative project with an additional supplementary qualitative study; for example, if you produced unexpected results from a survey, you could explore the sources of those results through in-depth interviews. Equivalently, designs based on *follow-up quantitative extensions* extend the results from a largely qualitative project with an additional supplementary quantitative study; for example, if you wanted to show the transferability of things that you observed in one location, you could use those conclusions to create a demonstration program in a similar setting.

One obvious question is whether these four designs are in fact the “best” way to combine qualitative and quantitative methods. The answer is that this book’s emphasis on sequential contributions is *not a claim about how research should be done*. Nothing in this book claims that research using a sequential contributions approach is inherently superior to other motivations for combining methods. Instead, the goal is to provide a detailed description of a highly effective set of designs for how mixed methods research has been done and can be done. The main reason for emphasizing these sequential contributions designs is their practicality. The goal of this book is to systematize and develop a set of basic designs that are ready to be used in the field rather than to propose new but untested ideas.

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Overall, Chapters 1 through 5 emphasize the importance of matching the broader purposes that guide your research with the specific procedures you use

to pursue those goals to avoid the problems that can arise in combining multiple methods. Once you have a solid conceptual framework for integrating qualitative and quantitative methods, the next step is to evaluate the concrete research designs that might serve your specific purposes. The second part of the book consists of four chapters that not only describe each of the basic sequential contributions designs in more detail but also provide a wide range of examples from real world research.

PART 2: FOUR BASIC DESIGNS (CHAPTERS 6 TO 9)

Preliminary Qualitative Inputs to Core Quantitative Research Projects (Chapter 6)

This design represents a version of the sequential priorities model in which a preliminary qualitative study contributes inputs to a largely quantitative project (in Morse's notation, this is summarized as *qual* → *QUANT*). For example, if the core of your project is a survey, then a preliminary qualitative study would help you learn how the respondents think about the topics you want to cover in your questionnaire. Similarly, you might be able to increase the effectiveness of the intervention in an experimental design by beginning with a qualitative study that helps you understand the people whose behavior you want to change. Example 1.3 demonstrates how this design can be used to develop a new set of survey items.

Example 1.3 A Qualitative Input Design

One of the classic uses for preliminary qualitative data is to address a new area where few survey instruments or intervention projects exist. Krause (2002) used a series of qualitative studies as input to a larger survey researching the topic of religiosity among the elderly. This input was important for the project as a whole because the goal of the survey was to cover a wide range of feelings, experiences, and behaviors that were related to both formal religion and more informal aspects of spirituality. Because older Americans had rarely been asked about this aspect of their lives, the funders of this project specifically wanted Krause and colleagues to develop high-quality survey measures that other researchers could use as the basis for further research.

As a first step in generating qualitative inputs for survey, Krause (2002) and colleagues used focus groups to uncover the participants' perspectives on the topics they wanted to include in the survey and to discover new topics that should be added. As a second preliminary study, they conducted individual, open-ended interviews to develop the content for a set of questions that would "operationalize" the things he had heard in the focus groups. Finally, they conducted relatively detailed "cognitive interviews" to hear how potential respondents reacted to the wording of the questions and then refined those questions accordingly. Most survey instruments do not require nearly this much preliminary development. In this case, however, little guidance was available with regard to the basic issues related to religion, health, and aging, let alone the specific questions that would address each of those topics. Krause et al. thus used a series of qualitative methods first to discover likely content areas, then to develop questions for those areas, and finally to define the actual wording of the survey items.

In general, qualitative studies make a valuable contribution in preliminary qualitative input designs because quantitative methods typically require predetermined research protocols before they enter the field. This means that you have few options for modifying a quantitative study after you begin collecting data, so it is important to start with the best possible content for your survey instrument or experimental intervention. If you ask the wrong questions in a survey or implement an inappropriate intervention in an experiment, then the whole project may be jeopardized. Thus, in cases where you have doubts about the appropriate content for either a survey or an experimental intervention, even a small preliminary qualitative study can make a major contribution.

Preliminary Quantitative Inputs to Core Qualitative Research Projects (Chapter 7)

These designs use a quantitative study as an input to a largely qualitative project (*quant* → *QUAL*). For example, if you are planning to conduct a case study that relies on participant observation as your core method, you might examine statistical data to choose a research site that matches the needs of your study. Similarly, if you are planning to do qualitative interviews, you might use an existing survey sample or other quantitative database to locate specific categories of informants who match your research interests. Thus, the

most common form of preliminary quantitative input design uses a preliminary quantitative study to help select the sources for in-depth qualitative data collection, as shown in Example 1.4.

Example 1.4 A Quantitative Input Design

Quantitative databases are often a useful way to locate cases that are both unusual and interesting. A good example of this process is a cover story in *U.S. News & World Report* that used a series of six case studies to illustrate the key traits of outstanding high schools (Toch, 1999). To locate these schools, the magazine commissioned a preliminary quantitative study that was done by the University of Chicago's National Opinion Research Center. The quantitative portion of the project analyzed data on a variety of indicators from public sources for over 1,000 high schools in 6 large American cities to identify schools where students' performance consistently exceeded what would have been expected from their socioeconomic backgrounds.

The goal of this preliminary quantitative work was to locate schools that could serve as "exemplars," that is, schools for which something about their unique character, rather than their location or the income level of their students, was responsible for their success. The article concentrates on six detailed case studies that demonstrate a valuable policy or practice. For example, a public school in Detroit illustrates the importance of insisting on high standards through a demanding and focused curriculum; the school overcame its lack of resources and sent 95% of its graduates to college. Alternatively, a Catholic school in the South Bronx neighborhood of New York City showed the value of a sense of community as evidenced by an emphasis on volunteerism and social justice that created connections between the school and the local area as well as within the school itself. Overall, the fact that this project began with a systematic search for schools that produced excellence was a strong justification for paying attention to the in-depth lessons that the article produced from its six central case studies.

The quantitative study in a preliminary quantitative input design helps to focus the data-gathering efforts for the core, qualitative study. Because qualitative studies typically rely on small *N*s, such as one or two sites for participant observation or a relatively small number of informants for in-depth interviews, you can waste a great deal of time if you select an unproductive field site or run into trouble locating appropriate informants for your interviews. Qualitative studies thus tend

to rely on a careful process of purposive selection to locate the data sources that are most relevant to the research topic. In these cases, the preliminary use of even a small quantitative study can provide important resources for targeting the most productive or theoretically relevant sources for your qualitative data.

Follow-up Qualitative Extensions to Core Quantitative Research Projects (Chapter 8)

These designs use a qualitative study to follow up on a largely quantitative project (*QUANT* → *qual*). For example, if you conduct a survey that produces a set of unexpected results, then you could pursue those issues through additional qualitative interviewing. Similarly, if an experimental intervention has more impact at one site than another, then you might use qualitative observations to help clarify the difference. In both of these examples, a follow-up qualitative extension design builds on a core quantitative study, so you can address new questions that cannot be answered within the quantitative data themselves. Investigating these issues with an additional qualitative study is often an effective way to extend your work, particularly in comparison to mounting another full-scale survey or experimental intervention.

Example 1.5 A Qualitative Follow-up Design

Experimental programs that do not achieve their goals are an especially good match to follow-up qualitative extension designs, as illustrated by the efforts to understand the failure of an intervention intended to reduce the rehospitalization of schizophrenic patients (Chinman, Weingarten, Stayner, & Davidson, 2001; Davidson, Stayner, Lambert, Smith, & Sledge, 1997). The project began with an intervention that followed the best available treatment model, using careful monitoring of symptoms to head off rehospitalization. Unfortunately, this intervention had no effect on readmission rates. Rather than simply labeling their experiment a failure, Davidson et al. conducted open-ended interviews with patients who kept returning through the “revolving door” between the community and the psychiatric ward. By asking the patients themselves about their experiences, the research team not only encountered a whole new perspective on why patients came back to the hospital but also discovered a promising way to decrease readmissions.

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The qualitative interviews showed that patients were often attracted to life in the hospital—especially in comparison to the lives that they lived in the community. The appealing features of the hospital included “respite, privacy, safety, and, above all, care” (Davidson et al., 1997, p. 777). In contrast, life in the community was often stressful, degrading, and isolated. Chinman et al. (2001) then described how the researchers worked with recovering patients to design a program for improving the patients’ quality of life in the community so that hospitalization would no longer be as attractive. A key insight involved patients’ frequent reports that the hospital was often the only place where people truly cared about their welfare. Hence, the revised intervention brought the former patients together in a regular series of group activities that featured mutual support as well as social opportunities. These group meetings not only assisted with the original goal of carefully monitoring symptoms but also created a community of peers who shared the same experiences and needs. Ultimately, readmission rates did fall in response to these revisions to the original intervention.

The point of the qualitative study in a follow-up qualitative extension design is to learn things that take you beyond the results provided by the quantitative methods that form the core of the project. On the one hand, the results from your quantitative studies may support your original hypothesis, in which case a follow-up qualitative study can help you illustrate the nature of those results. On the other hand, the predetermined questionnaires and protocols may not provide the data you need to investigate new issues that come up during the course of the research. Hence, either expected or unexpected results can create value for even a small qualitative follow-up study.

Follow-up Quantitative Extensions to Core Qualitative Research Projects (Chapter 9)

These designs use a quantitative study to follow up on a largely qualitative project (*QUAL* → *quant*). For example, if you want to know how well the conclusions from a case study at a single site might apply to other sites, then a small survey can show whether the same processes are at work elsewhere. Similarly, if

your open-ended interviews lead you to conclusions about changes that will make a difference in your informants' lives, then a small-scale demonstration program could demonstrate how this intervention would work. As these examples and the extended Example 1.6 show, follow-up quantitative extension designs use a supplementary quantitative study to build on the results from a project that relies on a core set of qualitative methods.

Example 1.6 A Quantitative Follow-up Design

Some of my early research with focus groups used a small quantitative study that followed up on a core qualitative study (Morgan, 1989). The primary goal of the project as a whole was to understand the role of social support networks in the lives of recent widows, and I wanted to do a highly exploratory study of how others affected the widows' adaptation to this stressful life event. Hence, focus group interviews consisted of only one question: "What things have made your life either easier or harder since your husband died?" Note that this question makes no reference to the role of other people so as to address this topic within the larger context of the experience of widowhood. To address issues of social support, I systematically coded for references to other people and things they did that made life either easier or harder for the focus group participants.

An unexpected result from the qualitative portion of the project was the discovery that although negative interactions with other network members were relatively uncommon, they seemed to have just as much, if not more, impact as positive, supportive interactions. This idea was largely undiscussed in the literature, so I wanted to follow it up with a small survey, whose purpose was to demonstrate that negative aspects of relationships could have strong effects on the lives of older people in general, not just recent widows. The supplementary study contained standard questions about supportive interactions and a new set of questions that asked about parallel versions of negative interactions. I gave this survey to a "convenience sample" of 20 older people who had not experienced a specific stressful life event. Even the small sample in this follow-up study clearly showed how powerful negative relationships were. This served the purpose of enhancing my ability to pursue further research based on more survey measures that demonstrated the ability to apply my insights to a broader, more general set of participants.

The follow-up quantitative study in a follow-up quantitative extension design contributes the ability to enlarge the range of settings and populations that the research project can address. Many qualitative studies are guided by the goal of understanding a particular set of circumstances or “context” in depth and detail. Thus, if you want to demonstrate that the results from a qualitative study apply more broadly or that they can be transferred to other settings, then you might use a follow-up quantitative extension design.

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Taken together, the four designs that make up the sequential priorities model occupy the central portion of this book. Following that section, the chapters in Part 3 (Chapters 10 to 12) take up more specific issues, most of which are extensions of the topics raised in earlier chapters.

CONCLUSIONS

Each of the chapters in Part 1 of the book will conclude with a consideration of the same three basic points, which summarize the basic argument for the book as a whole.

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

This statement describes the most basic elements that you need before you can begin the process of designing any project. Regardless of whether your research uses qualitative, quantitative, or mixed methods, you need to find appropriate ways to answer meaningful research questions. In particular, you need to match the strengths of your research procedures (i.e., research methods) to your research purposes (i.e., the questions you want to answer). Choosing to do mixed methods research means that you need a wider set of strengths than you can get from either qualitative or quantitative methods alone. The underlying reason you need this combination of different strengths almost always involves the choice to pursue a more complex set of purposes. Thus, the best way to address many of the problems that can arise from the substantial differences between qualitative and quantitative methods is to begin with a strong sense of how your research procedures will accomplish your research purposes.

In terms of future directions for the field of mixed methods research, an emphasis on a pragmatic linkage between purposes and procedures offers a promising direction. This kind of overarching framework is especially important because efforts to integrate qualitative and quantitative research are occurring across such a wide range of disciplines

within the social sciences. One way to increase the level of consensus in the field is through a reliance on pragmatism as a conceptual framework. Another way to encourage conversations across disciplines is to develop a concise and comprehensive set of research designs. This book thus pursues both pragmatism at a conceptual level and research design at practical level to provide a common frame of reference for mixed methods research as a field.

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

This second point moves the broad nature of the first point into the realm of the specific decisions you need to make about your research designs. It is often said that your research questions should determine your research methods, and it is research design that creates the essential connection between these two. Effective research design is equally about why you are doing your research and how you will do it. Making decisions about research design thus requires careful attention to both the purposes behind your research and the procedures you use to address those purposes. Hence, the presentations of the designs that make up the core of this book will balance descriptions of how to use a specific design with equivalent discussions of when and why you would use that design.

One of the advantages of mixed methods research is the range of purposes that you can pursue. This flexibility comes at a price, however: the greater complexity of the procedures involved in using a combination of methods. This complexity reinforces the importance of creating explicit and detailed linkages between your purposes for using mixed methods and your procedures for doing so. Thus, the best way to address many of the problems that can arise from the substantial differences between qualitative and quantitative methods is to begin with a strong sense not just of what your research goals and your methods will be but also of how your research procedures will accomplish your research purposes.

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

Saying that your project requires the different strengths of different methods means that you need to know not only the strengths of those methods but also the specific purposes those strengths can serve. The more you understand what a set of research methods can and cannot do, the easier it is to match those procedures to your purposes. Qualitative and quantitative research already have well-understood sets of assumptions about the strengths of their methods and the purposes that match those strengths. This book moves toward the same level of specificity for the procedures associated with mixed methods research by offering detailed presentations of the four options for research designs, as well as clear guidance for evaluating how well each of those designs matches a specific set of research goals.

In mixed methods research, the need to work with multiple methods complicates the basic idea that you need to choose methods that will answer your questions. In particular, when you collect both qualitative and quantitative data, you need some way to deal with the differences between these procedures. This means you must go beyond selecting each type of method for its specific strengths; in addition, you need to consider your choices according to how you will integrate the different kinds of results that each method produces. This means that choices about research design are even more critical to integrate your research procedures so as to address your research purposes.

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Ultimately, the field of mixed methods research should pursue a path that leads to the same kind of consensus that already characterizes qualitative research and quantitative research. The three parts of this conclusion suggest the broad basis for such a consensus. First, there needs to be a general agreement about the kinds of research questions that are most meaningful to pursue with mixed methods research. Second, there needs to be well-understood statements about the implications those research purposes have for our research procedures. Finally, there needs to be a shared sense of how the specific strengths of different research designs make them well suited for some of these purposes and less appropriate for others. The book cannot promise to address that large an agenda. Still, as the familiar proverb says, a journey of a thousand miles begins with a single step, so it is important to take that step in the right direction.

SUMMARY

Mixed methods research begins with the recognition that different methods have different strengths. Qualitative and quantitative methods can thus make very different contributions to any project that combines the two. These same differences, however, also make it more complex to integrate the results. At the broadest level, pragmatism meets this requirement with a conceptual framework that links research methods and research goals. Next, bringing qualitative and quantitative methods together requires a detailed understanding of their separate strengths, along with research designs that explicitly integrate those strengths. Among three possible approaches to integrating the results from mixed methods research, the current emphasis is on a sequential priorities model. In this model, a supplementary study serves as either an input or a follow-up to a core study, yielding four possible research designs: *qual* → *QUANT*, *quant* → *QUAL*, *QUANT* → *qual*, and *QUAL* → *quant*. Taken together, this set of research designs offers a powerful set of possibilities for integrating the results from qualitative and quantitative methods.

DISCUSSION QUESTIONS

The idea that additional methods can contribute additional strengths isn't necessarily the only justification for using mixed methods. What other arguments can you think of for combining qualitative and quantitative methods?

Why is it important to pay attention to the complexities of combining qualitative and quantitative methods? List as many potential problems as you can that might make it difficult to combine these two kinds of research.

ADDITIONAL READINGS

By far the most important resource for learning more is the Handbook of Mixed Methods Research:

Tashakkori, A., & Teddlie, C. (2010). *SAGE handbook of mixed methods research in social & behavioral sciences* (2nd ed.). Thousand Oaks, CA: Sage.

Within that volume, two especially useful orientations to the field as a whole are these:

Creswell, J. W. (2010). Mapping the developing landscapes of mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *SAGE handbook of mixed methods in social & behavioral sciences* (2nd ed., pp. 45–68). Thousand Oaks, CA: Sage.

Teddlie, C., & Tashakkori, A. (2010). Overview of contemporary issues in mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *SAGE handbook of mixed methods in social & behavioral sciences* (2nd ed., pp. 1–44). Thousand Oaks, CA: Sage.

