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Using Secondary Data in Mixed Methods

Imagine

Your colleague Chris flops down next to you at the staff meeting, startling you. "Oh! I'm sorry," he sighs. "How have you been?" You can tell by his tone that Chris is in a talkative mood, not a listening mood, so you ask how he is doing. "Man… I got feedback from my program officer about my research project, and she encouraged me to do a mixed methods study. You know I'm a stats guy, so I don't even know where to begin!" You can see the frustration on Chris' face, so you listen to him as he begins to express his enthusiasm for the research project; his previous studies, outcomes, and methods; and his confusion about how to proceed. He doesn't sound excited about the possibility of doing mixed methods for his newest project, so you stop him mid-sentence, "Hey, man, is there any particular reason why you are not seriously considering a mixed methods project?" Chris scoots his chair closer to you, leans in, and whispers, "I don't know how to do mixed methods. Plus, I was hoping to use some of my pilot data as a launching pad for this next project. Can I even use previous data in a new mixed methods project?" You lean back in your chair and smile, "Of course, you can." If you want some valuable tips to share with your colleague, Chris, then this chapter is for you.

Learning Objectives

This chapter aims to briefly review what, why, and how to use existing data for secondary purposes in mixed methods. By the end of the chapter, you will be able to:

1. Define the knowledge-level continuum and its contributions to mixed methods,

2. Describe what using existing data for secondary purposes in mixed methods involves,

3. Explain why secondary data should be used in mixed methods,

4. Describe examples of how mixed methods can benefit from secondary data, and

5. Describe how to do mixed methods using secondary data as a team, "semi-solo," or solo effort.

The Knowledge-Level Continuum as a Roadmap for Mixed Methods

Though various definitions of mixed methods exist (Johnson, Onwuegbuzie, & Turner, 2007), scholars tend to place their definitions of mixed methods into one of four categories: a philosophy, a methodology, a method, or a community of research practice (Johnson, Onwuegbuzie, & Turner, 2007; Plano Clark & Ivankova, 2016). Philosophies are formal beliefs such as pragmatism, constructivism, and post-positivism (Plano Clark & Ivankova, 2016). When you mix philosophies, you consider that different beliefs and ideas could benefit from being brought together to advance an area of inquiry. Mixing philosophies are very different than combining specific research techniques and tools, such as what you would find when mixing methods and mixing methodologies. Note that *methods* are different from *methodologies* (Hesse-Biber, 2010; Watkins & Gioia, 2015), though they are often used interchangeably. Methods are determined by the methodology, reflecting your perspective and philosophical stance.

The methodology determines how you should frame the research question and choose the sample and, arguably, whether collecting new data or gathering existing data for secondary purposes will produce the best results (Hesse-Biber, 2010; Watkins & Gioia, 2015). Simply put, methods are your tools, and methodology is how you plan to use the tools. A more recent and inclusive way to define mixed methods is as a community of research practice. Plano Clark and Ivankova (2016) define mixing at the community of practice level as having individuals interested in mixed methods and regard themselves as mixed

methods researchers, qualitative researchers, or quantitative researchers. These researchers then come together informally or formally to share their beliefs, research agendas, and substantive knowledge about a topic. Creswell defines mixed methods as:

An approach to research in the social, behavioral, and health sciences in which the investigator gathers both quantitative (closed-ended) and qualitative (open-ended) data, integrates the two, and then draws interpretations based on the combined strengths of both sets of data to understand research problems. (p. 2)

Creswell's (2015) definition emphasizes mixed methods as a *method*, and for many budding researchers, it is a more practical way to understand mixed methods. Whether your orientation to mixed methods is a philosophy, a methodology, a method, or a community of research practice, having some sense for your approach to mixed methods is key to understanding the what and why of using existing data for secondary purposes in mixed methods. My approach to mixed methods and thinking about ways to incorporate secondary data into mixed methods is to think about mixed methods in the context of the knowledge-level continuum (see Figure 2.1). In short, I let the knowledge-level continuum guide my decisions to use existing data for secondary purposes in mixed methods.

The **knowledge-level continuum** is a term used in social work (Grinnell & Unrau, 2018) and anthropology (Vassallo, 1999) research to describe the

FIGURE 2.1 ● The Knowledge-Level Continuum
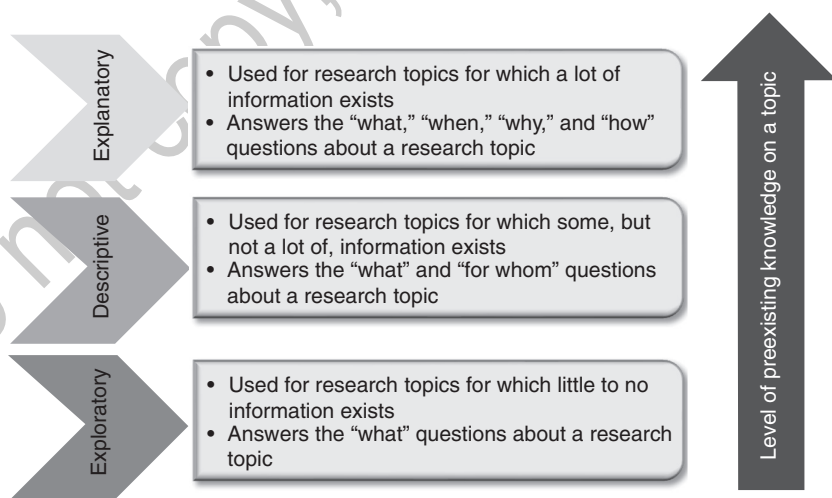
Source: Based on the framework discussed by Grinnell & Unrau, 2018.

process for scientific inquiry; all research studies can fall anywhere along the continuum depending on how much is already known about the topic. It encourages you to think about research as being a direct by-product of the information already known about a topic. For example, when little to no knowledge exists about a topic, an exploratory level of inquiry can *explore* the topic and produce more knowledge about it.

Exploratory studies are at the lower end of the knowledge-level continuum not because they are less important but because there is less preexisting knowledge about the topic. Qualitative methods are often used to conduct studies with no preexisting knowledge. If you are studying a virtually unexplored research topic for the first time, you may not know the language used to define the topic. For example, let's say you are a researcher interested in studying carpal tunnel symptoms among sculptors, and you could not locate any preexisting knowledge on the topic. The first step is to talk with sculptors who have carpal tunnel to learn how they describe their pain. Conducting an exploratory study that uses individual interviews or focus groups to develop a language for these sculptors' experiences would be an appropriate first step.

> *Exploratory studies are at the lower end of the knowledge-level continuum not because they are less important but because there is less preexisting knowledge about the topic.*

The next level of the knowledge-level continuum is the **descriptive** level, which describes the topic of interest in more detail. This can include pursuing both qualitative and quantitative methods of inquiry to deepen your understanding of a topic. For example, using the carpal tunnel example, let's assume you first conducted an exploratory study with sculptors to develop some language they use to describe their symptoms. Your next step in this line of inquiry may be to conduct a small survey of sculptors who experience carpal tunnel symptoms. This survey would include questions asking respondents to provide more details about their family history, characteristics, health behaviors, profession, lifestyle, and any current treatments they seek to alleviate their symptoms. If you were to distribute this survey nationwide, you might be able to garner the interests of more individuals who engage in different types of artistic expression. The descriptive study would collect more detailed information about this group and the topic of interest.

> *[A] descriptive study would collect more detailed information about this group and the topic of interest.*

The final level is the **explanatory** level, situated at the highest end of the knowledge-level

continuum. If you have used your exploratory study to understand the language used by sculptors who experience carpal tunnel and your descriptive study to collect more detailed information about the sculptors' background, characteristics, and health behaviors, an explanatory study can help you understand the *relationships* between concepts that you identified in the exploratory and descriptive studies for this topic. With research at the explanatory level, you can examine the causation of these concepts, whether associations exist, and the strength of these associations. Also, this level of research can produce inferential statistics that you may be able to generalize to the larger population of artists with symptoms of carpal tunnel (should they exist, of course). Using the knowledge-level continuum as a roadmap to guide your scientific inquiry can be helpful in your mixed methods, not only for thinking about the purpose of your study and your research questions but also for the types of methods you consider using at these various levels of knowledge acquisition (Grinnell & Unrau, 2018).

> **" With research at the explanatory level, you can examine the causation of these concepts, whether associations exist, and the strength of these associations.**

Aligned with this is the importance of **theory** generation and testing in scientific inquiry. Some scholars argue that qualitative research aims to deepen our understanding of a topic and build **conceptual frameworks** that generate theory. Suppose you embrace this goal of qualitative research. In that case, you can think about applying the knowledge-level continuum as a roadmap for your study. You could begin by using your exploratory level of knowledge to operationalize a language for further inquiry and propose a conceptual framework for how concepts fit together. You could then use your descriptive level of investigation (i.e., the qualitative and quantitative studies) to generate details about your sample, understand the profiles of the people most affected by your topic, and strengthen your understanding of the conceptual linkages between how they operationalize their language of the topic and their lived experiences. Finally, you could use your explanatory level of knowledge to broaden your understanding of the topic and test the associations between variables of the conceptual framework you generated using your exploratory and descriptive studies.

You may have noticed that *exploratory* and *explanatory* are terms that are also used often in mixed methods (Creswell & Plano Clark, 2018; Watkins, 2017a; Watkins & Gioia, 2015), most notably to describe mixed methods designs (e.g., exploratory sequential design and explanatory sequential design). A part of using the knowledge-level continuum as a roadmap in your mixed methods is knowing the purpose and goal of the **core mixed methods designs**. Table 2.1

TABLE 2.1 ● Core Mixed Methods Designs and Definitions	
Design Name	**Definition**
Convergent	A core mixed methods design where quantitative and qualitative data are collected and analyzed concurrently. Then the findings of the two data sources are interpreted collectively to generate conclusions.
Exploratory sequential	A core mixed methods design where qualitative data are collected and analyzed first, followed by collecting and analyzing quantitative data. Usually, the findings from the qualitative data are used to make decisions about the collection, analysis, and interpretation of the quantitative data.
Explanatory sequential	A core mixed methods design where quantitative data are collected and analyzed first, followed by collecting and analyzing qualitative data. Usually, the findings from the quantitative data are used to make decisions about the collection, analysis, and interpretation of the qualitative data.

provides definitions for the core mixed methods designs that have been cited in previous literature. It is not by chance that the way I have operationalized these terms in my description of the knowledge-level continuum mentioned previously is aligned with how they are also used in mixed methods designs. I hope you can decipher these two sequential mixed methods designs from one another based on what you now know about the knowledge-level continuum. I will refer to the knowledge-level continuum as a roadmap throughout this text, so you can revisit these terms as you move through the chapters.

What Is Required to Do Mixed Methods With Secondary Data?

Drawing from our knowledge-level continuum roadmap for scientific inquiry, let's delve into what mixed methods with secondary data involve. Scholars have gone to great lengths to describe the advantages of mixed methods studies apart from qualitative and quantitative single-method studies (Bazeley, 2017; Creswell & Plano Clark, 2018; Hesse-Biber, 2010; Mertens, 2009, 2017; Morse, 2009). Mixed methods may also vary slightly across disciplines (Curry & Nunez-Smith, 2014; Johnson & Christense, 2013; O'Cathain, 2009) and professions (Andrew & Halcomb, 2009; Haight & Bidwell, 2016; Johnston, 2012; Magee, et al., 2006; Sheperis & Young, 2016; Watkins, 2017a; Watkins & Gioia, 2015). Yet sparse resources provide clear guidelines for mixed methods with secondary data.

Mixed methods with secondary data involve identifying, evaluating, and incorporating either one or more existing data sources into one or more components for a mixed methods project. It acknowledges the purpose of

mixed methods, which is to *collect*, *analyze*, and *integrate* qualitative and quantitative data in rigorous and theoretically sound ways to encompass the breadth and depth of a phenomenon of interest (Creswell, 2015; Creswell & Plano Clark, 2007; Johnson, Onwuegbuzie, & Turner, 2007; Guetterman, Fetters, & Creswell, 2015; Tashakkori & Teddlie, 2010; Teddlie & Tashakkori, 2008). But it also acknowledges the purpose of secondary data analysis, which is to further analyze existing data by addressing a research question like (or distinct from) the original data (Kitchin, 2014; Hewson, 2006; Trinh, 2018; Panchenko & Samovilova, 2020).

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> *Mixed methods with secondary data involve identifying, evaluating, and incorporating either one or more existing data sources into one or more components for a mixed methods project.*

Using secondary data for your mixed methods puts data in which someone has already invested time, resources, and energy to good use. Your purpose statement, research questions, and theory should guide your decision to use secondary data. How you use theory will vary depending on whether your mixed methods prioritize the quantitative phase or the qualitative phase of the study. For example, if your mixed methods study **prioritizes the quantitative phase**, the theory will guide your choice of the variables you plan to use. In sequential designs, prioritized phases tend to occur before other phases of the study. Suppose the prioritized quantitative phase involves using a secondary data set. In that case, the theory used by the original investigators will likely guide your understanding and selection of the preexisting variables in those data to help answer your research questions.

If your mixed methods study **prioritizes the qualitative phase**, the theory has a different role. Rather than guide the selection of variables or theory, developing a conceptual framework is the goal of mixed methods studies that prioritize the qualitative phase. You are beginning your mixed methods study with a qualitative phase so that you can build a preliminary, conceptual framework (to test as a theory in subsequent phases of the study). If the prioritized qualitative phase involves using secondary data, you aim to use the secondary data to generate a conceptual framework that will evolve into a future theory. So knowing theory's role in mixed methods with secondary data is critical, regardless of whether you are trying to build theory (e.g., qualitative analysis) or test theory (e.g., quantitative analysis).

Novice mixed methods scholars may seem especially interested in how you can collect and combine two methods, traditionally used in isolation, and then extract from the results insight that enables you to answer your research question. But doing mixed methods with secondary data may be even more mysterious for traditional mixed methods scholars. The idea of doing mixed methods with one or more secondary data sources is valuable for your research

and career trajectory and can help you streamline the logistics associated with your research purpose and answer your research questions. Here, I highlight three reasons you may consider using existing data for secondary purposes in your mixed methods.

Secondary Data in Mixed Methods: Three Reasons Why

Ease of use should never drive the decision-making for your research methods and data sources. Instead, you may find that using secondary data in mixed methods can help you achieve your research and career goals. Specifically, using secondary data in mixed methods can help you: (1) examine the potentially untapped possibilities to expand knowledge and understanding of a topic, (2) gauge the depth of a topic so you know how to proceed quantitatively, and (3) gauge the breadth of a topic, so you know how to proceed qualitatively.

Examine the Potentially Untapped Possibilities to Expand Knowledge

Many scholars are drawn to secondary data in mixed methods to extend their current methods expertise. You are only one person, and while your passion for your research topic is solid and pursuant, there is only so much you can do and so much data you can collect in your lifetime. Furthermore, you have been trained in a specific way, and, chances are, how you view research problems and solutions are aligned with how you were taught. I note this not as a disadvantage but as an advantage. So essentially, it is healthy for you to face the reality that your education, training, and skills are unique, providing you with an opportunity to view the world through a particular lens. This makes you unique and a valuable contributor to your research area. Similarly, other researchers also contribute to science; only they may be trained in ways that differ from yours. Thus, they will make different contributions to science.

Let's assume that you are a doctoral student at a U.S.-based institution and that you have dedicated the past four years of your education, training, and research to learning about the lived experiences of men who have been diagnosed with breast cancer. Your primary work has involved collecting mixed methods data about the experiences of male breast cancer patients from the time they receive the diagnoses through their treatment. One evening, you come across a recently published paper by an Australian researcher whose body of work includes a 15-year longitudinal study of hundreds of male breast cancer survivors. Would you not want to connect with that researcher to explore possibilities for collaboration? How does the Australian researcher conduct her research? What methods does she employ? Are there cultural differences in how you two pose your research questions, collect your data, and discuss the implications for your work?

Suppose you are a scholar who values the inclusion of existing data for secondary purposes in your mixed methods research. In that case, you might even wonder if it would be possible for you and the Australian researcher to build strong collegiality and share your data sources to extend the opportunities for advancing the current way you think about your work. This kind of collaboration and sharing of data sources is not uncommon for some disciplines and professions. Sometimes, researchers from different parts of the world build long-standing careers, maintain their research programs in their geographic area, and then connect with another scholar who may share their ideas or data to maximize the possibilities for understanding the topic and building the science for that research topic.

Gauge the Depth of a Topic, So You Know How to Proceed Quantitatively

The knowledge-level continuum suggests qualitative data can be used to build a theory that can subsequently be tested quantitatively (Grinnell & Unrau, 2018; Watkins & Gioia, 2015). Qualitative research uses ***inductive reasoning***, which begins with observations and ends with theory. Therefore, if information from a secondary qualitative data source aligns with the information needed to address your research question, you should consider using these secondary qualitative data as one of the data phases of your mixed methods research. An implied depth is associated with qualitative research; therefore, you can immerse yourself in the data, conduct a rigorous qualitative analysis, and generate a conceptual framework (i.e., preliminary theory) that connects relevant concepts about your phenomenon of interest. Such deep thought about and inquiry into secondary qualitative data can serve as a springboard for building a new quantitative data phase to your mixed methods study.

Consider an example involving a secondary qualitative data source to generate a new quantitative investigation. Let's say your mentor owns a qualitative data source on educational outcomes of court-appointed youth, and you are interested in exploring these data further. Both you and your mentor study this topic, but he collected focus group data three years ago and recently received a Department of Education grant he needs to turn his attention to for the next five years. He offers the data to you to help advance your current scholarship in this area. This use of your mentor's secondary qualitative data can help you gauge the depth of the educational outcomes of court-appointed youth so that you can know how you want to proceed quantitatively. Namely, you could analyze the focus group data to generate a list of concepts and themes for which a preliminary theory (i.e., conceptual framework) can be created. After which, you could collect quantitative data (including items that measure the concepts and themes generated from your qualitative analysis) to generate hypotheses and then test the conceptual framework. This is a way to enhance the use of your mentor's secondary qualitative data by repurposing it so that you have some direction in your research.

Both quantitative and qualitative data have advantages and disadvantages, but sometimes, researchers are reluctant to reuse secondary qualitative data. This is unfortunate given the plethora of possibilities for open-ended inquiries into the human experience. For example, the benefits of being able to assess behaviors bound by social and cultural contexts; reveal connections, relationships, and subjective processes that result from social phenomena; and holistically uncover the root of motivation and the factors that influence decision-making and opinions (Watkins, 2012) will strengthen your research inquiry, not weaken it. Researchers may hesitate to use (and then reuse) qualitative data sources for several reasons. For example, fewer instructional resources explain maximizing secondary qualitative data (see Beck, 2019; Hughes & Tarrant, 2020; Fielding & Fielding, 2000; Heaton, 1998; Largan & Morris, 2019, for exceptions). But barring the anticipated challenges of learning about a data source that you did not collect, the advantages of using secondary qualitative data far outweigh the disadvantages. Secondary qualitative data can help you gauge the depth of a topic so that you know how to proceed quantitatively and enhance the longevity of the data by reusing it for a different purpose.

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Gauge the Breadth of a Topic, So You Know How to Proceed Qualitatively

Keeping the knowledge-level continuum in mind, we know that quantitative inquiry uses deductive reasoning to test and confirm (or refute) a theory (Grinnell & Unrau, 2018). ***Deductive reasoning*** involves beginning with an established theory and confirming that theory more broadly. Given the sheer number of cases that can be observed using quantitative methods, there are apparent advantages to the secondary analysis of existing quantitative data. One clear advantage is gauging the breadth of a topic before deciding how to proceed qualitatively. For example, let's assume you are an employee at Planned Parenthood, and your supervisor has asked you to explore possibilities with the organization's confidential client survey data. You decide to use these secondary quantitative data to understand what adolescents think about the services offered by your Planned Parenthood branch. After you uncover some descriptive information about what adolescents think about the services provided, this information could be strengthened by a small, qualitative study in which you assemble groups of adolescents who represent the demographics reflected in your secondary quantitative analysis and then ask them to expound on the qualitative findings you uncovered.

Many resources are invested in collecting primary quantitative data sources for scientific purposes. Time, energy, and human resources are a few examples, and unbeknownst to you, the data may hold the answers to some of your unanswered research questions. While the sense of ownership, control, and responsibility as an independent researcher may make you feel you should collect your own quantitative data for your mixed methods study, I would advise you to see if you can locate secondary data first before deciding to collect new data for your investigation. Having access to an existing study's protocols, guidelines, training materials, codebooks, and field notes can make you feel like you were part of the original data collection team and streamline the process for generating quantitative results to help you proceed qualitatively in your mixed methods study. I discuss this more in Chapter 3.

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Examples for How Mixed Methods Could Benefit From Secondary Data

With the knowledge-level continuum at its foundation (Grinnell & Unrau, 2018; Watkins, 2017a; Watkins & Gioia, 2015), mixed methods consider inductive and deductive reasoning, individually and collectively, and suggest that a single method may not adequately answer a research question (Creswell, 2015; Creswell & Tashakkori, 2007; Tashakkori & Teddlie, 1998). The beauty of mixed methods is that it allows you to extend your understanding of the data far beyond that which any single-method study can conclude. In other words, you can expound on your definition and understanding of research with mixed methods. What you glean from integrating qualitative and quantitative data will be over and above what you intended to glean from using just one method. Similarly, using existing data for secondary purposes in mixed methods is another way of answering your research questions (Watkins, Wharton, Mitchell, Matusko, & Kales, 2017). Mixed methods with secondary data allow you to maximize existing qualitative and quantitative data sources; the time you would use to collect qualitative and quantitative data can be streamlined because one or both data sources already exist.

Consider this scenario: You have just defended your mixed methods dissertation on the role of nurses in providing mental health treatment for

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> *The beauty of mixed methods is that it allows you to extend your understanding of the data far beyond that which any single method can conclude.*

homeless aging populations. You found little preexisting data for your sample of homeless elders, so you collected new qualitative and quantitative data for your dissertation. You have just submitted the dissertation revisions to your committee and are preparing the document for publication so that you can transition to your new postdoctoral fellowship at a different institution. While going through the dissertation, you see a couple of tangential ideas that you did not have a chance to flesh out in the dissertation, but that you would like to explore as a next step in the work. After you have completed the requirements for your doctoral degree and your degree is conferred, you may consider revisiting these tangential ideas to see if you can perform a secondary analysis of the original qualitative or quantitative data (or both). You might even supplement your secondary data with new qualitative or quantitative data from homeless elders in the city where you will be doing your postdoctoral fellowship.

The previously mentioned scenario shows how a mixed methods dissertation can evolve into a series of other single-method and mixed methods studies for which the dissertation can serve as the secondary data source. Thus, extending the lifespan of your dissertation advances your mixed methods as you now have opportunities to generate conceptual frameworks you can test quantitatively (e.g., an exploratory sequential design using secondary data) or test hypotheses you can explain qualitatively (e.g., an explanatory sequential design using secondary data). By building on your dissertation research with subsequent studies incorporating your dissertation data into them, the "methods" in mixed methods can be maximized, and the "knowledge" in knowledge acquisition can be refined. Fashioning your trajectory in this way results in research that spans multiple studies and build on your previous work throughout your research career.

You may be wondering what kinds of mixed methods projects would benefit from secondary data. I would argue almost any research question in the social, behavioral, and health sciences could benefit from a further study using secondary data. Table 2.2 illustrates some examples of research questions that could be answered using a mixed methods study with secondary data and the role of secondary data within these examples.

Though practically any research question could benefit from using secondary data in a mixed methods study, you will need to consider several key characteristics of the data you have access to, should you wish to use them in your mixed methods study. For example, weighing the advantages (such as your ability to maximize secondary data in ways that exceeded the expectations placed on the primary data) and learning about the research processes and methodological decisions made by the original research team, will be necessary. Likewise, disadvantages exist with all research studies. Still, these might look different with research that uses secondary data, such as lacking clarity about the primary data and the processes implemented by the primary research team. Also, suppose you have few analytic skills or are not comfortable using secondary data. This could be another disadvantage delaying or even preventing you from moving forward with your mixed methods study with secondary data.

TABLE 2.2 ● Sample Mixed Methods Projects That Could Benefit From Secondary Data		
Sample Research Question	**Role of Secondary Data**	**Secondary Data Examples**
How do classroom seating arrangements influence the learning success of children on the autism spectrum in K through 5 educational settings?	Previous qualitative or quantitative data can offer insight on K through 5 students on the autism spectrum and their classroom experiences. Data can be local, regional, or national.	Qualitative: Interviews with teachers about classroom seating arrangements Quantitative: Student test scores
What are the gender differences in treatment compliance for myocardial infarction (heart attack) patients six months post-myocardial infarction?	Previous qualitative or quantitative data on treatment options, efforts, or compliance collected from various demographic groups. Data can be local, regional, or national.	Qualitative: Interviews with patients about treatment experiences Quantitative: Patient vital data (temperature, blood pressure, etc.)
What are the social and economic challenges incoming college students face in the United States due to the Deferred Action for Childhood Arrivals (DACA) program?	Previous qualitative or quantitative data on high school and college students in the DACA program. Data can be college-specific, regional, or national.	Qualitative: Focus groups with DACA students Quantitative: Scores on social support measures and socioeconomic measures from DACA families

Mixed Methods Solo, Semi-Solo, and With a Team

Depending on the project, you may be expected to do mixed methods with secondary data while working alone. For example, for a capstone, theses, or other independent projects, your committee may expect you to work alone to achieve your research goals. Should this occur, you must learn as much as you can about mixed methods by reading, taking classes, and building your toolkit of knowledge on how to conduct the study. When completing mixed methods projects for educational purposes, advisors expect you to reach out for assistance should you have challenges that you cannot troubleshoot independently. This may not be your preferred way of doing research, but sometimes, it must happen this way, to succeed in this educational milestone.

The second option is doing mixed methods with secondary data, not solo, but what I would call "semi-solo." Dissertations or other medium to large independent mixed methods projects with secondary data often occur "semi-solo." This means a researcher is responsible for completing the work but can seek consultation on a few aspects of the project while it is underway. Sometimes, dissertation committee members encourage students to identify consultants on topics for which the committee members are not experts, be it the research topic or method. For example, suppose a committee member does not know how to advise a student on integrating the qualitative and quantitative data for the dissertation. In that case, they may put the student in touch with a colleague who can offer insight and suggestions. This is an example of doing mixed methods with secondary data "semi-solo." It involves trudging forward with the mixed methods study but seeking advice and consultation as needed, along the way.

The final option is doing mixed methods with secondary data as a team. An example is when students work on their advisor's research team and do their research under the umbrella of a larger funded research project, which often happens in the health and social sciences. In such situations, students work with secondary data, not solo or semi-solo, but while leaning on the strengths of a larger team to accomplish their research goals. I have also seen colleagues work alongside colleagues in different departments to learn how to use secondary data in mixed methods research. In these cases, it is rewarding to watch research teams assemble based on how some people's strengths complement the weaknesses of others.

Advances in social, behavioral, and health science rarely happen in isolation, and team science is full of advantages that benefit the research team and society. Therefore, if you do not have to do mixed methods with

TABLE 2.3 ● Team Options for Doing Mixed Methods With Secondary Data		
Option	**Definition**	**Examples**
Solo	Doing mixed methods with secondary data and having no advice, consultation, or assistance	Capstone, theses, or other small independent projects
Semi-solo	Doing mixed methods with secondary data and having limited advice, consultation, and assistance from one or two people	Dissertations or other medium to large independent projects
Team	Doing mixed methods with secondary data and having advice, consultation, and assistance from three or more people	University, agency, or other large team-based projects

secondary data alone, don't. You may find you can maximize time and resources if you share the responsibilities of a mixed methods study with collaborators. For example, you could share the responsibility of identifying secondary data with another member of your team. With at least two people reviewing secondary data options, you are more likely to locate a data source most applicable to your mixed methods study, and share responsibilities for study conceptualization, data gathering, data analysis, and data integration. Everyone involved can learn new skills together, instead of working solo or semi-solo. However, there are also challenges to working with a research team, such as each team member's skill level, amount of time they can dedicate to the project, work ethic, and work pace (which can be important with the sequential mixed methods designs). All things considered, sometimes, teamwork can feel less like work if you assemble the right people for your team.

Summary

This chapter provided a brief overview of the what, why, and how of using secondary data in mixed methods. Specifically, the chapter sought to define the knowledge-level continuum, a direct by-product of the pre-existing information on a topic, the purpose of the research, and your anticipated next steps. It describes the process for all research studies and can serve as a roadmap for mixed methods with secondary data. Now that you have read this chapter, you should know secondary data in mixed methods includes identifying, evaluating, and incorporating either one or more secondary data to serve as one or more components of your mixed methods. The chapter acknowledges the purpose of mixed methods and secondary data analysis, which is to further the investigation of secondary data by addressing a research question like the questions posed in the original study. You now know using secondary data can be advantageous in mixed methods because it provides the chance to expand your knowledge and understanding of a topic; gauge the depth of a topic, so you know how to proceed quantitatively; and gauge the breadth of a topic, so you know how to proceed qualitatively. After reading this chapter, you know mixed methods with secondary data maximize existing qualitative and quantitative data sources. The process is more streamlined because one or both data sources exist. Finally, there are circumstances when you may need to conduct mixed methods with secondary data solo, semi-solo, or with a team.

Chapter 2 Application Questions

1. What is the knowledge-level continuum, and what are its contributions to mixed methods?

2. What does using secondary data in mixed methods involve?

3. Why should secondary data be used in mixed methods?

4. How can mixed methods be enhanced using secondary data?

5. What are some examples of mixed methods projects that could benefit from secondary data?

6. What are some advantages and disadvantages of doing mixed methods using secondary data solo, "semi-solo," and with a team?