1 RESEARCH DESIGN

What You Need to Think About and Why

PURPOSES AND GOALS OF THE CHAPTER

The purpose of this chapter is to introduce the idea of **research design**: what it is, and what you will need to think about when developing your research design. The focus is on the thinking that affects the choices and decisions you make when designing your research.

The chapter provides the overall conceptual framework for the book and introduces core areas that you will need to think about when you are designing your research. This includes considerations about literature, **methods**, **methodology**, **theory**, and ethics: what they are and what effect they have on the shape that your research design takes.

We highlight how designing your research requires you to join existing conversations in relevant research literature related to the various areas of that design. Areas such as methodological, theoretical, and ethical considerations. We explore how the way that we navigate those conversations, what parts of them we join, and what parts of them we ignore affects the way we think when we make decisions about our developing research design.

Throughout the chapter we emphasize the part that **reflexivity** plays in the thinking about, and development of, any type of research design. When doing so we highlight how thinking reflexively forces us to constantly think through all decisions about that design as it develops.

The goals of the chapter are to

- Establish what research design is.
- Introduce the idea of research design as an iterative, nonlinear process.
- Identify foundational decisions and considerations that make up a research design.
- Consider how theoretical, methodological, and ethical decisions shape any research design.
- Illustrate that research design is much more than simply selecting methods or techniques that will be used to collect data.
- Highlight the importance of linking the purposes of the planned research to how that research will be designed and conducted.
- Demonstrate the use of relevant research literature to assist in the development of the research design.

- Provide information about how to make decisions about the relative merit of using different types of literature when designing research.
- Emphasize that designing research requires reflexivity on the part of the researcher.
- Present, and explain, the conceptual framework for the book.

INTRODUCTION: WHAT IS RESEARCH DESIGN?

Put simply, research design refers to the process by which a research idea is developed into a research project or plan that can then be carried out by a researcher or research team. It results in "*a logical plan for getting from here to there*, where *here* may be defined as the initial set of questions to be answered, and *there* is some set of conclusions (answers) about these questions" (Yin, 2009, p. 29).

Research design is not simply about research methods or procedures. While methods and procedures are one of the areas you will need to think about when designing research, there are many other areas that make up that design. These areas will need to be thought through as well. This includes theoretical, methodological, and ethical considerations, each of which is discussed in later parts of the chapter. When discussing these areas we highlight that any thinking that we do about any of them (e.g., ethics) will affect other areas of your research design (e.g., the methods you choose to use and how you use them).

It is the thinking that we do, and the decisions that we make, about these areas that shapes and makes up what we term a *research design*—our plan for getting from here to there.

TIP
A DIAGRAM OF A SPECIFIC RESEARCH DESIGN ≠ RESEARCH DESIGN

It is important not to confuse the diagram of a research design with what research design is. There is a difference between research design as a thinking-based process and "a" specific research design usually represented in the form of a diagram. The diagram of a specific research design is a summary or representation of the result of that thinking. Any diagram of a research design cannot be understood apart from the thinking that gave rise to it in the first place.

DESIGNING RESEARCH IS AN ITERATIVE PROCESS

Designing research is an **iterative process**. Put simply, an iterative process is "doing something again and again, usually to improve it."[1] It involves cycles of thinking where you begin with an idea, think it through, and then revisit the initial idea that you had, refine or change it in line with that thinking, and then think that change through and so on. This continues until you have landed on a research design that you believe will be able to get you from here (about to start your research) to there (completing that research in a credible, systematic, and well-thought-through way).

Designing research iteratively involves cycles of visiting and revisiting, examining and reexamining, modifying and then modifying again, each area of your emerging research design. It is about thinking carefully about what we are proposing to do, *and why*. It will require us to think backward and forward through the various areas of the research design process as our thinking refines or modifies decisions and ideas we first had.

For example, if we rethink and change in some way the methods we are proposing to use, then we will need to revisit the ethics related thinking we have done to see what changes we might have to make to that thinking in light of the methods related changes we have made.

Iterative is not an easy concept to define concisely or precisely. Nor is it an easy concept to put into practice when designing your research. You might find it helpful to think of iterative research design as an active and "constant, continuous process of making and unmaking" what will eventually emerge as your research design (Jackson & Mazzei, 2012, p. 1). When making and unmaking your research design, you will continually ask yourself questions about the decisions you have made about the emerging design in order to modify or confirm those decisions.

The goal of asking these questions is to improve and refine the emerging research design. "Asking good questions is fundamental to the heart of research, critical thinking, creative thinking and problem solving" (Swaminathan & Mulvihill, 2017, p. 1) and occurs throughout the entire "lifecycle of the research process" (Swaminathan & Mulvihill, 2017, p. 2). In the box below we provide an example of putting this type of questioning and iterative thinking into practice.

PUTTING IT INTO PRACTICE

EXAMPLES OF PUTTING ITERATIVE THINKING INTO PRACTICE WHEN DESIGNING RESEARCH

You decide that you will study the process of older people moving into nursing homes. You begin to think about this idea some more and realize that you will need to think about, and then make, quite a few more decisions, in order to be able to design your research study.

For example, what exactly do you want to know about that process of moving into nursing homes? Costs (e.g., of providing care for these older people or costs they incur when moving)? Or the characteristics of the older people making that move (e.g., age, gender, ethnicity)? Or the effect of the move on the older person or their families? These are just a few of the foci your study might take depending on what you decide it is that you want to find out something about—your research questions.

After thinking this through, you decide that you want to know more about how older people themselves experience the process of moving into a nursing home to live. This decision means that you will return to modify your initial decision that your study was about the process of older people moving into nursing homes, and adjust it to reflect what it actually is about that process that you have decided you are interested in, namely, how older people themselves experience that process.

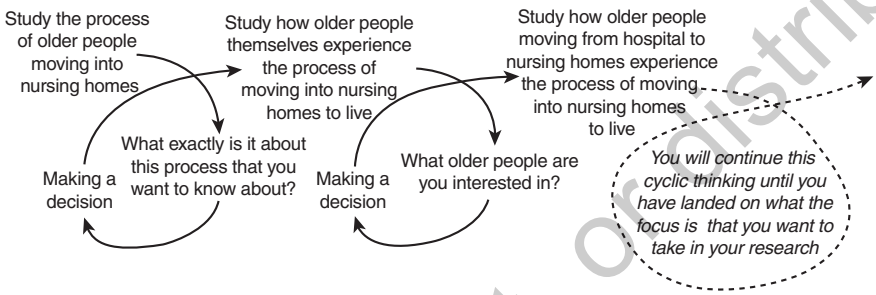
You then think more about this focus of how older people themselves experience the process. This leads you to decide that you need to think some more about what

older people you are interested in knowing more about and why. You decide that the group of older people you are interested in are those who move from hospital to nursing homes. This is because you are interested in an unplanned move as the result of some form of acute health crisis. This leads you to revise your research focus to how older people who move from hospital to nursing homes experience that focus.

In this iterative process, there are cycles of visiting and revisiting, examining and reexamining, modifying and then modifying again your thinking and decisions about the focus of your study.

Diagrammatically we can represent this process as in Figure 1.1 below.

FIGURE 1.1 CYCLIC THINKING THROUGHOUT THE PROCESS OF DESIGNING RESEARCH



You will then continue this process of cyclic thinking throughout the entire process of designing your research as you think through each of the decisions you make, and their effects on the way that your research will need to be designed.

Research Design as a Messy, Complex, and Demanding Thought-Driven Process

Our discussion of designing research as an iterative process has highlighted that research design is not about linear, discrete, step-by-step thinking. It is a much messier, complex, and demanding process than that. There are a series of interrelated decisions needing to be made. These decisions enable us to turn our research idea(s) into a well-thought-through, and therefore designed, research study. In order to make thought-*through* decisions rather than thought-*less* ones, we need to think carefully about what we are doing *and why* at all points of undertaking our research. *It is this thinking, and the iterative cascades of decisions resulting from that thinking, that research design, and designing research, is all about.*

TIP

We take a more extended look at an example of the messy process of iteratively "making and unmaking" (Jackson & Mazzei, 2012, p. 1) what will eventually emerge as our research design in Chapter 3 where Maxi Miciak and Christine Daum discuss the way their research questions developed iteratively when they were designing their research, and why they developed in the way that they did.

RESEARCH DESIGN: WORKING WITH THE LITERATURE

A research design is not developed in isolation. When we begin thinking and writing about any aspect of a research design, we become part of a series of long conversations (Hesse-Biber & Leavy, 2006; Locke et al., 2014) others have had before us, and will continue to have after us, about designing research. For example, throughout the process of developing your research design you will need to be aware of, and take into account, what is already known substantively about the problem that your research is being designed to address. Similarly, when thinking about how you might do your research you will need to be aware of, and take into account, the methodological conversations about how research might be done as well as how the way that you are proposing to do your research relates to those conversations.

In other words, you will need to join conversations in the body of knowledge that has been built up by the work of others, and which is relevant to the various areas that make up your research design. These conversations have been going on for many years among researchers. In these conversations, some voices may be louder than others, and some voices might be silenced and/or lost. There is not always agreement about the various areas of research design being discussed. This means that you will need to know enough about these conversations to make a decision, *and justify that decision,* about which parts of them you will use in your research design and which you will not.

Where will you find these conversations? Most of them you will find in what is referred to as "the literature" related to the various areas of your research design.

Using Relevant Literature When Designing Research

To assist you in developing your research design you will draw on, and interact with, **relevant literature** *throughout* the entire process of designing your research. *Relevant* literature refers to theoretical writing and reports of **empirical** work "that have important implications for the design, conduct, or interpretation of the study, not simply those that deal with the topic, or in the defined field or **substantive area, of the research**" (Maxwell, 2006, p. 28). Reading, thinking about, and interacting with relevant literature enables us to join ongoing conversations between scholars and researchers about the different aspects of designing research that we will need to think about when designing our own research studies.

When designing research, it is important to become aware of these conversations in the relevant literature, think about the ways the conversations have been had, and then decide *and* declare the position you will take in relation to those conversations. Taking a position involves considering what parts of the conversations you agree with, what parts you do not, what parts you will use, what parts you will not, as well as what parts of that conversation your work and thinking might add to. It also involves justifying the choices that you make. This will require you to add an "and why?" to each of these considerations.

For example, we might be reading literature about empirical[2] work in an area related to our initial thinking about, and framing of, what we think our research problem is. However, after reading that empirical work, we may realize that there are aspects of the problem that we need to think about differently, or read more about. This might involve reading other empirical studies that take a slightly different focus. Or, it might involve reading about different, or additional, theoretical concepts that can help reframe the

problem. Reading about new and different ways of thinking about the problem our research is being designed to address forces us to revisit our *thinking about* that research problem. This may lead us to modify our initial thinking about what the problem is in some way.

Such an iterative process of interacting and thinking with literature occurs throughout the entire research design process, not just when we are thinking about our research problem. All parts of our research design require us to join a range of analytic conversations—about substantive issues, about other empirical work, about theoretical matters, about methodological and method related matters, and about the various interconnections between these different conversations. Our research design is the result of which conversations we have decided to join and those we have not, what decisions we have made as a result of joining them or not joining them, and what conversations we want our research to be part of when it is completed.

PUTTING IT INTO PRACTICE

USING RELEVANT LITERATURE THROUGHOUT THE RESEARCH DESIGN PROCESS

Different types of literature (in terms of its focus) will be used for different purposes at different parts of the process of developing your research design. For example, when you are thinking about your research problem or area, you will work with literature relevant to your substantive problem area to find out what others have and have not done and how this might affect what you choose to focus on (or not focus on) in that area.

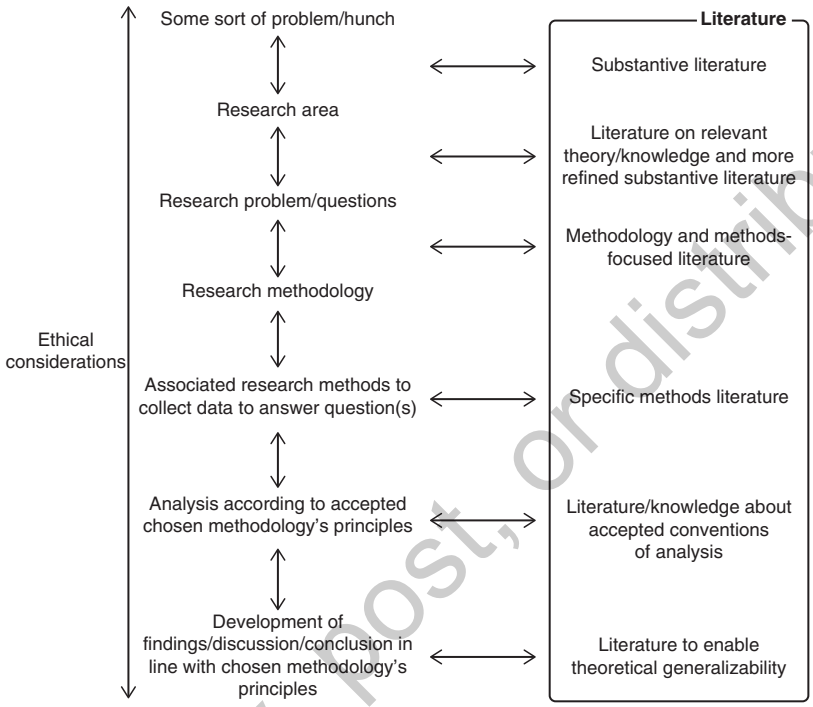
You will also work with literature that theoretically is relevant to your research problem or area. For example, if you are interested in the theoretical idea of moral distress, you will read literature related to that theoretical concept and how it is, and might be, defined. You will then be able to use the result of your thinking about what that literature is about to inform other parts of your research design. For example, if you are going to measure moral distress in a group of workers using some sort of quantitative survey, then what you will actually measure will be influenced by what others have identified in the literature to be key aspects of moral distress.

There is also a lot of methodological and methods related literature that you will need to think through, and which can help you when designing your research. No matter what research method(s) you use, you will need to read, and think through, literature related to those methods—ways they have been, and might be, used. You will use this literature to inform what you need to think about when collecting and analyzing data using your selected methods. You will also need to find out about the strengths and weaknesses of those methods so that you are able to make it clear what the way you have designed your research enables you to say (i.e., the type of conclusions you can make using those methods) and equally importantly what it does not.

And of course, from minute one of thinking about your research, you will need to join conversations in the literature about **research ethics** both generally, and specifically related to the substantive focus of your research, and the way you put your methods of choice into practice.

Figure 1.2 captures this process of using different literature at different parts of the process of developing your research design.

FIGURE 1.2 ■ The Use of Different Literature at Different Parts of the Research Design Process



Working With the Literature Is Not the Same as Simply Reviewing It

Working with literature when designing research is part of the entire research design process. It is not limited to the production of some sort of one-off, static, review of selected (the reasons for which are not always declared) literature. Instead, working with the literature is central to the iterative process that underpins the development of a research design. It

> enables the researcher to (a) understand the conversations already happening within and across relevant fields; (b) figure out how to add to these conversations; and (c) identify the best means of doing so theoretically and methodologically. (Ravitch & Riggan, 2017, p. 32)

The importance of thinking with literature as a process, rather than as a one-off static product often called "the" literature review (Ravitch & Riggan, 2017), is picked up on, and explored in detail, throughout this book. For example, in Chapter 2, we join conversations in the literature about ethical considerations when designing research and what

implications those conversations might have both for how we design our research and also what we consider ethical matters to be. In Chapter 3, we focus on what we need to think about when developing our research problem or questions and the part empirical, methodological, and theoretical literature plays in that development. In Chapters 4 and 5, we join methodological related conversations in the literature that impact the way we think about data and what type(s) of knowledge our research is being designed to contribute to those conversations. In Chapters 6 through 10, we participate in, and make decisions about, conversations related to the way that data can be collected at the level of specific methods.

PUTTING IT INTO PRACTICE

WORK WITH THE LITERATURE, DON'T JUST REVIEW IT

There are many textbooks written about "how to" review the literature. Often, they are more about the techniques of finding and summarizing literature, and less about the importance of thinking about that literature as part of an ongoing iterative research design process. While it may be useful to read about ways of searching for, finding, and summarizing journal articles or other relevant literature, it is important to remember that thinking about, and reviewing, the literature when designing research is not simply producing some sort of descriptive overview of what seems to be relevant literature. Rather, working with relevant literature to help inform your thinking about various aspects of your research design is an iterative process which will require constant reference to more, new, and different literature as the design, and the thinking that underpins and shapes that design, develops and unfolds. You will have a series of ongoing and different conversations with literature during an iterative research design process.

As you engage in conversations with literature, we strongly suggest you keep track of what you read *as you read it*. For example, when you read an article, make a note about the key points from that article when you read it. At the same time, be careful to note the name of the article, the author, the journal, and the date of publication. Backtracking to figure out where you found something that you later want to check is almost impossible as the amount of literature with which you have your conversations increases rapidly as your design develops.

You will need to know these details so that you can cite the author and article from which you obtained your ideas, or from which you used some text. A citation is a reference to somebody else's work to acknowledge that the idea was not originally yours or to show that the idea that you are coming up with builds on that person's work in the first place. This is an important part of responsible and ethical research design. Plagiarism is when we use other people's work without fully acknowledging that the idea or the words came from that person(s) in the first place. In effect, we are taking those ideas and representing them as our own.

HOW DO YOU MAKE DECISIONS ABOUT WHICH LITERATURE TO TRUST OR RELY ON?

Research related literature is usually categorized in terms of where it has been published and what review process it has gone through. It is important to be aware of these categorizations as not all types of literature are afforded equal weight in terms of their scientific standing and trustworthiness. This difference in scientific standing and trustworthiness

can affect perceptions about the trustworthiness of your research design if doubts are raised about the credibility of the source of the literature that you are using to base aspects of that design on.

Journal Articles

Reports of empirical or theoretical research are usually found in peer reviewed journals and are afforded high status and trustworthiness by most researchers and scholars. This is largely because of the expertise of the editorial board of those journals and the process of peer review that the journal undertakes. In this process of peer review, authors submit their manuscripts, reporting their research, to the journal editor to be reviewed and considered for publication. The manuscript (mostly with the author's names and affiliations removed, which is called "blind" peer review) is then sent by the editor to at least two peer reviewers who are experts in the area of the research being reported. These expert reviewers then read, and make scientific judgments about, the quality of the manuscript.

Such "blind" peer review is designed to make sure, as far as possible, that the focus of the review is influenced by what is said in the manuscript about the research design, the findings, and their significance. Publications in journals that employ this type of review are considered a reliable and credible form of scientific- and research-related literature because of this form of rigorous review by peers in the field. This type of literature is often called "scientific" literature.

There are two major publication models for scientific journals. One is the traditional subscription model where the author does not pay fees to the publisher of a journal to cover the costs of the peer review process and, if accepted, publishing the article. Instead, these costs are recovered by the publisher of the journal by charging readers a fee for accessing the articles in the journal. This fee can be in the form of annual subscriptions to the journal, or it can be in the form of paying a fee to access individual full text articles over a set period of time such as 24 hours, after which time access is lost.

The other model is what is known as Open Access publishing. The article still undergoes rigorous peer review and rejection rates for articles submitted to many Open Access journals that are in line with those of traditional subscription model journals. However, in Open Access journals the costs of reviewing and publishing the article are paid by the author if, and when, the article is accepted. There are no costs for individuals wanting to read that article—hence the description of this model as Open Access. Access is open to everyone as there is no payment involved. Hence the reach and access of an article in a reputable Open Access journal may be greater than in a journal where not all readers have access to that article because, for example, institutions do not subscribe to that journal so staff and students will need to pay to read those articles.

There are different types of Open Access possible. These differences are related to the degree of, and how, access is given to the article. The one we have described above is known as Gold open access. However, there is also what is called Green open access where although there is not completely open access to the article such as on the journal's website, authors are able to post on their personal or institutional website a version of the article able to be accessed by readers. There is also an in-between model where journals that use a subscription-based publishing model will make an individual article openly available to everyone if the authors pay a fee to enable this when the article is published (see Richtig et al., 2018 for a good discussion of this).

Increasingly funding bodies are requiring those gaining funding for their research to enable some form of open access to any articles reporting on research from that funded project so that anyone can read that article, anywhere and without any time limit. This is because the goal of the funding is to enable the development and dissemination of the knowledge gained from the funded research as widely as possible and not depend on a reader having the resources to be able to pay for that access.

Books and Book Chapters

Book chapters and books that are published by what are often described as "good quality" or "reputable" national and international publishing houses are also given credibility and standing in terms of the hierarchy of research and scientific literature.

Defining just exactly what a quality or reputable national or international publisher of scientific books and book chapters is, is not clear cut. There is no standard way to identify such publishers. However, to help you make decisions about this you will find that most universities and research institutions have developed their own lists (formal or informal) of whom they consider to be reputable publishers. In some countries, government bodies, drawing on input from researchers, have developed lists of publishers that publish books and book chapters that are recognized as credible and of good quality.[3]

Publishers deemed reputable have in place similar processes to the peer reviewed journal process. Draft chapters or draft books will be sent out for review by peers and published only if favorable reviews are received or revisions to the chapter or book have been made in line with reviewers' recommendations. These publishers will cover basic costs associated with the production of the book or chapter, and not charge the author fees unless it is in relation to some sort of recognized Open Access publishing model. Other factors that can indicate that a publisher is reputable include who the authors are whose work is published by them and how the publisher distributes their books. Guidelines for publication that the publisher provides to authors can also provide a guide to the credibility of the submission and review processes of that publisher—what are they, how detailed are they, and are they used in practice?

TIP

BE AWARE OF WHAT ARE KNOWN AS PREDATORY JOURNALS AND PREDATORY PUBLISHERS

These are journals and publishers that mimic the Open Access model. The goal of these journals is to take the author's money for their own profit, rather than to ensure that any fees charged are used to make the knowledge gained from the author's work available as widely as possible and not dependent on a reader having the resources to be able to pay for that access.

Consequently, predatory journals will "sell" submitting a paper to the journal by promising authors a very short review time (often a few days) and advertising very high acceptance rates. They will also charge considerable fees at the time of submission. Such fees are usually nonrefundable either fully or in part, even if the paper is not accepted.

Characterized by the use of widespread spamming, predatory publishers obtain lists of research groups or publications by researcher and then contact potential authors to ask them to submit their work to them—even if the author might not be working or publishing in the area of the journal's focus.

The result is that many or most papers published by many of these journals are often of poor quality and do not meet the standards set by reputable Open Access journals with expert editors, editorial boards, and reviewers enabling credible, thorough, and transparent peer review processes.

You need to be aware of the existence of predatory journals so that you can make decisions about the credibility of an article you are reading in terms of where it is published and the editorial and review processes that article has been through. Can you trust what it being reported in the article?

You also need to be alert when you are thinking about where you might publish your own research. How can you make sure that the journal you are thinking of submitting your work to is not a predatory one? One excellent resource to help you do this is the guide for what to look for when deciding if a journal is a legitimate one or a predatory one provided by Victoria Glasson (2017) in her post "6 Ways to Spot a Predatory Journal." She gives the following advice for spotting predatory journals:

1. Always check the journal website thoroughly.
2. Check what professional publishing and/or editors' organizations or bodies the journal is a member of.
3. Check the journal's contact information.
4. Research the editorial board.
5. Check if the journal has a peer review process and publication timelines.
6. Read through past issues of the journal. (See Glasson, 2017.)

If you would like to read more about any of the six pieces of advice above, we encourage you to go on the site and take a look at the additional advice Glasson offers in drop-down text attached to these points.[4]

You will also find useful resources on most major mainstream and reputable publishers' web pages about what to look out for, and think through, in relation to predatory journals. For example, on SAGE's website, you will find Natalie Gerson's (2019) very useful post "How to Protect Yourself From Predatory Publishers and Other Open Access FAQs." Advice is also provided to authors on the Taylor and Francis website about making decisions about whether Open Access journals are of good quality.[5]

Another useful resource is the *Journal of Human Lactation* editorial statement and policy on the use of references from predatory publishers in articles submitted to that journal (JHL Editorial Team, 2020). In addition, another article in that journal, "Understanding Quality in Research: Avoiding Predatory Journals" by Strong (2019), is very helpful as well.

Other Types of Literature That Might Be Useful if Used With Care

There are also some forms of literature that have not undergone such a formal process or blinded peer review but which still can prove very useful in terms of providing ideas and context for aspects of a research design being developed. This does not necessarily mean that these non-peer-reviewed articles or chapters are not trustworthy or not able to be used by researchers. It does mean, though, that they have not undergone quite as rigorous review process as peer reviewed books, book chapters, and journal articles. Examples include articles in non-peer-reviewed journals that may be in more profession- or practice-based journals, and books and collections of chapters self-published in-house by a researcher or group of researchers.

Another type of literature that may be useful when designing research are reports of some sort. These can be, for example, government or technical reports, policy or reform

documents, or government regulations.[6] This type of literature is useful in terms of providing contextual material for the study. At times parts of this literature even form part of the actual texts that the research is being designed to analyze, for example, if the research draws on some form of document or textual analysis as its theoretical and methodological inspiration.

Questions arise about the trustworthiness of using online information, such as Wikipedia and blogs, general encyclopedias, reports in newspapers and popular scientific books, as part of the literature in a study. While there is no absolute or straightforward answer to how to make decisions about the trustworthiness of this information, it is often the case that the further away whatever is being reported or discussed is from data or findings of actual research studies, the less scientific the source can be considered. That said, we agree with Stake (2010) who noted over a decade ago that "Wikipedia is a valuable resource, in spite of the potential mischief of open editing. Wikipedia information begs to be checked, doubted, presented with caution" (p. 116).

With respect to using newspaper articles or other forms of journalistic reporting, it is important to see if the article or report tells us what the information and conclusions are based on. Some articles in some newspapers do this. However, often we get sensational headlines such as "Being rich and successful really IS in your DNA: Being dealt the right genes determines whether you get on in life."[7] Yet, when we read that article there is very little there to trust, or convince us to trust that article. This is because there is very little reporting of any details of the research on which such claims are based.

RESEARCH DESIGN: CONSIDERING METHODOLOGY AND METHODS

Methodological related thinking shapes the form that the research design takes. Put simply, methodology refers to "the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes" (Crotty, 1998, p. 3). Methodological considerations force us to think about if, and if so how, a particular method gives us the type of data to generate the type of knowledge that we need to address our research question(s). Therefore, "when we are examining methods, comparing them or thinking about the kinds of knowledge that they produce, then we are doing methodology" (Greener, 2011, p. 5).

Methodological related questions we might ask ourselves when thinking about the design of our research include the following: What type(s) of knowledge or data will I need to address the research question(s) that the research is being designed to answer? Will the use of a particular method contribute this type of data—why or why not? In this way, we use methodological thinking to provide a rationale "for the choice of methods and the particular forms in which the methods are employed" (Crotty, 1998, p. 7) in our research design.

When designing your research, you will need to read widely in order to join existing conversations about both methodology itself *and* the assumptions different methodologies make about research and how to do that research *and* the effect these assumptions have on the way that research is thought about and designed.

For example, in what are termed **"qualitative" approaches** to research,[8] the research will be designed in such a way as to enable the emergence of rich and qualitative

interpretations of the perceptions or experiences of people about a specific aspect(s) of the everyday context(s) in which they exist. This type of approach is often referred to as naturalistic or interpretive inquiry. It aims for in-depth understandings of peoples' perceptions and experiences of whatever is the focus of the study.[9] Although procedures for the research may be identified beforehand, qualitative research designs are characterized by "built-in flexibility, to account for new and unexpected empirical materials and growing sophistication" (Denzin & Lincoln, 2005b, p. 376).

On the other hand, in what are often termed **"quantitative" approaches** to research,[10] one can assume that the researcher has a commitment to, and has identified the need for, some form of quantification of specific characteristics of a group of people or other objects of interest. This is because "[q]uantitative research works with statistics or numbers that allow researchers to quantify the world" (Stockemer, 2019, p. 8). To employ this sort of approach to inquiry you will need to follow set mathematical and statistically based procedures. This is so that appropriate forms of numerical data are produced that are able to be used to make valid probabilistic and statistically based interpretations about those specific characteristics.[11] This type of research design[12] requires and "places a premium on the . . . specification of the research strategies and methods of analysis that will be employed" (Denzin & Lincoln, 2005b, p. 376).

Which approach you choose as part of your research design will be the result of your thinking about what type of knowledge you want your research to produce and how you can obtain that knowledge. Once you have decided on your methodological approach, you will then need to make decisions about what methods you will use as part of your research design.

Methods

Research methods refer to "the techniques or procedures used to gather and analyze data *related to some research question or hypothesis*" (Crotty, 1998, p. 3, italics added). Each research related method has specific procedures and techniques associated with it that are designed to obtain a particular type of knowledge or information—usually referred to as data.[13] The methods chosen must be consistent with the type of knowledge or data we want to obtain from our research (our methodological considerations), which in turn must be consistent with the nature of the research problem that is shaping the entire research design.

For example, if we want to know about individual people's experience of losing their jobs, we will need to choose methods that enable us to get in-depth information about that experience from the point of view of each individual participant—possibly using some form of individual interview. If, however, we want to know how many people from different segments of a defined population group experience anger, sadness, or any of the other possible characteristics that we have identified as being of interest related to the experience of losing one's job, then we will need to use different methods in our research. We will need methods that allow us to generate the type of numerical data we will need to answer questions related to how many people experience those characteristics of interest.

This is why research methods are not, and should not be thought as, stand-alone techniques simply able to be selected and inserted into a research design. Decisions about methods are part of the overall research design process. Their choice must be closely related to the purpose of the research and consistent with all other parts of the design.

While designing research does involve thinking about how to use or employ particular methods, this occurs *after* having thought about why choose those methods in the first place—a methodological consideration. Methodological related thinking and decisions "guide a researcher in choosing methods and shape the use of the methods chosen" (Crotty, 1998, p. 3).

Methodological thinking related to designing research is thus at a higher level of focus than is thinking about how to do specific methods. For example, in a research design where interviews of some sort are the method of choice, methodological related decisions will be about why interviews *themselves* are an appropriate method or way to collect the data in our study in terms of the type of knowledge that we will need to address our research questions. Is the choice of interviews, and a particular type of interview, as the method we will use for data collection consistent with the aims and desired outcomes of the research?

You may see the terms *methodology* and *method* being used interchangeably in some of the writing about research design, and when research is reported. Or you may see methods as a required or standard heading in research reports and methodology missing altogether. This can lead to thinking of methods as stand-alone techniques, rather than methods as arising from, and unable to be understood apart from, methodological ways of thinking. Neither methods nor the data produced by them can be understood apart from the methodological considerations and choices in the overall research design in which they are embedded. If removed from these understandings, methods are reduced to being merely techniques—sets of procedural rules to follow.

We develop this introductory discussion of methodology further in Chapters 4 and 5 of this book. In addition, all chapters in the book at some point put the spotlight on the effect of methodological related thinking on the aspect of research design being scrutinized in that chapter, such as ethical implications arising from a particular methodology and the methods associated with it (Chapter 2), the way research questions are formulated (Chapter 3), and the way methods are put into practice (Chapters 6, 7, 8, 9, 10).

RESEARCH DESIGN: CONSIDERING THEORY

Theoretical considerations and choices, like methodologically focused considerations and choices, provide orienting ideas that shape the form a research design takes. Assumptions about what theory *is* and *is for*, as well as ideas or concepts from specific theories, provide orienting ideas that influence all aspects of the research design. The theoretical framework of your research is "[t]he system of concepts, assumptions, expectations, beliefs and theories that supports and informs your research" (Maxwell, 2013, p. 39). This includes the questions that are asked, the way data is collected, the analysis of that data, the interpretation of that analysis, and consequently the conclusions that can be drawn from the research.

Despite its wide use both in everyday and more academic contexts, it is difficult to come up with a precise definition of theory. Theory tends to be one of those words that everyone uses, but struggles to give a precise meaning to. This is because the long conversations about theory that researchers, philosophers, and others have been having for many hundreds of years have not resulted in agreement among them about "the" or

"right" definition of *theory*. Thus, theory remains a term used, and understood, differently by researchers depending on how they position their thinking, and subsequently their research design, in relation to that conversation.

In the physical and natural sciences, theory traditionally has been viewed as "a set of abstract (ideally mathematical) propositions, some of which take the form of 'laws,' that predict a range of specific events or results" (Maxwell & Mittapalli, 2008, p. 877). Adopting this view, or understanding, of theory affects all aspects of the way designing research is thought about, including methodological ones.

If this view of theory is adopted, then

- theory is understood as providing a set of propositions, or a priori concepts, that have been standardized or stabilized in some way, in order for them to be able to be tested to either support or disprove that theory.
- the goal of both the research, and the theory that the research is designed to test in some way, is to enable generalization of what you learn from the data to specific population groups of interest. Such generalization will involve the use of mathematically derived fixed principles and procedures.

These orienting ideas emerging guide the researcher's thinking when developing their research design.

However, this is not a view or understanding of theory, or research, held by all researchers. In much of the thinking in the social sciences, thinking about theory is not restricted to theory as providing a set of propositions, or a priori concepts, able to be tested to either support or disprove that theory. Instead, theory is thought of more as an enabler for the research. The role of theory in this view is to provide what one of the foundational thinkers in the area of social theory, Herbert Blumer (1954), called "sensitizing concepts" (p. 7) for the research. A sensitizing concept is not prescriptive but, but merely "suggest directions along which to look" (p. 7).

If this view of theory is adopted, then it follows that the role of theory in research design is to

- provide initial orienting concepts for the framing of the study rather than standardized or stabilized a priori concepts to be tested.
- contribute to, and build, our understandings of the way things work or are understood and/or are experienced, in social contexts and settings.
- enable exploration and building of aspects of theoretical concepts.

Rather than focusing on only one theory, or one or several theoretical concepts and testing that theory or those concepts, the research is designed to add layers and richness to our understandings of that theory or those concepts *themselves.*

The following box uses an example of how different views of theory affect research design using the example of studying motivation. It also demonstrates that what theoretical view the researchers adopted about motivation affected the methodology they used in their study.

PUTTING IT INTO PRACTICE

HOW DIFFERENT VIEWS OF THEORY AFFECT RESEARCH DESIGN – THE EXAMPLE OF STUDYING MOTIVATION

To demonstrate how theoretical understandings, and the orienting concepts derived from those theoretical understandings, affect the way that research is designed and put into practice, we will compare two different ways that research was designed to study the same broad substantive focus, namely motivation and school students. While both studies are about this same broad substantive area, they differ with respect to the orienting ideas that underpin the thinking in their respective research designs.

The different methodologies used in each study reflect the different ways that theory is thought about in each study. Study One (Martin, 2001, 2003) focuses on specific theoretical concepts that have been identified in previous research as being related to motivation in schools. The study is designed to test how those concepts relate to motivation in schools and how they relate to each other (Martin, 2001, 2003). Study Two (Friels, 2016) is designed to build theory by adding layers and richness to existing theoretical understanding of *both* the idea of motivation itself and how motivation is perceived and experienced and "works or does not work" in a specific school context.

Study One

The Student Motivation Scale developed by Martin (2001, 2002, 2003) is underpinned by a wide range of theoretical contributions from theories about motivation. The scale is an instrument for measuring motivation, designed by separating motivation into factors reflecting enhanced motivation ("boosters") and factors reflecting reduced motivation ("guzzlers"). The Student Motivation Scale therefore is able to not only focus on "the energy and drive of students," but also on "their ability to deal with pressure and setback" (both quotes from Martin, 2002, p. 34).

Understanding what are the boosters and what are the guzzlers of each individual student, both in the student's life and in the classroom, requires a measurement instrument able to measure several aspects of motivation. The Student Motivation scale is able to do just that. Moreover, because "motivation is students' energy and drive to learn, work hard, and achieve at school" (Martin, 2001, p. 1), such a multidimensional understanding of motivation has the potential to assist and aid educators "operating in contexts in which students require assistance to sustain motivational strengths and address areas of motivation that may be of some concern" (p. 20).

In other words, by measuring a student's motivation using the Student Motivation Scale, educators can acquire the knowledge they need to "keep high boosters high; keep low guzzlers low; increase low boosters; and reduce high guzzlers" (Martin, 2002, p. 42) for that specific student.

In the 2003 study, Martin examined the Student Motivation Scale by collecting data from 2,561 high school students. The data were analyzed to test the proposed categorization of factors into guzzlers and boosters. The replies were analyzed according to statistical procedures with the intent to generalize beyond the sample of people surveyed in the study. The analysis showed that "the Student Motivation Scale is psychometrically sound and can be usefully implemented to determine groups of students at risk of disengagement, disinterest, and underachievement" (Martin, 2003, p. 88)

Study Two

On the other hand, Friels's study (2016) involved interviewing four African American high school female students from low-income families using semistructured[14] face-to-face interviews. The interviews were designed to "capture the stories of the

students as they share their experiences" (p. 8) related to motivational factors, and their perceptions of the role various factors (such as the community they grew up in, peers, and family) play in their academic success or failure at school. Qualitative analysis of these interviews provided new insights into the students' perceptions of what it was that motivated them and why. In this way, the research built more nuanced and contextual understandings of the idea of motivation itself that can be used by educators and policy makers when developing targeted programs to provide effective support to African American high school female students from low-income families.

With the previous discussion in mind, useful questions to ask yourself when designing your research include the following:

- What theoretical assumptions are you bringing with you to the table when you are designing your research?
- How do these assumptions affect the way that you design your research?
- Does this matter?

Having this type of discussion with yourself when thinking and writing about your research is a central, but often overlooked, part of designing research. Such thinking will make you aware of why you made the decisions about your research design that you did—including exposing any assumptions you may be making about theory, research, and science when doing so.

Exposing these assumptions will enable you to use theory well, and not be used, and therefore constrained, by it. It will help you avoid becoming bogged down in questions or assumptions about "the" "best" theory to use, or "the" "right way" to use theory.

Answers to these types of questions are study specific and related to what it is that you want to know about and why you want to know about it. In other words, what type of knowledge do you want your research to provide in order to contribute better understandings of the problem that your research is designed to address.

TIP

REMEMBER: THEORETICAL CONCEPTS ARE COMPLEX

Theoretical concepts and theories are complex. Therefore, you will need to know enough about these theories to be able to think through this complexity in order to make an informed decision about what understanding of a particular theory or concept you will put into practice in your research design.

For example, if you are using a theoretical concept such as power in your research design, you will need to move beyond common sense or assumed understandings of what power is, or making simplistic statements such as "power is a guiding theoretical concept for the study." This statement disguises the complexity of the idea of power which is a concept made up of a repertoire of diverse perspectives drawn from diverse theoretical positions (see Hindess, 1996).[15]

THE IMPORTANCE OF REFLEXIVE THINKING WHEN DESIGNING RESEARCH

Thinking about, and developing, a research design iteratively is challenging, and at times confronting. We are forced to ask questions of our developing research design and expose and examine the assumptions we are making about that design. It is much easier to think of research design as a predetermined type of recipe, or a step-by-step diagram, to follow. This recipe or diagram can be selected from some sort of procedure manual or textbook about "how to do" research and followed step-by-step without really having to do too much thinking except how to do what the steps require.

However, simply following a series of predetermined steps does not allow us the thinking space to consider the assumptions about research, existing knowledge, theory, and our role as researcher that we bring to both the design of our research and the way that we subsequently go about putting that research design into practice. The steps, like research designs, are not neutral, value and theory free. An instrumental focus and reducing thinking about research design to "how to do or follow the steps" ignores the assumptions about research, knowledge, and our role as researcher that are embedded in those steps. There is a lot of theory-in-use in the assumptions that any seemingly neutral or objective steps and procedures in that research design make—even if this is not declared or even acknowledged. Thinking about these assumptions and the effect that they have on the cascade of decisions that must be made when designing research requires *reflexivity* on the part of the researcher.

What Does Reflexivity Mean?

Defining *reflexivity* is not an easy task because, as Lumsden (2019) points out, "[T]here are numerous definitions and operationalizations of reflexivity" (p. 2).[16] Put simply, reflexivity is a type of folding or bending back (Finlay & Gough, 2003) on our own thinking to work out why we have come to think about something in the way that we do. What assumptions do we make when we think in this way? Based on what?

When designing your research, such folding or bending back takes the form of "critical self-reflection of the ways in which researchers' social background, assumptions, positioning and behavior impact on the research process" (Finlay & Gough, 2003, p. ix). It helps you to understand "the significance of the knowledge, feelings, and values" (Attia & Edge, 2017, p. 35) you bring with you when designing your research, and how this affects all aspects of how you develop that design from the research questions you ask, to the methods you use and analytical lenses you employ (Attia & Edge, 2017). For example, are there methods that you believe to be "better" than others? What do you base this on? Can you justify this assumption? How did you come to have such an assumption in the first place? In this way, reflexivity challenges us to work out why we think what we do when designing our research, and whether there are other possible ways of thinking about that design.

Hence reflexivity is a form of thinking about research design that is dynamic—not static or linear. It requires adding an "*and why*" to all the thinking we do about our design. This type of *and why* thinking forces us to expose, examine, and challenge our thinking and the choices that that thinking resulted in throughout the research design process. This includes choices made before we begin designing the research; while we are designing the research; when we are putting that design into practice; and even after we have

completed the research design. For example, what we will report, or not report, about our research.

Putting Reflexive Thinking Into Practice When Designing Research

Between us we have many years of experience both doing research ourselves and acting as advisors for students' research. We have noticed that the researchers or students who navigate the challenges of the process of designing research well are those who take the time to reflexively think through, ask questions of, and then declare the decisions that they have made related to the design of their studies. They are constantly asking themselves a series of interrelated questions about that emergent design. Questions such as these: What type of knowledge will I need to address the problem or questions I want to ask? What is an appropriate way to obtain that knowledge? Appropriate in what sense? Methodologically? Ethically? Feasibility wise ?

They are also the researchers or students who ask themselves questions about the effect that the way they answer the above types of questions has on the overall research design. Questions such as these for example:

- What happens to this part of the design if I make this decision and not another?
- How might this affect decisions that I have already made about other parts of my research design?
- Why am I thinking about these questions and adopting a stance in relation to them, in the way I am?

Asking these types of questions of yourself requires you to fold back on your own thinking. In so doing, it enables you to reveal and understand your own research standpoints. It also enables you to recognize and think through the effects of those standpoints on the choices you have made in that design process. This is because reflexive thinking

> challenge[s] some of your ways of knowing. . . . You may need to unlearn . . . what you bring to the learning and to see your knowledge and experiences as foundations on which you will continue building. (Skukauskaite et al., 2018, p. 340)

Put another way, reflexive thinking enables the design of our research to be understood not only in terms of *what* it is but *how it became* to be the way that it is, thereby *providing justification for the way that it is.* Thus, "[r]eflexivity can be a way to examine the complete research process and a vital procedure for enhancing validity" (Lahman, 2018, p. 35) of all types of research—a point we return to many times in this book.

Activity

Understanding Our Own Research Standpoints: An Example of Thinking Reflexively

In a reflexive piece of writing, Sharlene Hesse-Biber thinks through and then declares how her background and assumptions, that is, her research stance, affected why and how she wrote her book *Mixed Methods Research: Merging Theory With Practice* (2010b).

We include some excerpts of this reflexive writing below, all of which are taken from page 25 of her book.

> *I am a feminist qualitative researcher who has a particular perspective on social reality. As a feminist, I am interested in asking a set of research questions that often trouble the waters of traditional knowledge building by including issues of difference in the research process.*
>
> *I am interested in issues of power, authority, and control while conducting research as well as asking such questions as: What is studied? From whose perspective? Who is being studied? Who is left out and needs to be included in this study? I guess you might say that I am a methods interloper—an outsider and an insider to mixed methods research.*
>
> *As a sociologist who has had traditional training in quantitative methods and the positivist paradigm, I am an insider in that I practice and teach both methods and have in fact conducted several mixed methods projects. As a feminist, I am often the outsider who asks new questions, yet I will utilize a range of tools—quantitative and qualitative—as needed to answer my questions. I am not wedded to one specific method or set of methods. I use whatever methods will facilitate getting answers to my research problem(s).*
>
> *As a researcher, my agenda is one of promoting a comprehensive approach and understanding of the use of methods techniques by placing the practice of methods more firmly within a research context.*
>
> *I am cognizant of the importance of living within the contradictions and tensions of the research process. I enter into dialogue with this process. To dialogue means confronting our assumptions, suspending judgment, and embracing difference. To dialogue also means to hone our listening skills, with a stance toward understanding.*
>
> *SHARLENE HESSE-BIBER*

These excerpts provide an excellent example of reflexive thinking in action. In this writing, Hesse-Biber is aware of how her background and interests might affect the way she thinks about, writes about, and conducts her research.

Now think about your own research stance. How might your background and assumptions affect how you think about designing research?

Ethics: Much More Reflexive Thinking Still to Do

Reflexive thinking will force us to consider another set of related considerations when designing our research. These are considerations related to the ethical dimensions of our research. Research ethics are concerned with moral behavior in research contexts (Wiles, 2013). Thinking through ethics at all points of the research design process is part of responsible research (Kuntz, 2015). It is part of becoming a responsible methodologist (Kuntz, 2015) and a researcher who thinks "about how to become a more responsible author, scholar, individual, citizen" (Koro-Ljungberg, 2016, p. 126).

Thinking about research ethics *and* how to put that ethical related thinking into practice impacts all aspects of our research design. This includes thinking about if the research area or the problem related to that area that we are thinking of researching is something that should be researched at all, through to what we report about how we did our research and what our findings are. Lahman (2018) calls this "poking and prying with a purpose into what is good, bad, right, or wrong in research" and in fact uses this as her working definition of what research ethics is (p. 4).

In the next chapter, we devote the entire chapter to taking a closer look at how we might put ethical principles into practice when designing our research. For now, the point to hold on to is that we will need to constantly think through the ethical dimensions and implications of decisions we make throughout the entire process of designing research. Thinking with ethics must be a visible and central part of the iterative thinking–based process from which a research design emerges. Ethical considerations sit in, and around, all aspects of the process undertaken to develop a research design.

CONCLUSIONS

Designing research is about making decisions to transform a research idea into a research plan. These decisions begin the moment that we begin to think about a topic that we want to know more about. This topic is the substantive focus of our research. What specifically do we want to know about this topic and why? What contribution is the research that we are designing intended to make to the development of knowledge in this substantive area?

All researchers come to their research (or for our purposes, their research design) with "orienting ideas" (Miles et al., 2014, p. 19). Orienting ideas give a direction for the thinking that is done when designing research, as well as when putting that design into action. What we decide about what it is that we want to know more about and why provides the basis for the formation of the questions that our research is being designed to address. Once we have developed those questions, we can then make decisions about how we will obtain the type of knowledge needed to address them. This will involve making decisions about what research methodology, and which research methods associated with that methodology, we will use in our study design.

The methodological approach we employ provides the logic and rationale for the methods we choose to obtain the information or data that we need to answer our research questions. However, even when we have decided on those methods and how we will put them into practice, we are not finished making decisions about our research design. We will need to think about what we will do with the information we obtain from putting those methods into practice. This will include making decisions about how we will analyze the data or information produced by those methods, as well as how we will link our findings to the existing body of knowledge about the substantive area our research is being designed to contribute to.

Thus, research design involves much more than simply selecting research methods or techniques that can be used to collect data. While research methods are part of a research design, they are not all of it. Rather, research design is a process. The decisions that we have made about our research design at every point when getting from here to there must be transparent—as must the reasons for why those decisions were made.

These decisions and choices include (1) *what will be studied*, more specifically the research problem and the questions that are asked about, and of, that problem; (2) *the type of knowledge that the research is designed to produce*, in other words, methodological considerations; (3) *the way that that type of knowledge is produced*, or more specifically, the methods used to collect and analyze information or data in the research; and (4) *what the research is being designed to be able to say something about or be used for.* For example, will it support or disprove a theory or proposition, or will it add nuanced or new information to build theoretical understandings? Or will it be used to do both if we are using combinations of methods in our research design?

When designing research, our thinking about research design cannot be limited to focusing on putting together some sort of linear plan comprised mainly of data collection procedures and techniques stripped of the assumptions and thinking that gave rise to them in the first place. The thinking underlying the entire process of designing that research remains invisible and undeclared. Research design then becomes reduced to a diagrammatic representation of a linear series of steps or procedures without any accompanying text to explain that diagram and the way that it was developed. Producing, or in many cases simply copying and pasting, a diagrammatic representation and summary of a research design from some sort of textbook (usually about methods) becomes what research design, and designing research, is all about.

What is overlooked, or even ignored, in all this is that when you cut and paste a diagram of a research design somebody else has developed, you are also copying and pasting a whole heap of (usually undeclared) assumptions and choices that the person developing the diagram made about, for example, what research is and how it should be done.

All research designs are full of assumptions and choices made by the person designing the research. These are assumptions and choices about what the purpose of the research is, what type of knowledge the research design will need to enable to be produced in order to address the research problem, and how that knowledge can be produced using methods and techniques to do so. These assumptions and choices provide the context for understanding the research design and how it was designed. Therefore, such assumptions need to be thought about, surfaced, acknowledged, and declared when we design our research.[17]

We have covered a lot of ground in this opening chapter. We will return to these ideas at various points in the chapters to follow. Like research design itself, this book is not meant to be read or thought about linearly. Nor are the chapters meant to be read in isolation from each other. Points made in one chapter are returned to and developed in later parts of the book. In the next chapter, we explore in more detail how thinking about ethical considerations is a central part of iterative research design.

SUMMARY OF KEY POINTS

Research design

- is a strategy that guides a specific research project.
- is about making decisions about what form various parts of that project will take.
- is about linking the purposes of the planned research to how that research will be conducted.

- addresses a specific research problem and related research questions.
- is more than the identification of methods or techniques that will be used to collect data.
- is made up of theoretical, methodological, and ethical considerations that shape the design.
- uses relevant and credible research literature at all points of the research design process to assist in the development of that design.
- is an iterative, nonlinear, process.
- requires reflexivity on the part of the researcher throughout the entire research design process.
- Rather than simply being a set of individual procedures or steps, research design is a thoughtful, reflective, and ultimately reflexive process that constantly requires us to pause in order to consider what we are doing and why.
- What emerges from this process is what is called a "research design," the shape and substance of which is made up of decisions and choices made about a number of areas.
- All of these decisions and choices are interconnected and cannot be viewed or made in isolation.

KEY RESEARCH-RELATED TERMS INTRODUCED IN THIS CHAPTER

empirical
iterative process
methodology
methods
qualitative approaches
quantitative approaches
reflexivity/reflexive thinking
relevant literature
research design
research ethics
substantive area of research
theory

SUPPLEMENTAL ACTIVITIES

Try one or both of the following exercises designed to assist you develop the type of reflexive thinking that is central to research design and that you can use to ask yourself questions about research reports you are reading or the research you are designing yourself.

1. Obtain a report outlining the findings of a research study. Look for the level of detail about the way the research was designed and what was discussed and what was not. Here are some examples of what to look for:
    - What was the research about and *why* was it about this?
    - How did the researchers choose to do their research and *why* did they do it in this way?
    - Do they say what actually happened when putting aspects of the design into practice, and *why* this happened?

- Do they talk about any changes in their thinking about the research design during its development and also when putting it into practice?
- Do they discuss methodological, theoretical, and ethical considerations that impacted on their research design as it took shape?

2. Journal the decisions you make and why you make them when designing your research. If you are in the process of designing research, as you think about and work through the various chapters of this book, keep a diary or journal of what implications the discussion in each chapter has for the way that you will design that research. For example, after reading this chapter, write about your thinking concerning the role of theory in that design, and what assumptions you are basing that thinking on. Why are you thinking about theory in that way, and how does this impact decisions you might make about what type of data or information you will need as a result of that thinking? The diary or journal then becomes a record of the types of decisions you made, and *why,* related to the various areas that make up your research design. This provides a record of the reflexive thinking that underpins the design of your project.

FURTHER READINGS

Becker, H. S. (1998). *Tricks of the trade. How to think about your research while you're doing it.* The University of Chicago Press.

Lumsden, K. (2019). *Reflexivity: Theory, method, and practice.* Routledge.

NOTES

1. Cambridge online dictionary, https://dictionary.cambridge.org/dictionary/english/iterative accessed 28/3/2020
2. Merriam-Webster online dictionary defines *empirical* to mean "originating in or based on observation or experience." *Merriam-Webster.com Dictionary*, Merriam-Webster, https://www.merriam-webster.com/dictionary/empirical. Accessed 25 Feb. 2021.
3. For example, in Norway underpinning the annual collection of data about each researcher's publications is a list of recognized journals, articles from which will be included in that collection. Decisions are also made about which books and book chapters will be recognized based on where they have been published and by which publisher.
4. See https://rxcomms.com/blog/6-ways-spot-predatory-journal/vglasson/
5. See https://authorservices.taylorandfrancis.com/are-open-access-journals-good-quality/
6. Research that is published informally or noncommercially or remains unpublished is sometimes referred to as gray literature. Gray literature can include non-peer-reviewed but still useful sources such as government reports, statistics, patents, conference papers, etc.
7. The article with this headline was first published on the digital platform www.dailymail.co.uk of *The Daily Mail* on 9 July 2018 (https://www.dailymail.co.uk/sciencetech/article-5934673/Being-rich-successful-really-genes-study-suggests.html). Initially, the article claims that "[S]cientists have found social mobility is partially written into our genes, which can make us high-flyers or high-earners" (paragraph 1). Reading a bit more, the article says that "[t]he authors say our genes explain only roughly four

per cent of differences in social mobility" (paragraph 13) and that "the effect of the 'genes for education' on any one child's life is small" (paragraph 27).

8. See Chapter 5 for what we mean by qualitative approaches to research.
9. This point is picked up and developed in Chapters 6 and 7.
10. See Chapter 5 for what we mean by quantitative approaches to research.
11. This point is picked up and developed in Chapters 8 and 9.
12. These designs are known as positivist or post-positivist; see Chapters 4 and 5 where this is discussed in detail.
13. See for example the discussion of the qualitative research interview in Chapter 6 and the quantitative survey in Chapter 9.
14. See Chapters 6 and 7 for a detailed discussion of this type of interview.
15. Hindess (1996) argues that there have been two conceptions of power that "have dominated Western political thought in the modern period" (p. 1). One "is the idea of power as a simple quantitative phenomenon," and the "second, more complex understanding is that of power as involving not only a capacity but a *right* to act, with both capacity and right being seen to rest on the consent of those over whom the power is exercised" (p. 1). Theoretical writing and understandings of power in use may draw on one, two, or several theoretical traditions or variants thereof.
16. If you would like to read further about this, Lumsden (2019) in her Introduction to her book *Reflexivity: Theory, Method, and Practice* provides a good (and accessible) introduction to, and discussion of, this complex idea.
17. Chapter 11 provides good examples of researchers declaring their hand in terms of the assumptions and thinking that underpin their research design, and discusses why such declaring of your hand is part of being a responsible researcher.