2 INTRODUCTION AND OVERVIEW OF DATA-DRIVEN ARTICLES

LEARNING OBJECTIVES

After reading this chapter, you will be able to

1. Discuss how to use keywords to search for relevant scientific evidence in your discipline.
2. Describe the peer-review process and why we have it.
3. Describe a two-stage strategy for searching for articles.
4. Identify two to three databases that house articles in your professional area.
5. Define scope and purpose of each section of "typical" research articles including title, abstract, literature review, methods, results, discussion.

To able to read, understand, and use **data-driven articles** (articles in which authors report the methods and findings of original research based on empirical, observable, evidence, typically published in peer-reviewed academic journals) in your professional lives, it will be useful to begin with an introduction to the common elements you will find in most articles. With slight variations based on discipline or field of studies, those common elements include the following sections: title, abstract, literature review, methods, results, and the discussion or conclusion. Throughout this book, our goal is to get you thinking about each of these sections both independently and as part of the whole of the story of each data-driven article. Each section addresses a key aspect of the research process, and all sections should align with each other in meaningful ways. Our goal is not to provide detailed information that you might find in traditional textbook on research methods and data analysis (e.g., Adams & Lawrence, 2018; Cozby & Bates, 2017; Creswell & Guetterman, 2018), but rather to provide you some general knowledge and strategies for how to read and interpret data-driven research articles.

With that in mind, the goals for this chapter are to help you develop knowledge and strategies for identifying relevant articles for your work and to describe the main elements of those articles so that you can assess their relevancy and appropriateness. In this chapter, we describe (a) how to search for scientific evidence and how to identify relevant work, (b) tips for how to cull through the many studies you'll encounter, and (c) key information you should expect to find in each section of most research articles

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you'll encounter. In this last section, we describe each section independently, providing some general guidance on what you may see and what you should look for and then we walk you through some strategies for how you might put it all together. To begin that process we start with some ideas about how to find useful data-driven research articles in your area of interest.

SEARCHING FOR SCIENTIFIC EVIDENCE

In the current technological age, we are immersed in information. As referenced in Chapter 1, almost any topic can be explored by a quick internet search. However, as we have also emphasized, the goal of this book is to incentivize your inclination to search for information beyond what is freely available on the Internet and to track down the scientific evidence on any given topic. Access to relevant scientific evidence is not always free and most of the time requires access to key academic journals, books, and other materials that can be found in the library on most university campuses. If you are a student, you generally have free access to many academic journals, books, and other materials through your university libraries.

To be able to read and learn from the scientific evidence it is important to know how to find it. University libraries have subscriptions to journals and house books and other reference materials for you to search and review. And because these databases are quite large (and expanding rapidly), it is important for you to develop knowledge and skills for finding the information that best suits your interests. Your university librarian is a good source of help for this; however, here we provide a few key things to think about as you learn how to find the information you need.

Keywords

When searching through a university library or internet database, how do you find the *relevant* and *appropriate* scientific evidence on any given topic? First, let's talk about relevance. When seeking information on a topic you need to figure out how to identify material on that topic. This can be overwhelming because as you probably know, libraries house enormous amount of information, on paper and digitally, and in a variety of forms including books, articles, theses, white papers, technical reports, magazines, and newspapers to name just a few. So how do you identify what might be relevant? A good way to do that is through the use of keywords and employing keyword searches.

Keywords *are library or publisher assigned categorizations that authors select and attach to their publications*. Although they can be used to organize all types of publications, they are most commonly attached to journal articles. For example, if you look at the articles at the end of this book in the Appendices, you'll see three examples of the use of keywords. In Appendix A, you can see on page 122 that Spiess and Cooper (2019) have listed three keywords: "multicultural education, teachers, educational leaders."

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Similarly, if you look at the article in Appendix B by Phillips (2011), you can see the keywords are "schools, social justice, students." Lastly, in Appendix C, Fredricks et al. (2019) use the keywords of "disengagement, motivation, engagement, urban schools, mixed methods." What these represent are overarching categories that define the main topics, discipline areas, ideas, or methods explored in these works. By locating these keywords, you as a reader can now use them to track down other articles with the same keywords and that purportedly focus on the same topic areas. Think of the use of hashtags (#) in social media—anything that includes a particular #label can be easily found from across an array of posts organizing the information into a single category. This is the same function as keywords while searching in academic journals. This is a useful way to track down journal articles (and other materials) that focus on similar content areas across a variety of different journals that are important to you.

Keywords are also used to characterize other sources of information as well, including books, white papers, theses and so forth. Thus, if you're looking beyond articles, your keyword search might yield an overwhelming array of documents for you to sift through. How do you know what to do? This has to do with the relevancy of the scientific information you seek and the search strategies you will employ.

Relevancy of Publications

It is relatively easy to find information on any given topic and using the keyword approach described above can be helpful; however, because of the vast amount of information available, as a reader it is important for you to know how to sift through this information to identify what is useful or relevant to your work from what is not. Although we cannot possibly describe every possible publication you may encounter and talk about its relevancy, we can provide a few guideposts. Similarly, we cannot direct you on the best overall search strategy for pulling up relevant information. Therefore, we encourage you to work with your local librarian and your instructor to get answers to more specific questions you may have regarding best search strategy and best decision-making regarding the utility of any specific resource. Our goal is to describe a few *types* of publications you'll mostly commonly rely on for enhancing your scientific literacy. Although there are many types of information you will encounter in your searches (e.g., technical reports, newspaper stories, audio/visual information), we focus here on books and handbooks, dissertations, and peer-reviewed journal articles. We spend a little more space talking about peer-reviewed research and the process of peer review on books, handbooks, and dissertations.

Books and handbooks are important sources of information. Books, of course, are longer than empirical articles. They also differ in format and tone. While academic journal articles are typically less than 10,000 words and written using technical language, books are typically written for a more general audience, use less jargon, and come in a variety of types including textbooks, handbooks, encyclopedias, and multiple-chapter texts that provide a richer description of study findings. These are

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incredibly useful sources of information when looking for synthesis information on a topic or current trends or knowledge in a topic (e.g., handbooks, encyclopedias), or special collection of essays devoted to specialized topics (e.g., edited books).

Dissertations are also excellent sources for identifying key ideas or topics related to your area that might not be found in more traditional published outlets. Dissertations are the written product completed by students earning their doctorate degrees (e.g., PhD, EdD, PsyD, DNP). Although these do not go through an external peer-review process, they tend to be quite broad in scope and therefore include much more detail in the literature review than what is typically found in a journal article. Dissertations can be hundreds of pages long and provide extensive literature reviews that provide students new to the field with a basic overview of what studies the author has found pertaining to their research interest up to that point. Thus, dissertations are a fruitful starting point for readers new to a field and searching for starting points for where to go for information. You can access dissertations at your institution's library and databases like ProQuest. We do not recommend including only dissertations when you are reviewing the literature, but they are certainly a good way to identify key articles and conceptual ideas from which to start.

Peer-Reviewed Journal Articles

Journal articles come in many forms and types such as data driven pieces, meta-analyses, and stand-alone literature reviews (see Chapter 1). A key feature of any type of article relevant to your efforts to track down reliable scientific evidence is whether they have been peer reviewed. A **peer-reviewed article** is *one that has gone through a type of a vetting process whereby multiple experts in a field have deemed that work reliable, credible, robust, and significant enough to warrant it being published*. Researchers conduct a wide array of research projects but not all that work gets published, in part because their work may not pass review judgments from experts in the field. Understanding the basic peer-review process is useful so you understand what has gone into the decision to publish the work. We discuss the peer-review process in more detail next.

The Peer-Review Process

Students are often told that peer-reviewed articles are the preferred and more legitimate source. But why? And if something is peer reviewed, then why do you need to evaluate it? Doesn't the fact that it was published mean it is "important" or "credible"? In other words, if it is peer reviewed, why is this book necessary? Hasn't the study or article been deemed "acceptable" already by experts in the field? In theory, yes. Research that has undergone a rigorous vetting process theoretically meets the standards of science set by the community doing the vetting (Merton, 1973). In essence, the peer-review process is "understood as providing a 'system of institutionalized vigilance' (Merton, 1973, p. 339) in the self-regulation of knowledge communities" (Lee et al., 2013, p. 3). Thus,

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when you encounter a study that is labelled as "peer reviewed" you can be more assured that it has gone through some rigorous review process and therefore, meets the standards of science required to be published. Still, this doesn't negate the need for you as a reader to understand all the components of the article. Nor does it guarantee that the pieces of the article are done well. You still need to do your job as a reader.

To shed light on how it is the peer-review process may yield products that vary in their quality, it is useful to understand how the peer-review process operates. Once an author submits a manuscript to an academic journal, the manuscript is reviewed by the journal's editor and either rejected outright or assigned to two or three experts for review. The manuscript can be rejected at this stage (also known as a "desk reject") for number of reasons. For example, editors tend to reject outright any manuscript that doesn't fit the goals of the journal. Editors also reject outright manuscript that are poorly written, or which have serious and obvious flaws in the study. Once the editor deems the manuscript to be worthy of consideration, they then invite up to three experts, chosen based on their expertise for evaluating that specific study, to review the manuscript and provide feedback and commentary. Reviewers provide their feedback and recommendations to the editor—recommendations that fall into three broad categories: to reject, to revise, and (most rarely on the first review) to accept for publication with minor or few editorial changes needed. The reviewer's job is to provide rigorous evaluation of the study or publication including whether (a) the article fits with the intended journal audience, (b) the author employed rigorous and appropriate methods, and (c) the study makes a meaningful contribution to the field or discipline. Based on the reviewers' comments, the editor will communicate their decision to the author. If the manuscript is rejected, the process stops there—at least with that journal. The author can submit the manuscript to another journal and repeat the process there. If the reviewers' advice is to revise and resubmit the manuscript (addressing the issues raised by reviewers), the author has the option to make the changes and submit an updated manuscript for review to that same journal. The review process is then repeated—oftentimes with the same original reviewers, though not always. Once a manuscript is accepted, the article undergoes a production process where it is edited for grammar and formatted for publication. This entire process can take 12 to 18 months depending on how long it takes for the manuscript to be assigned to reviewers, to be reviewed by said reviewers, revised, and ultimately published.

As you can see this process entails several steps and requires the input of expert reviewers to determine if its contribution to a particular subject area is significant enough to warrant publication. Publications that do not go through this process, such as blogs, op-eds, research or policy "briefs," and newsletters, may have a quicker turnaround and can provide valuable insights on a topic, but they have not been vetted through a systematic process in the same way as peer-reviewed academic articles. When an article is published in a journal that relies on the peer-review process (as some

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do not), it means there is agreement (by some scholars in the same field) that the study contributes to the conversation on the topic at hand in a meaningful and useful way.

Even with the peer-review process in place, no study is perfect. Journals vary widely in the stringency and consistency of their peer-review procedures (Mabe, 2003) and sometimes reviewers' biases may influence what gets published and how research details are conveyed (see Lamont, 2009; Lee et al., 2013; Mallard et al., 2009). Although it is critical to rely on peer-review articles, it is equally important to understand that peer review does not abdicate your responsibility as a reader to critically evaluate what you read. There is no perfect study and no perfect peer-review process. As a reader developing your scientific literacy, it is up to you to come to your own conclusions about the contributions and limitations of any given study.

HOW TO CULL THROUGH DATA-DRIVEN ARTICLES

There are several ways to search for data-driven articles and again, your librarian may be an excellent resource for tips and strategies. However, there are a few key databases you will draw upon to find works based on your discipline. For example, you could use the Psychology and Behavioral Sciences Collection for psychology and counseling, ERIC for Education, or PsychINFO for nursing or the medical fields. Another strategy is to use Google Scholar—a freely available website—that can be used across disciplines, and which calls up a cross-selection of work you may find interesting (including books, articles, and technical reports). Google Scholar is currently widely available (especially if you're not currently in school with access to library databases) and can quickly yield the information you are seeking. If you have access to library databases, it may be useful to learn about them and investigate what additional information you may find by using them. Sometimes these databases are organized in a way that may help you may find more examples of what you're looking for. The bottom line is to develop your research search skills as part of your overall goal of scientific literacy. Thus, what is key is not so much the search engine, but to develop your strategies and skills for using keywords to search and be able to find the information you need to be successful in your profession.

It is easy to become overwhelmed early in the research process with the wealth of studies out there on any given topic. With that in mind, think of your search process in two stages where Stage 1 is where you do a cursory review of available resources with the goal of identifying literature that is simply relevant to your goals. At this stage, you begin by reading the abstract and introduction to decide whether it applies to your questions of interest. In other words, is it relevant? Ask yourself, "What are you interested in learning more about? Does this article address your interest?" Things to consider include the population of interest (e.g., preschool children, minoritized high school students, or nurses in rural hospitals), the disciplinary approach of the study (e.g., an educational, psychological, nursing, or sociological perspective), and the outcome or

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phenomena of interest (e.g., academic achievement, depression, or resilience). Once you have identified the articles that are relevant to you, you can move on to Stage 2 in this process, which is to read more carefully the literature review and broader study to evaluate the utility of the study for your purposes.

At this second stage, you read more than just the abstract, including the literature review and methods to assess whether what the study has to offer will inform your own research or professional practice. Here, you pay greater attention to the methods and the findings section (including any relevant graphs, tables, and figures). This process is iterative so as you continue to read through the literature you will cull though all studies (Stage 1) and focus on a select relevant number of them (Stage 2) simultaneously.

Two other strategies emerge as you interact with the research publication described above. First, you may see as you read through articles, there are key publications repeatedly referenced. Pay attention to these articles. Work that is referenced repeatedly across different articles should be a clue to track down that original article as it likely serves as a foundational piece of information in your topic area. A second strategy is to review the reference list in an article and to track down those that are referenced and read them for yourself. This is a useful way to identify research relevant to your topic.

Types of Journals

Academic journals are the primary venue in which faculty and scholars publish their research typically packaged in article format and containing the sections we introduced earlier and described in more detail at the end of this chapter and in the new few chapters of the book. Importantly, there are as many journals as there are research areas. Thus, learning the journals in your discipline becomes important. As such, you will find that some academic journals are broad and reach a general audience. Other academic journals are more specific in nature. Similarly, some journals focus on publishing theoretical reviews or essays commenting on specific topics related to particular discipline, whereas others publish only data-driven work. You may also notice that some journals that publish data-driven work include primarily quantitative studies, whereas others might embrace qualitative studies and still others reflect a mix. As you read through the research, pay attention to the types of work published by different types of journals in your area so that you understand the type of information they offer. As we discuss later in this book, qualitative, quantitative, and mixed methods research offer different types of evidence that are all needed to understand the story of any given topic. Learning which journals in your discipline cater to these traditions can enhance your searching strategies.

Timing of Publication

Another issue to consider is the date of publication. We are often approached by students who want to know how old is too old to consider. The best answer we can

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give is: It depends. Different disciplines have a different array of research spanning different time spans and topics. What this means is that in some cases, older work is highly appropriate but in other cases it might not be. One example of when older publications might be relevant is when you want to refer to the original source of an idea (or as original as you can find). Another reason for searching for relatively older work has to do with ensuring you have captured the range of research available on a topic. For example, suppose you find several recent studies (from the past 5 years) where nurses were surveyed about their attitudes toward their profession, and you learn that a large proportion of nurses report high rates of burnout due to longer hours, low staffing, and higher caseloads. But say you find another study done decades ago, say in the 1980s, in which researchers used interview techniques with nurses and found that most nurses talked about lack of preparation for their job and low pay as reasons for burnout. If you didn't consult earlier research, you may not know how things have changed. Consulting research from an earlier time period provides information that helps you understand a fuller picture of nurse burnout. Of course, anytime you rely on research from decades ago, you must be careful to consider the time period in which that study was conducted and therefore it is critical you are cautious about making any conclusions about situations or groups as they may not generalize to our current time frame. Still, early work can provide interesting parts of the story that newer research might not provide and vice versa, new research might provide interesting new information earlier work failed to reveal.

Despite the value of the research history in any given discipline, most of the work you'll reference will come from more recent time frames. Typically, this means that the research you'll reference will come from the most recent 10 to 20 years of work. Thus, when searching for research we want to access the most recent and "best" research available whether that is work published in the past 1 to 5 years, or research from 40 years ago.

SECTIONS OF DATA-DRIVEN ARTICLES

Although there are data-driven journals in all areas of science, in most cases the sections of each of articles published tend to follow the same general pattern regarding the sections in each of those articles. As indicated, each article tends to follow the following sections: Title and Abstract, Literature review, Methods, Results, and the Discussion or Conclusion. We introduce and describe these next.

Title and Abstract

One of the first things you will notice is a title and an abstract for the article which summarizes the key points of the study. The title should be descriptive enough to provide you a basic idea on the topic of the study. The **abstract** is located at the start of the article and is a *brief summary of the study's purposes, research questions, overall design and key findings*. Thomson and Kamler (2012) suggest that an abstract has four "moves": It

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locates the study in the context of the current literature, *focuses* on the study's research question(s), *reports* the methods by which the questions were answered, and *argues* the contribution of the study to our current understanding of the overall topic. Because of its inherent brevity (usually no longer than 250 words), readers cannot glean all the important aspects of the study—particularly the methods—from an abstract alone. Still, the abstract is useful to quickly assess the purpose of the article and to decide if the article is relevant to your own research or practice. If an article is about high school students, for example, but your interest is in third graders, the abstract can help you weed out studies that are not relevant to your particular research question or the people you are working with. Similarly, if you're interested in studies with large scale, nationally representative samples, or studies that rely on Vygotskian theorizing or self-determination theory, again the abstract is your friend. Abstracts can give you an overview of the study's main points, however it does *not* allow you to assess the author's attention to rigor (see Chapters 4, 5, and 6).

Literature Review

The literature review is a critical element of the article in that it sets the stage for why the study is being conducted in the first place (see Chapter 3). As we defined in Chapter 1, a literature review is a synthesis of relevant studies related to the research topic at hand. It summarizes what other scholars have found in the area, but also presents a key argument for what has yet to be studied. The goal of the literature review is to convince you that this study is necessary based on what we know and don't know about any given problem area or topic. It situates the current study within the broader body of literature. Oftentimes, the author(s) will identify a gap or deficiency in prior research that their current study is directly addressing. To accomplish this, literature reviews should provide readers with an overview of the relevant existing studies and present guiding framework on the topic being studied. To do this, the author(s) elaborate on their **substantive content theory** which *describes the authors' theoretical framework for their area of research* (DeCuir-Gunby & Schutz, 2017). Each discipline has a number of substantive theories, and the literature review is where the author(s) explains how they think about the topic at hand. In addition, the literature will also include some mention of the researchers' inquiry worldview, or the author(s) current beliefs about the nature of research (DeCuir-Gunby & Schutz, 2017). Finally, the literature review will often culminate with a summary and synthesis of the studies goals, guiding research questions, and hypothesis. Though, these are sometimes in an introduction or at the beginning of the research methods section.

Research Methods

The research methods section of an article is where the author spells out all the steps of the research process undertaken during the study. It is in this section where the researcher provides information about who participated in the study (i.e., participants),

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how the participants were recruited and selected (i.e., data-collection procedures), what types of data were collected and how they were analyzed. In some instances where secondary data is used, the researcher will also describe where the data come from. For example, some researchers utilize national databases (e.g., the United States Census Bureau, the National Center for Education Statistics, and the National Institutes of Health) to study national trends in particular areas. Thus, the methods section includes any relevant information pertaining to the collection and analysis of data.

Importantly, to make sense of the methods of the study, you first carefully read the literature review (discussed in more detail in Chapter 3) to understand the basic goals of the project. These goals, if described substantively and convincingly should lead you to the specific research question(s) that guide the study. It is the research questions that are at the center of understanding everything described in the methods section because the research questions orient the researcher (and us as the reader) as to the purpose of the study. And, as introduced in Chapter 1, research questions and the subsequent methodologies that follow can be organized into one of three basic categories: quantitative, qualitative, and mixed methods. A basic understanding of each of these approaches gives readers a way to read and evaluate the soundness of the study. Although a more detailed description of each is available in Chapters 4 through 6, we introduce some of the key ideas to each of these approaches here.

Quantitative methods *typically flow from research questions that are commonly phrased as yes/no questions and rely on data in the form of numbers, typically gleaned from larger samples* (Chapter 4). Quantitative research questions tend to focus on questions of relationships (Does calorie intake relate to BMI?), predictions (Does GPA predict college success?), or comparisons (Are there differences between teachers' instructional effectiveness and the type of certificate they obtained?). Quantitative methodologies are more commonly associated with data collection from larger samples and rely on statistical strategies to make sense of the numerical data.

In contrast, **qualitative methods** (Chapter 5) *typically flow from research questions that are more open-ended in nature and have as a goal the desire to understand the localized experiences, perspectives, and voices of participants.* Here, *data are collected in the form of words or text but can also include audio/visual information.* Qualitative methodologies are quite diverse and include strategies including interviews, observations, document analyses, audio/visual analyses to name a few.

Importantly qualitative methodologies differ from quantitative methodologies in two ways: the type of data that are collected (typically words versus numbers) as well as the general goals of the project (quantitative methods typically are employed to test theories or hypotheses and qualitative methods typically are employed to explore, discover, or describe[1]). It is important to understand that qualitative methodologies

[1] Importantly, the goals of qualitative and quantitative research are complex and multifaceted and therefore should not be used as a sole basis for determining the appropriateness of the methodological approach for a study.

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can sometimes use numbers in the service of qualitative inquiry and similarly, words can be used in the service of quantitative inquiry. Therefore, the presence of data as numbers or words alone does not automatically let you know what methodologies are most appropriate or relevant. Again, as a reader trying to make sense of the methods in a research article, it is critical to combine all relevant pieces of information to better understand the choices researchers make when asking and answering a particular research question.

Mixed method approaches (Chapter 6) *include both types of data in ways that complement each other and are utilized within a single project or study or program of research. The utilization of both qualitative and quantitative information can occur at different points in the research (data collection, data analysis) and can be done sequentially or concurrently.* An important aspect of mixed methods is the utilization of both types of data in a single project or program of research.

After reading the methods section, you should have a good idea what each of the participants did from the beginning to the end of the data collection as well as what the researcher did to collect and analyze the data. Therefore, readers should be vigilant in questioning these choices and the adequacy with which researchers describe and explain them. Much of this book will discuss the main features of methods sections and without bogging the discussion down with a lot of jargon and technical detail, we hope to provide some useful devices to assist you in making basic judgments of these decisions.

RESULTS

In this section, the key questions that are answered include what did the study author(s) find? What did the analysis yield? The goal of this section is of course to review the results of the inquiry. The format of this section will vary depending on the nature of the study. In quantitative analyses, the results can be quite technical and parallel the order of the research questions presented earlier in the articles. In other cases, as in studies that are more qualitative in nature, authors will often present findings based on emerging themes that make sense of interview or observational data. Regardless of approach, the authors present their findings and answers to the research questions identified earlier in the article.

Discussion, Conclusions, and Implications

The discussion section extends on the results section and discusses the findings within the context of the broader literature and context. In this section, the author(s) should discuss what the results mean in the context of broader field, policy, or practice. To do so, generally they will go back to their substantive content theory described in the literature and make connections among those theories, their research questions and hypothesis, and their results. This is also the section where the authors need to address

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"so what" questions. As such, how do the results influence the development of their content theory, the problem(s) they were attempting to address, and what would be the next step in this program of research. We talk about typical ways results are presented in quantitative (Chapter 4), qualitative (Chapter 5), and mixed methods (Chapter 6) studies.

CONCLUSION

There is a difference between understanding research to carry it out versus understanding research in order to make sense of it. This book is all about the latter: gaining the knowledge to be able to find, understand, interpret, synthesize, and evaluate different types of scholarship. The rest of this book is dedicated to demystifying the different sections of a data-driven article so you can be confident in reading and assessing a study's findings, particularly how to assess the strengths and limitations of an author's research design and conclusions. What's important to remember is that without knowing the methods, the findings might not matter. The conclusions drawn by a researcher are only as strong as the methods of their study. As such, we will discuss how you can evaluate the literature review, methods, conclusions, and contributions of peer-reviewed journal articles on your own. In the next chapter, we focus on role of the literature review in the research process and the data-driven article.

CHECK YOUR UNDERSTANDING

1. Define keywords and describe how they are useful in finding articles on a given topic.
2. Describe what it means that an article was "peer reviewed."
3. Summarize the peer-review process.
4. What is the two-stage process for searching for articles on a given topic?
5. What are two or three databases that house articles in your discipline?
6. What are two or three key journals in your discipline?

GUIDED APPLICATION

For this guided application exercise, go to your institutional library website and locate the research databases housed at your institution. Some databases include the Educational Resource Information Center (ERIC), PsycINFO, and JSTOR.

1. Search for keywords *bullying* + *schools* in an online search engine like Google.
2. Now search for the same keywords (*bullying* + *schools*) in Google Scholar.

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3. Now search for the same keywords (*bullying* + *schools*) in ERIC
4. Lastly, search for the same keywords again (*bullying* + *schools*), but this time in PsycINFO.
5. What do you notice about the types of results you get from each different search engine? Which results are peer reviewed? Which are not? How do the results vary depending on the search engine?

KEY TERMS

abstract
data-driven article
keywords
mixed methods
peer-reviewed article
qualitative methods
quantitative methods
substantive content theory

SUGGESTED READINGS

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