1

THE RESEARCH PROCESS

Chapter Preview

Steps	Example
Choose a research area and read the literature	• Impact of social media on self-esteem and well-being among teens
Identify the gaps or ways to extend the literature	• Limited research on uses and consequences of social media use among adolescents • Lack of distinction between social and nonsocial Internet use
Examine the theory	• Human beings have a desire to protect and enhance their self-esteem. • Self-esteem is strongly related to well-being.
Develop your research questions and form hypotheses	• Does the frequency with which teens use networking sites have an impact on their self-esteem and well-being? • Does positive or negative feedback affect self-esteem?
Design a questionnaire or use secondary data to address your questions	• Online survey among adolescents between 10 and 19 years of age who have a profile on a social networking site
Analyze the data	• Descriptive statistics of frequency of usage and types of feedback received from peers • Regression analysis to determine impact on self-esteem

Write the research paper	• Introduction
	• Literature Review
	• Data and Methods
	• Results
	• Discussion
	• Conclusion

Source: Valkenburg, Peter, and Schouten (2006).

1.1 INTRODUCTION

Research is often described as the creation of knowledge. It begins with the construction of an argument that can be supported by evidence. As described by Greenlaw (2009), scholars then create a "conversation" in scholarly journals to discuss the argument. In many cases, scholars will identify gaps in the argument and offer alternate views or evidence. In other cases, scholars may forward or extend the argument by offering new insights or examine the same argument from a different angle. Another equally valid form of research is to replicate what others have done. This can be done by conducting the same research in a different region, in a different time period, over a longer time period, or with a different set of participants. All of these may validate the original argument or disprove it.

The process described above is known as the scientific method, which is defined in the *Oxford English Dictionary* as follows:

> A method or procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses.

In this chapter, we will provide an overview of the steps in the research process that are illustrated in the chapter preview—reading the literature, identifying the gaps, examining the theory, developing research questions, forming hypotheses, designing the questionnaire or using secondary data, analyzing the data, and writing the report. Although more detailed instructions for these steps are offered in later chapters, it is important to understand the process as a whole.

1.2 READ THE LITERATURE AND IDENTIFY GAPS OR WAYS TO EXTEND THE LITERATURE

Students typically think that research begins by simply creating a question without any prior reading or knowledge of the topic. It is possible to choose a general area that interests you such as poverty, pollution, sports, social media, criminal justice, and so on, without reading about the topic. Once the general area is chosen, however, you must begin reading the *literature*. The literature can be defined as a body of articles and books, written by experts and scholars, that has been *peer reviewed*. A peer review is when two to three scholars are asked to anonymously evaluate a manuscript's suitability for publication and either reject it or accept it, typically with revisions based on their recommendations.[1] Articles in the body of literature will cite other sources and will be written for an audience of fellow scholars. Nonscholarly materials, such as newspapers, trade and professional sources, letters to the editor, and opinion-based articles are not considered as part of the literature. They are sometimes used in a scholarly paper, but never as a sole source of information.

Most disciplines have their own databases with articles, book chapters, dissertations, and working papers from their field. Table 1.1 shows a list of the key databases in several fields.

TABLE 1.1 ⬡ DATABASES OF SCHOLARLY LITERATURE FROM DIFFERENT FIELDS			
Field	**Database**	**Content**	**Website**
Criminal Justice	ProQuest Criminal Justice Database	A comprehensive database of U.S. and international criminal justice journals	www.proquest.com/products-services/pq_criminal_justice.html
	Criminal Justice Abstracts	Titles and abstracts for articles from most significant sources in the field	www.ebsco.com/products/research-databases/criminal-justice-abstracts
Economics	Econ Lit	Over 1,000 journals plus books, dissertations, working papers, and book reviews	www.aeaweb.org/econlit
Political Science	JSTOR	6,800 political science journals, books, and pamphlets	www.jstor.org/action/showJournals?discipline=43693417
	Academic Search Complete	340 full-text political science reference books and monographs and more than 44,000 full-text conference papers	www.ebscohost.com/academic/subjects/category/political-science

[1] The home page of a journal will indicate if and how articles are peer reviewed.

TABLE 1.1 ◆ (*Continued*)			
Field	**Database**	**Content**	**Website**
Psychology	PsycINFO	Four million bibliographic records, including more than 2 million digital object identifiers to allow for direct linking to full-text psychology articles and literature. Indexing of more than 2,500 scholarly psychology journals	www.apa.org/psycinfo
Public Health	PubMed	Access to 12 million MEDLINE citations back to the 1950s	www.ncbi.nlm.nih.gov/pubmed
	PAIS	Political, social, and public policy issues	www.proquest.com
	Nexis Uni	15,000 news, business, and legal sources	www.lexisnexis.com
Sociology	Sociological Abstracts	Abstracts of sociology journal articles and citations to book reviews drawn from more than 1,800 serial publications and abstracts of books, book chapters, dissertations, and conference papers	http://proquest.libguides.com/SocAbs
	JSTOR	8,000 sociology journals, books, and pamphlets	www.jstor.org/action/showJournals?discipline=43693423
	Academic Search Complete	900 full-text sociology journals, abstracts for more than 1,500 "core" coverage journals, data from nearly 420 "priority" coverage journals and more than 2,900 "selective" coverage journals, and indexing for books/monographs, conference papers, and other nonperiodicals	www.ebscohost.com/academic/socindex

In all of these databases, you can type in keywords from areas that interest you. You can then peruse article titles and read abstracts to get a sense of the thought-provoking questions and research in your area of interest. Once you have found some key articles that zero in on your research interests, you can review earlier articles that were referenced by the key articles (backward citation searching) and search forward in time to see what other articles have cited your key articles since they were written. For example, if an article was written in 1995, you can find every article written since 1995 that has cited the original article. This can be done through Google Scholar, PubMed, Science Direct, Scopus, and Web of Science. As you find more articles related to your specific topic, you will find that the literature will indicate what has been done in your area of interest, what questions remain, and if there are gaps or

contradictions in the literature. You can then identify your own research questions based on the contradictions or gaps in the literature or the need for forwarding or extending the argument. As mentioned earlier, you can also replicate what other authors have done by repeating the same study based on a different time period, a different region or country, or a different set of data.

For more information on how to identify gaps in the literature and write a literature review, refer to Chapter 15, "Writing a Research Paper," which offers guidelines on each section of a research paper along with examples from journal articles to illustrate these concepts.

1.3 EXAMINE THE THEORY

A *theory* can be defined as a set of statements used to explain phenomena. Darwin's theory of evolution, for example, is used to explain changes in species over time. Economists use demand theory to explain the relationship between the quantity demanded of a product and its price. Each field or discipline will have its own set of theories.

Theory plays an important role in developing your research questions and hypotheses. In the article used in the chapter preview, for example, Valkenburg et al. (2006) cite the theory that humans have a desire to protect their self-esteem and that self-esteem affects well-being. From this basic theory, they develop their research question related to how social media usage affects self-esteem and thus well-being.
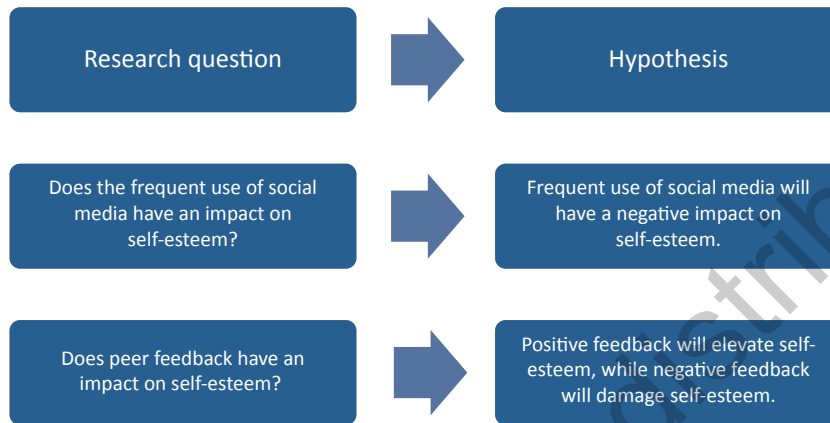
Theory is also used to examine the results of your research. In other words, do your results conform to the stated theories? How do they differ? Why might they differ? These concepts are covered in more detail in Chapter 15, "Writing a Research Paper."

1.4 DEVELOP YOUR RESEARCH QUESTIONS AND HYPOTHESES

As described in the previous sections, you begin to form your research questions as you read the literature and examine the theory. Your questions may change in the early stages of the research as you continue to find more articles on the topic or new ways that scholars have examined or answered the questions in your research area.

In the example used in the chapter preview, the authors identify two research questions that are illustrated below in Figure 1.1. Each of these questions can then be restated as a *hypothesis* or an answer to the questions. As you begin your research, you won't know the answer to your research questions, but your hypotheses indicate what you expect to

FIGURE 1.1 ⬡ FROM RESEARCH QUESTION TO HYPOTHESIS

Research question	→	Hypothesis
Does the frequent use of social media have an impact on self-esteem?	→	Frequent use of social media will have a negative impact on self-esteem.
Does peer feedback have an impact on self-esteem?	→	Positive feedback will elevate self-esteem, while negative feedback will damage self-esteem.

find based on theory. Your research may then find evidence to support or refute your hypothesis, which is a key feature of a hypothesis. It must be testable.

Developing the research questions is often the most difficult part of the research process and requires a lot of work up front before the questionnaire or study design can or should begin.

In addition to identifying the research question, it is also important to begin thinking about your key variables (self-esteem, social media usage, and feedback in this case) and how they relate to one another. In particular, self-esteem is the *dependent variable* because its value depends on the two independent variables, social media usage and feedback received. A dependent variable is defined in general as a variable whose variation is influenced by other variables. This is covered in more detail in later chapters.

1.5 DEVELOP YOUR RESEARCH METHOD

Once you have identified your research questions, your next step is to develop your research method. There are many types of research methods, such as qualitative research (narrative research, case studies, ethnographies), quantitative research (surveys and experiments with statistical analysis), and mixed methods that include both qualitative and quantitative approaches. Since this textbook focuses on quantitative analysis of primary data (data collected by the researcher) and secondary data (data that have been collected by someone else), the remaining chapters in this book will be devoted to sampling, questionnaire design, and data analysis with a final chapter on writing a research paper. For more complete works on the other types of research methods mentioned, see Leedy and Ormrod (2001) or Creswell and Creswell (2018).

1.6 ANALYZE THE DATA

The majority of the remainder of this book covers *data analysis*. It begins with descriptive statistics such as the mean, median, and standard deviation. We then cover testing of hypotheses and exploring relationships through advanced statistical techniques or inferential statistics. These will be discussed in detail in Chapters 6 through 14.

1.7 WRITE THE RESEARCH PAPER

Once all steps of the research process are completed, you begin to write your research paper. The typical sections in a research paper are the introduction, the literature review, the method section, the results, a discussion, and the conclusions. Each of these sections is described in Chapter 15 along with examples from published articles. We also review conventional guidelines and style guidelines for reporting statistical results.

EXERCISES

1. Read the article "Prevalence and Motives for Illicit Use of Prescription Stimulants in an Undergraduate Sample" by Teter, McCabe, Cranford, Boyd, and Guthrie (2005). As you read the article, answer the questions below, which are based on guidelines offered by Greenlaw (2009).

   a. What question or questions are the authors asking?

   b. Describe the theoretical approach that the authors use to develop their research question.

   c. What answers do the authors propose?

   d. In what ways does the current study improve over previous research according to the authors of the article? In other words, what gaps do the authors identify in the current literature?

   e. What method do the authors use to answer their questions?

   f. What limitations do the authors identify in their study?

   g. What suggestions do the authors have for follow-up research that should be done?

2. Choose a general area of research that interests you. This could be sports, cancer, poverty, social media usage, gaming, and so on. Use the techniques identified in Section 1.2 to narrow your focus as you begin perusing the literature and using forward and backward searching for articles of particular interest to you. Once you have done the initial reading, you should develop a tentative research question and identify five articles that are most closely related to your question. For each of the five articles, answer the following questions:

   a. What question or questions are the authors asking?

   b. Describe the theoretical approach that the authors use to develop their research question.

   c. What is the hypothesis that the authors propose?

   d. What answers do the authors propose?

   e. In what ways does the current study improve over previous research according to the authors of the article? In other words, what gaps do the authors identify in the current literature?

   f. What method do the authors use to answer their questions?

   g. What limitations do the authors identify in their study?

   h. What suggestions do the authors have for follow-up research that should be done?

REFERENCES

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.

Greenlaw, S. A. (2009). *Doing economics*. Mason, OH: South-Western Cengage Learning.

Leedy, P. D., & Ormrod, J. E. (2001). *Practical research: Planning and design*. Upper Saddle River, NJ: Merrill Prentice Hall.

Teter, C. J., McCabe, S. E., Cranford, J. A., Boyd, C. J., & Guthrie, S. K. (2005). Prevalence and motives for illicit use of prescription stimulants in an undergraduate student sample. *Journal of American College Health*, *53*(6), 253–262.

Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *CyberPsychology & Behavior*, *9*(5), 584–590. doi:10.1089/cpb.2006.9.584