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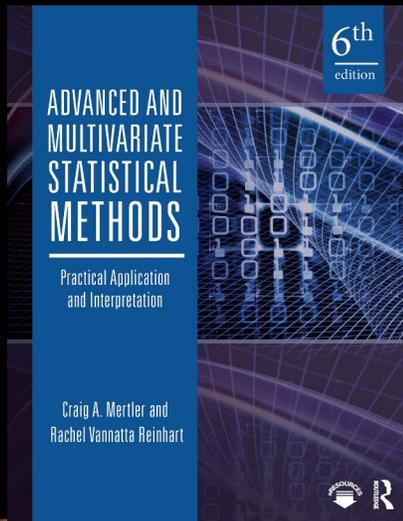
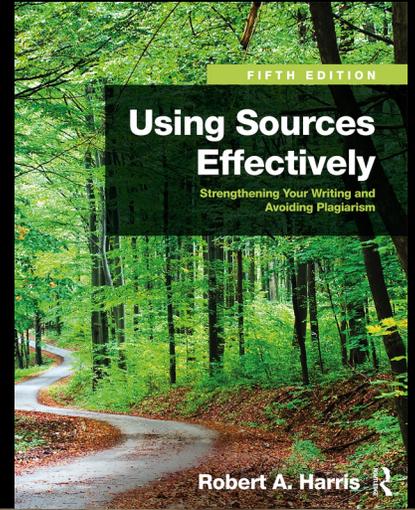
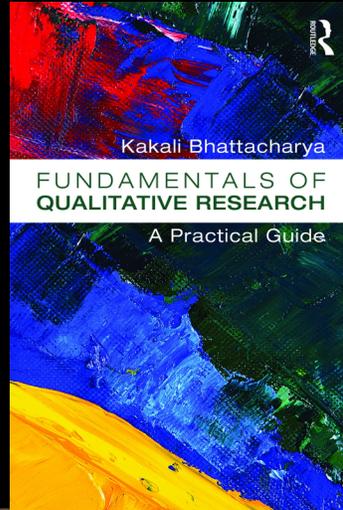
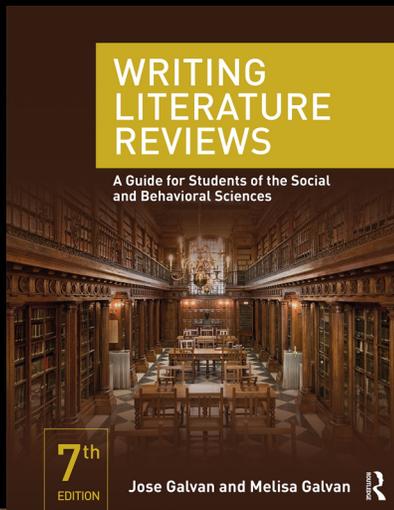


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Introduction

Research Methods is an exciting and expanding programme at Routledge. Established in early 2016, the list comprises a wide range of books in qualitative, quantitative and mixed methods, for students and researchers at all levels, and across all disciplines in the social sciences, and arts and humanities subjects.

This Freebook features a taste of some of the main areas of our list. Craig Mertler's book shows the progression from introductory to advanced statistical methods, with an emphasis on the 'non-maths' aspects of statistical analysis, making it accessible to students. Kakali Bhattacharya, and Raji Swaminathan and Thalia Mulvihill demonstrate the strengths of our programme in qualitative research, examining both the basic skills of qualitative research and the development of critical thinking skills. As well as textbook material, we have in qualitative research particular specialisms in autoethnography and arts-based research, including key authors such as Carolyn Ellis and Arthur Bochner, Ron Pelias, and Norman K. Denzin. Finally, Robert Harris, and Jose and Melisa Galvan's widely-adopted texts on general research skills are suitable for all readers wishing to renew and extend their learning in, and practice of, the practical skills required in research.

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Do you have an idea for a Research Methods book? Or would you like to tell us about what you think we should be publishing in Research Methods? If so, we would be delighted to hear from you – please contact Senior Commissioning Editor Hannah Shakespeare, Hannah.Shakespeare@tandf.co.uk.

Visit our website to view information on the books in full, or to purchase a copy. Links are provided at the beginning of each chapter of this FreeBook. If you have any questions, please contact us.

Note to readers: References from the original chapters have not been included in this text. For a fully-referenced version of each chapter, including footnotes, bibliographies, references and endnotes, please see the published title. Links to purchase each specific title can be found on the first page of each chapter.

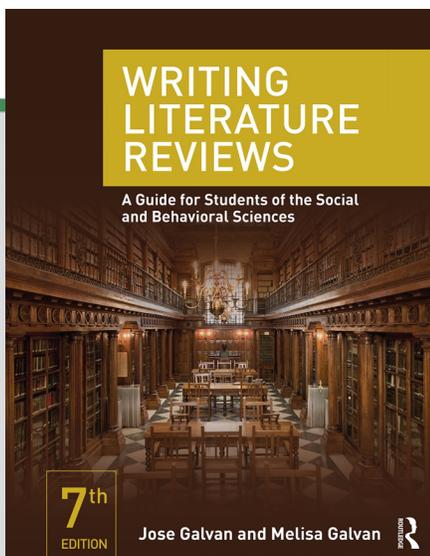
As you read through this FreeBook, you will notice that some excerpts reference previous chapters – please note that these are references to the original text and not the Freebook.



CHAPTER

1

GUIDELINES FOR WRITING A FIRST DRAFT



This chapter is excerpted from
Writing Literature Reviews, 7th edition
by Jose L. Galvan and Melisa C. Galvan.

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GUIDELINES FOR WRITING A FIRST DRAFT

Excerpted from *Writing Literature Reviews*, 7th edition

Up to this point, you have searched the databases for literature on the topic of your review, made careful notes on specific details of the literature, and analyzed these details to identify patterns, relationships among studies, gaps in the body of literature, as well as the strengths and weaknesses of particular research studies. Then, in Chapter 9, you reorganized your notes and developed a detailed writing outline in preparation for writing your literature review.

Actually, you have already completed the most difficult steps in the writing process: the analysis and synthesis of the literature and the charting of the course of your argument. These preliminary steps constitute the intellectual groundwork in preparing a literature review. The remaining steps—drafting, editing, and redrafting—will now require you to translate the results of your intellectual labor into a narrative account of what you have found.

The guidelines in this chapter will help you to produce a first draft of your literature review. The guidelines in Chapter 11 will help you to develop a coherent essay and avoid producing a series of annotations, and it presents additional standards that relate to style, mechanics, and language usage. But first, let's consider writing the first draft.

Guideline 1: Begin by Identifying the Broad Problem Area, but Avoid Global Statements

Usually, the introduction of a literature review begins with the identification of the broad problem area under review. The rule of thumb is, "Go from the general to the specific." However, there are limits on how general one should be in the beginning. Consider Example 10.1.1. As the beginning of a literature review on a topic in higher education, it is much too broad. It fails to identify any particular area or topic. You should avoid starting your review with such global statements.



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Example 10.1.1

Fails to identify particular area or topic

Higher education is important to both the economy of the United States and to the rest of the world. Without a college education, students will be un-prepared for the many advances that will take place in this millennium.

Contrast Example 10.1.1 with Example 10.1.2, which is also on a topic in education but clearly relates to the specific topic that will be reviewed, bullying in schools.

Example 10.1.2

Relates to the specific topic being reviewed

A significant proportion of children are involved in bullying across their school years. Children who are bullied report a range of problems, including anxiety and depression (Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001), low self-esteem (Egan & Perry, 1998), reduced academic performance (Juvonen, Nishina, & Graham, 2000), and school absenteeism (Eisenberg, Neumark-Sztainer, & Perry, 2003). Bullying may also be a significant stressor associated with suicidal behavior (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007).

Guideline 2: Early in the Review, Indicate Why the Topic Being Reviewed Is Important

As early as the first paragraph in a literature review, it is desirable to indicate why the topic is important. The authors of Example 10.2.1 have done this by pointing out that their topic deals with a serious health issue.

Example 10.2.1

Beginning of a literature review indicating the importance of the topic

Vitamin D insufficiency is increasing across all age groups (Looker et al.,



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2008). Recent research implicates vitamin D insufficiency as a risk factor for a variety of chronic diseases, including type 1 and 2 diabetes, osteoporosis, cardiovascular disease, hypertension, metabolic syndrome, and cancer (Heaney, 2008; Holick, 2006).

Of course, not all issues are of as much universal importance as the one in Example 10.2.1. Nevertheless, the topic of the review should be of importance to someone, and this should be pointed out, as in Example 10.2.2, which points to the wide use of the adjusted Rand index, or ARI, as the main reason for choosing to derive its variance as part of this study.

Example 10.2.2

Beginning of a literature review indicating the importance of the topic

The measure of choice for determining the adequacy of a partition of observations into groups is the adjusted Rand index (ARI; Hubert & Arabie, 1985). The article introducing the ARI is the most highly cited paper ever published in the *Journal of Classification* with 2,756 citations, while a subsequent paper discussing properties of the ARI by Steinley (2004) is in the top 10% of cited papers published in *Psychological Methods* since 2004 with 144 citations. In this article, we derive the variance of the ARI, providing a critical component to the 30-year old measure. After the variance is derived, a simulation exploring the adequacy of using the normal approximation for inference is conducted.

Guideline 3: Distinguish Between Research Findings and Other Sources of Information

If you describe points of view that are based on anecdotal evidence or personal opinions rather than on research, indicate the nature of the source. For instance, the three statements in Example 10.3.1 contain key words that indicate that the material is based on personal points of view (not research)—“speculated,” “has been suggested that,” and



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“personal experience.”

Example 10.3.1

Beginnings of statements that indicate that the material that follows is based on personal points of view (not research)

“Doe (2016) speculated that”

“It has been suggested that. . . (Smith, 2015).”

“Black (2014) related a personal experience, which indicated that. . . .”

Contrast the statements in Example 10.3.1 with those in Example 10.3.2, which are used to introduce research-based findings in a literature review.

Example 10.3.2

Beginnings of statements that indicate that the material that follows is based on research

“In a statewide survey, Jones (2016) found that. . . .”

“Hill’s (2012) research in urban classrooms indicates that...”

“Recent findings indicate that . . . (Barnes, 2014; Hanks, 2015).”

If there is little research on a topic, you may find it necessary to review primarily literature that expresses only opinions (without a research base). When this is the case, consider making a general statement to indicate this situation before discussing the literature in more detail in your review. This technique is indicated in Example 10.3.3.

Example 10.3.3

Statement indicating a lack of research

This database contains more than 50 documents, journal articles, and monographs devoted to the topic. However, none are reports of original research. Instead, they present anecdotal evidence, such as information on individual clients who have received therapeutic treatment.



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Guideline 4: Indicate Why Certain Studies Are Important

If a particular study has methodological strengths, mention them to indicate their importance, as was done in Example 10.4.1.

Example 10.4.14

Indicates why a study is important (in this case, “a national survey” and “randomly selected”)

The Pew Research Center (2007) recently conducted a national survey of 2,020 randomly selected adults and found that 21% of employed mothers preferred full-time work, 60% preferred part-time work, and 19% preferred no employment.

A study may also be important because it represents a pivotal point in the development of an area of research, such as a research article that indicates a reversal of a prominent researcher’s position or one that launched a new methodology. These and other characteristics of a study may justify its status as important. When a study is especially important, make sure your review makes this clear to the reader.

Guideline 5: If You Are Commenting on the Timeliness of a Topic, Be Specific in Describing the Time Frame

Avoid beginning your review with unspecific references to the timeliness of a topic, as in, “In recent years, there has been an increased interest in” This beginning would leave many questions unanswered for the reader, such as the following: What years are being referenced? How did the writer determine that the “interest” is increasing? Who has become more interested: the writer or others in the field? Is it possible that the writer became interested in the topic recently while others have been losing interest?

Likewise, an increase in a problem or an increase in the size of a population of interest should be specific in terms of numbers or percentages and the specific years being referenced. For instance, it is not very informative to state only that “The number of college students who cheat probably has increased” or that “There will be an increase in



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job growth.” The authors of Examples 10.5.1 and 10.5.2 avoided this problem by being specific in citing percentages and time frames (italics and bold are added for emphasis).

Example 10.5.1

Names a specific time frame

Over the years, research in this area has documented a steady increase in cheating and unethical behavior among college students (Brown & Emmett, 2001). ***Going as far back as 1941, Baird (1980) reported that college cheating had increased from 23% in 1941 to 55% in 1970 to 75% in 1980. Moving forward, McCabe and Bowers (1994) reported that college cheating had increased from 63% in 1962 to 70% in 1993.***

More recently, Burke, Polimeni, and Slavin (2007) stated that “various studies suggest that we may be at the precipice of a culture of academic malfeasance, where large numbers of students engage in various forms of cheating.” The Center for Academic Integrity at Oklahoma State University (2009), conducted a large-scale survey of 1,901 students and 431 faculty members and found some very disturbing results, showing that 60% of college students engaged in at least one behavior that violated academic integrity and that 72% of undergraduate business majors reported doing this, versus 56% from other disciplines. ***Brown, Weible, and Olmosk (2010) also reported that the percentage of cheating in undergraduate management classes in 2008 was close to 100%, which was an increase from the recorded 49% in 1988.***

Example 10.5.2

Names a specific time frame

With the current economy showing signs of a sluggish recovery, employers are cautiously optimistic about what the future holds. Mixed indicators in the unemployment rate, depending on location, may mean an increase in job growth for certain industries. ***A recent economic report released by USA Today shows the strongest 12-month national***



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job growth in Construction (3.9%), Leisure and Hospitality (3.4%), Education and Health Services (2.9%), and Professional and Business Services (2.9%) while traditionally strong and stable sectors such as Government (−0.3%) and Utilities (0.3%) are showing slower growth rates (Job Growth Forecast, 2011).

Most universities have writing centers that can be helpful by providing assistance to novice academic writers. Many of these centers maintain useful guides on their websites. One such site, which provides guidance to writers, can be found at: <http://www.phrasebank.manchester.ac.uk>. This site groups commonly used phrases found in academic writing into useful categories, such as Classifying and Listing, Describing Trends, Signaling Transition, Being Cautious, and so on.

Guideline 6: If Citing a Classic or Landmark Study, Identify It as Such

Make sure that you identify the classic or landmark studies in your review. Such studies are often pivotal points in the historical development of the published literature. In addition, they are often responsible for framing a particular question or a research tradition, and they also may be the original source of key concepts or terminology used in the subsequent literature. Whatever their contribution, you should identify their status as classics or landmarks in the literature. Consider Example 10.6.1, in which a landmark study (one of the earliest investigations on the topic) is cited (emphasis added).

Example 10.6.17

Identifies a landmark study

A few studies have examined the direct and indirect links between victimization and achievement in elementary school over time. ***In one of the earliest investigations on this topic***, Kochenderfer and Ladd (1996) showed that peer victimization experiences served as a precursor of school adjustment problems (e.g., academic achievement, school avoidance, loneliness) across the kindergarten year.



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Guideline 7: If a Landmark Study Was Replicated, Mention That and Indicate the Results of the Replication

As noted in the previous guideline, landmark studies typically stimulate additional research. In fact, many are replicated a number of times, by using different groups of participants or by adjusting other research design variables. If you are citing a landmark study and it has been replicated, you should mention that fact and indicate whether the replications were successful. This is illustrated in Example 10.7.1 (italics and bold are added for emphasis).

Example 10.7.1

Points at new evidence that questions prior hypothesis

In order to explain the difficulties experienced by children with the passive structure, Borer and Wexler (1987) put forward the A-chain maturation hypothesis, according to which children manage to master verbal passives at the age of 5 or 6. [...]

However, *the A-chain maturation approach is at odds with evidence coming from the acquisition of other A-movement constructions* where children behave adultlike, such as reflexive-clitic constructions (Snyder & Hyams, 2014) and subject-to-subject raising (Becker, 2006; Choe, 2012; Orfitelli, 2012).

Guideline 8: Discuss Other Literature Reviews on Your Topic

If you find an earlier published review on your topic, it is important to discuss it in your review. Before doing so, consider the following questions:

How is the other review different from yours?

- Is yours substantially more current?
- Did you delimit the topic in a different way?
- Did you conduct a more comprehensive review?
- Did the earlier reviewer reach the same major conclusions that you have reached?



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How worthy is the other review of your readers' attention?

- What will they gain, if anything, by reading your review?
- Will they encounter a different and potentially helpful perspective?
- What are its major strengths and weaknesses?

An honest assessment of your answers to these questions may either reaffirm your decision to select your current topic, or it may lead you to refine or redirect your focus in a more useful and productive direction.

Guideline 9: Describe Your Reasons for Choosing Not to Discuss a Particular Issue

If you find it necessary to omit discussion of a *related issue*, it is appropriate to explain the reasons for your decision, as in Example 10.9.1. Needless to say, your review should completely cover the specific topic you have chosen, unless you provide a rationale for eliminating a particular issue. It is not acceptable to describe just a portion of the literature on your topic (as you defined it) and then refer the reader to another source for the remainder. However, the technique illustrated in Example 10.9.1 can be useful for pointing out the reasons for not reviewing an issue in detail in the review (*italics and bold are added for emphasis*).

Example 10.9.1

Explains why an issue will not be discussed

To date, attempts to marry the generalized linear mixed model with chained equations imputation have met with limited success. For example, Zhao and Yucel (2009) examined chained equations imputation in a simple random intercept model with one continuous and one binary variable. The method worked well when the intraclass correlation was very close to zero but produced unacceptable coverage rates in other conditions (coverage values ranged between .40 and .80). Performance aside, the procedure is computationally intensive and



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prone to convergence failures because the Gibbs sampler requires an iterative optimization step that fits a linear mixed model to the filled-in data. Zhao and Yucel (2009) reported that convergence failures were common as the intraclass correlation increased, and our own attempts to apply chained equations imputation to a random intercept model with a binary outcome produced convergence failures over 40% of the time. Collectively, these findings cast doubt on the use of generalized linear mixed models for categorical variable imputation; if the simplest random intercept models produce estimation failures and poor coverage rates, it is unlikely that the method will work in realistic scenarios involving random slopes or complex mixtures of categorical and continuous variables. ***Given these difficulties, we provide no further discussion of this approach.***

Guideline 10: Justify Comments Such As “No Studies Were Found”

If you find a gap in the literature that deserves mention in your literature review, explain how you arrived at the conclusion that there is a gap. At the very least, explain how you conducted the literature search, which databases you searched, and the dates and other parameters you used. You do not need to be overly specific, but the reader will expect you to justify your statement about the gap.

To avoid misleading your reader, it is a good idea early in your review to make statements such as the one shown in Example 10.10.1. This will protect you from criticism if you point out a gap when one does not actually exist. In other words, you are telling your reader that there is a gap as determined by the use of *a particular search strategy*.

Example 10.10.1

Describes the strategy for searching literature

We systematically searched for relevant studies until February 2011. We started with an initial set of reports on children with incarcerated parents collected in our previous research on this topic. Four methods were used to search for additional studies. First, keywords were entered



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into 23 electronic databases and Internet search engines. The keywords entered were (*prison* or jail* or penitentiary or imprison* or incarcerate* or detention*) and (*child* or son* or daughter* or parent* or mother* or father**) and (*antisocial* or delinquen* or crim* or offend* or violen* or aggressi* or mental health or mental illness or internaliz* or depress* or anxiety or anxious or psychological* or drug* or alcohol* or drink* or tobacco or smok* or substance or education* or school or grade* or achievement*).

Second, bibliographies of prior reviews were examined (Dallaire, 2007; S. Gabel, 2003; Hagan & Dinovitzer, 1999; Johnston, 1995; Murray, 2005; Murray & Farrington, 2008a; Myers et al., 1999; Nijnatten, 1998) as well as edited books on children of incarcerated parents (Eddy & Poehlmann, 2010; K. Gabel & Johnston, 1995; Harris & Miller, 2002; Harris, Graham, & Carpenter, 2010; Shaw, 1992b; Travis & Waul, 2003). Third, experts in the field were contacted to request information about any other studies that we might not have located. The first group of experts contacted consisted of about 65 researchers and practitioners who we knew were professionals with an interest in children with incarcerated parents. The second group consisted of about 30 directors of major longitudinal studies in criminology

Guideline 11: Avoid Long Lists of Nonspecific References

In academic writing, references are used in the text of a written document for at least two purposes. First, they are used to give proper credit to an author for an idea or, in the case of a direct quotation, for a specific set of words. A failure to do so would constitute plagiarism. Second, references are used to demonstrate the breadth of coverage given in a manuscript. In an introductory paragraph, for instance, it may be desirable to include references to several key studies that will be discussed in more detail in the body of the review. However, it is inadvisable to use long lists of references that do not specifically relate to the point being expressed. For instance, in Example 10.11.1, the long list of nonspecific references in the first sentence is probably



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inappropriate. Are these all empirical studies? Do they report their authors' speculations on the issue? Are some of the references more important than others? It would have been better for the author to refer the reader to a few key studies, which themselves would contain references to additional examples of research in that particular area, as illustrated in Example 10.11.2.

Example 10.11.1

First sentence in a literature review (too many nonspecific references)

Numerous writers have indicated that children in single-parent households are at greater risk for academic under achievement than children from two parent households (Adams, 2015; Block, 2014; Doe, 2013; Edgar, 2015; Hampton, 2009; Jones, 2015; Klinger, 2008; Long, 2011; Livingston, 2010; Macy, 2011; Norton, 2012; Pearl, 2012; Smith, 2009; Travers, 2010; Vincent, 2011; West, 2008; Westerly, 2009; Yardley, 2011).

Example 10.11.2

An improved version of Example 10.11.1

Numerous writers have suggested that children in single-parent households are at greater risk for academic under achievement than children from two parent households (e.g., see Adams, 2015, and Block, 2014). Three recent studies have provided strong empirical support for this contention (Doe, 2013; Edgar, 2015; Jones, 2015). Of these, the study by Jones (2015) is the strongest, employing a national sample with rigorous controls for. . . .

Notice the use of "e.g., see . . .," which indicates that only some of the possible references are cited for the point that the writers have suggested. You may also use the Latin abbreviation *cf.* (which means *compare*).



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Guideline 12: If the Results of Previous Studies Are Inconsistent or Widely Varying, Cite Them Separately

It is not uncommon for studies on the same topic to produce inconsistent or widely varying results. If so, it is important to cite the studies separately in order for the reader to interpret your review correctly. The following two examples illustrate the potential problem. Example 10.12.1 is misleading because it fails to note that the previous studies are grouped according to the two extremes of the percentage range given. Example 10.12.2 illustrates a better way to cite inconsistent findings.

Example 10.12.1

Inconsistent results cited as a single finding (undesirable)

In previous studies (Doe, 2013; Jones, 2015), parental support for requiring students to wear school uniforms in public schools varied considerably, ranging from only 19% to 52%.

Example 10.12.2

Improved version of Example 10.12.1

In previous studies, parental support for requiring students to wear school uniforms has varied considerably. Support from rural parents varied from only 19% to 28% (Doe, 2013), while support from suburban parents varied from 35% to 52% (Jones, 2015).

Guideline 13: Speculate on the Reasons for Inconsistent Findings in Previous Research

The authors of Example 10.13.1 speculate on inconsistent findings regarding shame about in-group moral failure (*italics and bold are added for emphasis*).



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Example 10.13.1

Speculation of inconsistent findings of previous research (desirable)

We ***think*** that the inconsistent findings regarding shame about in-group moral failure ***may result*** from the rather broad conceptualization of shame in past work. As Gausel and Leach (2011) recently pointed out, different studies of shame have conceptualized the emotion as involving quite different combinations of appraisal and feeling. Some previous work conceptualizes shame as a combination of the appraisal of *concern for condemnation* and an attendant *feeling of rejection*. Most previous work conceptualizes shame as a combination of the appraisal that the self *suffers a defect* and an attendant *feeling of inferiority*.

Guideline 14: Cite All Relevant References in the Review Section of a Thesis, Dissertation, or Journal Article

When writing a thesis, dissertation, or an article for publication in which the literature review precedes a report of original research, typically you should first cite all the relevant references in the literature review of your document. Avoid introducing new references to literature in later sections, such as the results or discussion sections. Make sure you have checked your entire document to ensure that the literature review section or chapter is comprehensive. You may refer back to a previous discussion of a pertinent study when discussing your conclusions, but the study should have been referenced first in the literature review at the beginning of the thesis, dissertation, or article.

Guideline 15: Emphasize the Need for Your Study in the Literature Review Section or Chapter

When writing a thesis, a dissertation, or an article for publication in which the literature review precedes a report of original research, you should use the review to help justify your study. You can do this in a variety of ways, such as pointing out that your study (a) closes a gap in



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the literature, (b) tests an important aspect of a current theory, (c) replicates an important study, (d) retests a hypothesis using new or improved methodological procedures, (e) is designed to resolve conflicts in the literature, and so on.

Example 10.15.1 was included in the literature review portion of a research report designed to examine the variables linked to success in adult continuing education learners of British Sign Language in the UK. In their review, the authors point out gaps in the literature and indicate how their study addresses these gaps and adds to the understanding of this population. This is a strong justification for the study.

Example 10.15.1

Justifies a study

The study contained several unique elements. First, data were collected from three colleges of further education in the UK that differed in some aspects of their mode of delivery. Further education in the UK is similar to continuing education in the United States. It is education that follows compulsory post-16 secondary education, but which usually is not at degree level. Two centers offered provision that was typical of the UK. A third center included several atypical initiatives in its provision, such as additional weekly conversational classes, which had the potential to enhance the student experience. Comparison of the centers' success rates offered the prospect of evaluating the impact of these differences on success. Second, this article investigates variables that might be important for success in UK Level 1 and 2 courses. The levels are equivalent to the first and second years of a UK General Certificate of Secondary Education qualification. [...] Third, information was collected on several variables that had not been tested before in L2 sign language learning context (e.g., self-reported visual thinking style).

Activities for Chapter 10

Directions: For each of the model literature reviews that your instructor assigns,



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answer the following questions. The model literature reviews are presented near the end of this book.

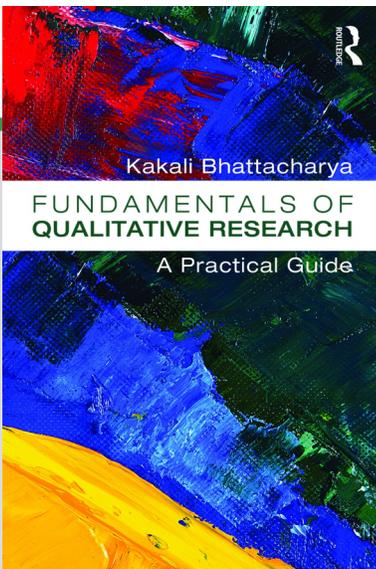
1. Describe the broad problem area addressed by each of the model reviews. Did each of the authors adequately explain this broad problem at the start of their reviews? Explain your answer.
2. Did the authors make clear for the reader the importance of the topic being reviewed? How? Was this effective, in your opinion?
3. Did the authors distinguish between research findings and other sources of information by using appropriate wording? Explain how this was done.
4. Was a landmark study cited? If yes, was it described as such? What relationship exists, if any, between the landmark study and the study presented in the review?
5. Are there references to other reviews on related issues that are not discussed in detail in the model literature review? Explain why they are referenced.
6. If an author stated that “no studies were found” on some aspect of the topic, was this statement justified (as indicated in this chapter)?



CHAPTER

2

WORKING WITH THEORETICAL FRAMEWORKS



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Fundamentals of Qualitative Research
by Kakali Bhattacharya.

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WORKING WITH THEORETICAL FRAMEWORKS

Excerpted from *Fundamentals of Qualitative Research*

In qualitative research, you position yourself well if you are fluent in theoretical perspectives such as positivism, postpositivism, phenomenology, critical theory, feminism, etc. This unit will offer you a chance to conceptualize these frameworks in a way that connects to your own research. I would recommend Crotty's (1998) text *The Foundations of Social Research: Meaning and Perspective in the Research Process* as the seminal text for this unit, as I am summarizing key ideas from that text in this unit.

Intentions of This Unit

In this unit, learners will be introduced to various theoretical perspectives and given opportunities to connect each of the theoretical perspectives to their research interests. Additionally, learners will be exposed to key tenets of each theoretical perspective, and assumptions that inform the perspective.

Positivism and Postpositivism

I group positivism and postpositivism in one section (although they are not the same) because as a qualitative researcher, you would be working from paradigms that extend beyond these two paradigms. However, it is important to have a sense of these two paradigms and their applicability to frame your understanding.

Positivism is a term that has historical roots in the works of Auguste Comte and Francis Bacon. Positivist perspectives usually rely on unambiguous and accurate knowledge of the world. Positivist inquiry relies on observation, often that is through scientific observation using methodologies that demonstrate a shared agreement between similar-minded scholars. While such an explanation would imply that there should be only one way of understanding positivism, Crotty (1998) reports that there are at least twelve varieties of positivism. However, in this unit, you will be presented an abbreviated variety of positivism. Comte discussed positivism beyond using mathematical terms to understand social patterns of human behavior via observation, experimentation, and comparison. The Vienna Circle of



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logical positivists relied more on mathematical functions and verifiability in positivism. So if I said that a cat had four legs, it was verifiable, as long as I was able to count the legs. For more abstract human behavior, verifiability was relegated to our senses and to carefully developed and agreed upon instrumentation.

From the 1990s and beyond, positivism became heavily reliant on mathematical functions and operated under the assumption that empirical scientific knowledge is both accurate and certain (Crotty, 1998, p. 27). This form of unified scientific knowledge created a binary between objective ways of knowing as scientific and subjective ways of knowing as unscientific. In other words, science does not bother with social construction of meaning. This way of thinking creates an artificial binary between value-neutral and value-driven research, when there is no clear way to really draw a line between such ideas.

Within **postpositivist** frameworks, physicists and other scholars raised concerns about the dogma about positivist approaches to scientific knowledge construction. Niels Bohr, a Nobel prize winner in physics, and Werner Heisenberg introduced the notion of uncertainty in scientific knowledge while studying subatomic particles and their movements. The notion of uncertainty introduced a chasm between what positivists aim to do and what is scientifically possible.

In addition, another postpositivist scholar, Sir Karl Popper, introduced the idea of falsification where a scientist can make a guess and find ways to make it false. And if the efforts to prove the guess false fail, then there is strength in the conjecture. Therefore, falsification became a process to determine the strength of a claim, that if a claim can withstand, despite efforts being made to falsify, then one can trust the claim to have merit, even if the claim cannot ever be 100 percent absolute. Thus, the scientific model of inquiry is to take a theory and convert it into a hypothesis, test the hypothesis, and find ways to prove it false. Popper introduced the idea that a theory or a hypothesis should remain open to refutation through scientific inquiry. Even if a theory or hypothesis can stand refutation, it can only be accepted as conditionally true, with the conditions specified and the



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degree of uncertainty accounted for in the final claim. The essence of Popper's claim of scientific statement is that every one of them is "tentative forever" (Crotty, 1998, p. 32).

Thomas Kuhn introduced the idea of paradigm and paradigm shift when discussing scientific inquiry. He stated that all scientists operate from a theoretical background that reflects the scientist's understanding about knowledge and inquiry. However, if during inquiry, findings exceed the parameters of the paradigm, then there is a crisis. A scientist can then try to force fit the findings into an existing paradigm or be open to new ways of understanding, thereby causing a paradigm shift. Kuhn's ideas about science and scientific inquiry, then, not only creates space for uncertainty, but subjectively situates the researcher within certain paradigms that are only stable until new evidence is presented to contest the boundaries of the paradigm.

Feyerabend, another postpositivist scholar, did not approve of the absolutist stance of positivism and introduced the notion of a pluralistic methodology because he identified science and every other way of knowing a set of beliefs with its own associated mechanisms of inquiry. He positioned science as a messy enterprise instead of the appearance of being neat, rational, and absolute. Feyerabend called for identifying the value of what might appear to be messy, chaotic, or sloppy, as that might lead to critical scientific discoveries.

What the postpositivist scholars created was a discursive space that questioned the ahistorical, acultural, value-neutral understanding of reality and scientific inquiry. These ideas have created room for constructionist views of meaning making and reality. Those who align with positivism now remain cautious about what they claim, as their findings and the degree of certainty they ascribe to that claim as ideas now remain open to falsification, and any claim of 100 percent certainty is vulnerable to one study finding a contrary outcome. If nothing else, the postpositivists made a significant impact in challenging the positivist stance of complete objectivity and certainty.



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Interpretivism

Like positivism, there are various theoretical perspectives that could be considered under the big banner of interpretivism. However, it would be beyond the scope of this book to discuss all of them. Instead we will discuss key perspectives within this framework.

Interpretivism came out of the need to have a way to understand the social world that is not limited by the tenets of positivism. Unlike positivism, interpretivism takes into account the cultural and historical interpretations of one's social world when conducting inquiry. Max Weber has been credited for being one of the pioneers of interpretivism. He favored human sciences that focused on understanding instead of developing causal explanations. William Dilthey furthered Max Weber's position by stating that human social realities require different means of inquiry than perhaps what positivists in natural sciences might inquire. Wilhelm Windelband added a twist to how scholars understood interpretivism. He posited that natural sciences were focused on developing generalized laws and patterns whereas culturally and historically situated studies were concerned about in-depth individualized understanding.

Interpretivism has been a broad term that can be split into various specified frameworks. Here, we will discuss three types of interpretive orientation to social science research. These three types are: symbolic interactionism, phenomenology, and hermeneutics. While there are several volumes of books written individually on these three historical streams of interpretivism, in this book you will be introduced to the key abbreviated ideas.

Symbolic Interactionism

Herbert Blumer, a student of George Herbert Mead, is often credited for pioneering knowledge about symbolic interactionism. He was strongly influenced by Mead's earlier work on constructionism. Blumer stated that because individuals make meaning of objects based on their own understanding of the objects, any acts towards objects, things, events,



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and interactions are informed by the meaning an individual makes. Blumer emphasized that social interactions inform choices humans make when making meaning of their worlds, events, objects, etc. Additionally, Blumer stated that the meaning-making process is an interpretive process where individuals are continuously modifying their understanding as needed based on their interactions. The symbolic part of this framework was entirely contingent on what the individuals deemed to be symbolic, tangible, or otherwise with which the individual interacted and made meaning. Symbols can include whatever has significant meaning for the participant. These could include, but are not limited to, language, dialogues, policies, anything with which the participant interacts that creates meaning.

In the following section, you will find an abbreviated list that summarizes information presented thus far about symbolic interactionism. This abbreviated list will allow you to gain some focus on the key ideas of symbolic interactionism.

Emphasis of Symbolic Interactionism

- Explains how interactions with tangible and intangible symbols create meaning in people's lived experiences.
- An understanding how people see themselves, others, and how they think others perceive them.
- Understanding social reality as experienced by participants while they make meaning of their interactions with their world.

Tenets and Assumptions

- Humans act toward things on the basis of meanings these things have for them.
- Meaning of such things is derived from social interactions of one with others.

Selected Major Scholars/Schools of Thought

- Mead (1883–1931)—sociologist, psychologist, advocated pragmatism, focused on the development of self and discovering some objective way of knowing the social world; focused on the



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dynamic ways in which the actor interacted with the social world and made interpretations.

- Blumer (1900–1987)—(Mead’s student), extended Mead’s ideas in symbolic interactionism by adding meaning, language, and thought to how people know, understand, interact, and navigate their social world.
- Goffman (1922–1982)—sociologist, influenced by Blumer, attempted to find patterns in human behavior; promoted a dramaturgical presentation of self, as in being observers of the theatrical events of our lives.
- Howard Becker (1928–)—considered part of the Chicago School of Sociology (see below), focused heavily on qualitative analysis of data, known for his work in sociology of deviance, art, and his guidance of others in the practice of sociology.
- Chicago School—one of the oldest, most prestigious sociology departments, early specialization in urban sociology and ethnographic fieldwork; known for the development of symbolic interactionist approach; focused on the development of patterns in human behavior informed by social or environmental triggers.

Selected Methodologies Used by Symbolic Interactionists

- Ethnography
- Performative approaches
- Autoethnography
- Interview studies
- Case studies
- Arts-based approaches

Selected Critiques of Symbolic Interactionism

- Needs to acknowledge the blurring of the researcher and the researched in various methodological spaces despite the intention of the researcher to document events from the perspective of the participant.
- Difficult to claim that a voice of the participant has been



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- captured since the voice and the narratives are co-constructed.
- Unable to make any holistic understanding of any meaning-making processes because the understanding is transient for the moments in which data were collected, analyzed, and interpreted.

Symbolic Interactionism and Your Research Interest: Interactive Exercise

Recall my wiki research focused on the graduate students' learning experiences when working with wiki within the context of a qualitative research class. If I were to conceptualize the inquiry through a symbolic interactionist lens, I would reframe my research question as the following:

How do graduate students in qualitative research classes make meaning of the use of wikis in their classes in relation to their learning experiences?

One can argue with appropriate context leading up to the above research question that it can be seen as a symbolic interactionist question because there could be significant meaning-making processes embedded within the students' interactions with the wikis while learning the content of qualitative inquiry. Such a question is still grounded within the constructionist epistemology and aligns with Blumer's interactionist assumptions, such as actions towards symbols are based on the meanings individuals make about them, meaning making is a process of social interaction, and meaning making can be modified through the process of interpretation and interaction by the individual.

Now, keeping the abovementioned strategies in mind, what would your research question look like if you informed your research interest through symbolic interactionism?



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Using the tenets of symbolic interactionism (significant meaning-rich symbol, interaction with symbol, modification and interpretations of meaning), list how your research question aligns with the tenets.

Phenomenology

One of the key originating ideas of phenomenology is that if we had experienced a phenomenon in our past, as we recall our experiences, then perhaps we can find possibilities for new ways of understanding those experiences through making new meanings and gaining new insights. Central to this notion is the idea of intentionality. Intentionality should be understood as a different concept than the regular use of the word “intentions.” Intentionality refers to the relationship between the observer and the observed, or in other words, the subject and the object, or the ways in which people connect meaningfully with the world. The argument put forward is that the observer and observed are not apart from each other but interconnected.

Phenomenological scholars encourage an inquiry that investigates the meaning making of the structure of the phenomenological experience. In phenomenology, scholars can “engage with phenomena in our world and make sense of them directly and immediately” (Crotty, 1998, p. 79). To combat the prior experiences of an individual, phenomenological scholars (Heron, 1967; Husserl, 1931; Marton, 1986; Sadler, 1969; Spigelberg, 1982; Wolff, 1984) recommend that we bracket our prior understandings so that we can see and/or understand the phenomenon in new and undiscovered ways. The criticism for bracketing has been that it might never really be possible for one to really claim a pure compartmentalization of one’s prior knowledge and subjectivities to such an extent that there can be no influence on the meaning-making processes during inquiry.

Crotty (1998) offers an informative account of how phenomenology is practiced in North America compared to how it was conceptualized outside North America. The documenting of subjective



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experience through bracketing, understanding the meanings from the perspective of the participants, letting cultural understandings prevail is different from the original spirit of phenomenology that called for a critical understanding of cultural meaning-making processes to unveil fresh understanding and meaning of a phenomenon as experienced by individuals. In North American discourses, the assumption is that if studied thoroughly, one can identify an invariant theme or the essence of experiencing a phenomenon among participants. However, recently scholars (Vagle & Hofsess, 2016) have challenged the notion of finding “essence” and have argued that one can conduct phenomenological work more generatively, looking for possibilities instead of a fixed essence.

In the following section, you will find an abbreviated list that summarizes information presented thus far about phenomenology. This abbreviated list will allow you to gain some focus on the key ideas of phenomenology.

Emphasis of Phenomenology

- Accounts for people’s understanding of their lived experience of a phenomenon.
- Focuses on lived experiences of a phenomenon.
- Questions the meaning made of the phenomenon being experienced.
- Essence of the shared experiences of the phenomenon.

Tenets and Assumptions

- There is a fixed essence to a lived experience of a phenomenon.
- The meaning of experiencing a phenomenon can be captured through lived experiences.
- Prior cultural experiences could interfere with meaning making.

Selected Major Scholars/Schools of Thought

- Edmund Husserl (1859–1938)—understood that studying the structure of consciousness requires investigating the phenomena upon which consciousness was focused; proposed



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such investigation through bracketing the researcher's assumptions about the existing world to identify essences of experience through a process called epoché.

- Martin Heidegger (1889–1976)—focused on the state of being and unveiling of the state of being to discover fresh meanings, not clouded by normative discourses of culture.
- Clark Moustakas (1923–2012)—a phenomenological methodologist offering other ideas about data reduction, invariant theme identification, and discovering essence.
- Amedeo Giorgi (1926–)—was initially an experimental psychologist, but was not able to answer the questions through experimental psychology and therefore explored phenomenology. His understanding of qualitative methods deepened, and he developed the descriptive phenomenological method in psychology influenced by Husserl and Merleau-Ponty.
- van Kaam (1920–2007)—influenced the work of Giorgi; organized the graduate program at Duquesne University on phenomenological psychology; explored the essence of one's feelings of an experienced phenomenon as the primary focus of his dissertation and extended his work to intersect the tenets of phenomenology and psychology.

Selected Methodologies Used by Phenomenologists

- Phenomenological hermeneutics
- Descriptive phenomenology
- Studies of essence

Selected Critiques of Phenomenology

- Essence may not be single or fixed. There could be multiple essences.
- Might never get to one single essence.
- Cultural critique is missing, and focus on phenomenon is not always present in studies conducted.
- Difficult to claim bracketing experiences to be anything more



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than reflexivity.

Phenomenology and Your Research Interest: Interactive Exercise

Recall my wiki research focused on the graduate students' learning experiences when working with wiki within the context of a qualitative research class. If I were to conceptualize the inquiry through a phenomenological lens, I would reframe my research question as the following:

What might be the ways in which participants' experiences demonstrate a meaningful connection with the content taught in an introductory graduate level qualitative research class while exploring the phenomenon of using wikis for class assignments?

The previous question can be justified as a phenomenological question due to various reasons. Remember your work is only as strong as your academic justifications. I could argue that I am exploring an invariant theme, an essence of experiencing a phenomenon in the above question. Or I could argue that there could be multiple lines of flight to discover the possibilities of meaningful connections. But it is certainly key to identify what we would consider as a phenomenon. Once Wikipedia was introduced in the digital world, it has become a phenomenon. Attempting to expose students to the construction of the wikis is a fertile space for students to explore meaning on an individualistic level and also on the level of the cultural understanding of wikis. As a researcher, if I want to situate my study more along the lines of Husserl's work, then I would try to specifically take a critical perspective of the current use and understanding of wikis and attempt to explore the data in a way that might not always align with the established understanding of wikis. Additionally, if I want to position myself within a hybridized version of phenomenology, blending Husserl's philosophy and the North American evolution of phenomenology, I might be interested in understanding my subjectivity, data reduction, and attempt to put myself in the participants' shoes and understand their perspectives as much as



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possible. And if I want to take a more poststructural approach to phenomenological work, then I might look into Vagle's approach of post-intentionality when developing the research design. Eventually, I need to document how I am situating myself within the discourse of the evolution of phenomenology from its inception and how my research design is aligned with my understanding.

Now, keeping the abovementioned strategies in mind, what would your research question look like if you informed your research interest through phenomenology?

Using the tenets of phenomenology (intentionality, cultural critique, identification of phenomenon, tenets from the North American transformation of the field), list how your research question aligns with the tenets.

Hermeneutics

Hermeneutics has its historical roots in interpreting biblical texts. However, over time, the practice of textual analysis not only extended to non-biblical texts but also to "human practices, human events, human situations—in an attempt to 'read' these in ways that bring understanding" (Crotty, 1998, p. 87). Such expansion of the scope of hermeneutics was possible because we use language in our social interactions, and due to our specific ways in which we use language, we not only have differing encounters but also make meaning of our encounters differently.

Specifically, hermeneutics assumes a connection between the reader and the text that drives the interpretation. Taking this assumption further, it can also be argued that the author of a text can make connections to readers in various situations through the interaction of the reader and the author's text. In this way, hermeneutics can have the implications of creating shared meaning between communities or people.



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The process of using hermeneutic theory to analyze texts aims to explore a deeper understanding of the text than what is readily present in the writing, or what seems like easily accessible intent of the author. Given that languaged thoughts are embedded with assumptions and context, a systematic hermeneutic inquiry might create an in-depth understanding of a meaning of the text that is not readily transparent. Another value of hermeneutic work is that through deeper analysis, researchers can explore and postulate assumptions made in languaged ideas. Identifying grounding assumptions has implications for a different kind of relationship between the author and the reader than a straightforward reading of a text.

One key idea within the discourse of hermeneutics is the notion of hermeneutic circle. Hermeneutic circle refers to starting with an idea and developing the idea with depth and understanding to create even deeper and more amplified understanding of the original idea, thereby coming to a full circle. This process of creating this circle of understanding also emphasizes the value of working on smaller parts of an idea with the intent of gaining an in-depth understanding of the whole. However, such an assumption is not without its problem when studying human behavior. Can human beings or their actions or behaviors be understood as a whole? Would it not be only an expression of the relationship between the researcher and what is being researched? Yet in analyzing texts, deeper understanding can occur if the analyzer can switch between seeing the trees from the forest and can shuttle in between seeing the whole and the parts as needed.

Such shuttling between the part and the whole can be accomplished through being an empathic reader, according to one of the key scholars of hermeneutics, Friedrich Schleiermacher. He suggested that reading and analyzing texts are not just exercises with prescriptive steps for in-depth understanding. Instead, such a process is similar to being a good listener with an attempt to put oneself in the speaker's position. In this way hermeneutics could at once be a close



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analysis of how words are organized, how sentences are structured, how emotions and intentions are conveyed. On the other hand, seeing the context in which ideas are communicated and how they are communicated would be akin to seeing the whole constituted of its parts. This bidirectional movement between the parts and the whole is what strengthens hermeneutic inquiry. In addition to analyzing texts in parts and whole, hermeneutic scholars value situating the text and the author in their social, historical, and cultural contexts as our lived experiences are not occurring in a vacuum nor are our ways of understanding and making meaning of them, whether we talk about them verbally or write about them in text. In this way the hermeneutic circle is conceptualized as the analysis moves from the individual to a contextualized world back to the individual again with a stronger and amplified understanding.

In the following section you will find an abbreviated list that summarizes information presented thus far about hermeneutics. This abbreviated list will allow you to gain some focus on the key ideas of hermeneutics.

Emphasis of Hermeneutics

- Making meaning of texts.
- Find implicit meanings and make those meanings explicit.
- A way to understand others and by extension ourselves. It becomes a study of understanding how human beings choose to express themselves.
- Language is the central focus.
- Attempt to amplify understanding through expanding the hermeneutic circle, bringing the past and the present to consciousness through understanding, exploring understanding ontologically allowing the state of being to come to the forefront.



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Tenets and Assumptions

- There are inherent implicit and explicit meanings embedded in text that can be analyzed and represented as findings.
- The researcher can make explicit assumptions made in the text by the author that the author might be unaware of or did not make explicit.
- There has to be a relationship between the parts and the whole and a movement between the parts and the whole.
- Author's social and cultural history has a role in how texts are produced.
- Interpretation of text builds a bridge between the past tradition and the present (Gadamer).
- Hermeneutics is a process of phenomenological seeing (Heidegger).
- With an expansion of the hermeneutic circle through increased amplified understanding where the interpreter's own beliefs and values are marginalized, an objective account of the world can be obtained (Dilthey).

Selected Major Scholars/Schools of Thought

- Friedrich Schleiermacher (1768–1834)—strong background in theology and created discourses to reconcile ideas borne out of Enlightenment and traditional Protestant Christianity. Explored and expanded the nature of understanding from biblical texts to non-biblical texts, and other modes of communication.
- Georg Anton Friedrich Ast (1778–1841)—focused on philosophical hermeneutics and was part of the hermeneutic circle.
- William Dilthey (1833–1911)—related interpretation to historical objectification, with the hopes that if the researcher could keep his/her ideas and values outside of the inquiry, understanding could be extended to the hermeneutic circle in an amplified manner, and in repeating this process, some broad



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patterns could be identified.

- Martin Heidegger (1879–1976)—focused on the state of being unveiling and advocated a phenomenological seeing of the interaction between the text, the author, and the researcher.
- Hans-Georg Gadamer (1900–2002)—focused on fusion of past traditions and present through interpretive understanding acting as a bridge.

Selected Methodologies

- Phenomenological hermeneutics
- Descriptive phenomenology
- Reading theory studies
- Literary criticism

Selected Critiques of Hermeneutics

- Interpretation is limited to the extent the researcher can achieve depth of understanding and will always be subjective.
- The concept of parts and whole can be problematic because there is no universally agreed upon ways to claim wholeness and therefore any interpretation is always situated with the researcher's understanding of the big and the small picture.

Hermeneutics and Your Research Interest: Interactive Exercise

Recall my wiki research focused on the graduate students' learning experiences when working with wiki within the context of a qualitative research class. If I were to conceptualize the inquiry through a hermeneutic focus, I would reframe my research question as the following:

How do the authors of wiki articles demonstrate their interaction with the content of qualitative methods based on their exposure to the content in graduate-level qualitative methods classes?



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The previous question can be justified as a hermeneutically informed question because the object of analysis would be the wiki content, which is a mostly text-based work with some pictures. Additionally, in the question I am seeking to explore the relationship between the text and the author. If conducted, I would have interviewed the authors to further deepen my understanding of the authors' social, cultural, and historical contexts (fusion of past and present horizons) of learning qualitative methods and using wikis. Finally, if I was inspired in Heidegger's approach to hermeneutics, or the phenomenology of seeing, then I would contemplate on the existential structures and allow my state of being to come to the forefront to bring further understanding of the text and the authors' states of being.

Now, keeping the abovementioned strategies in mind, what would your research question look like if you informed your research interest through hermeneutics?

Using the tenets of hermeneutics (interaction between the text and the author, hermeneutic circle, parts and whole, existential structures, ontological exploration, fusion of past and present horizons), list how your research question aligns with the tenets.

Critical Theories

Like every other theoretical perspective discussed so far, I will limit the discussion of critical theories to a selected few while inviting the readers to conduct their own exploration into their chosen perspectives. Generally, critical theories focus on the role of the social structures of oppression playing out through the lived experiences of people. The focus of oppression could be something singular or intersected categories. Singular categories could include class, whereas intersected categories could include race, class, and gender. However, most studies conducted through a critical perspective often are at an intersection of multiple categories.

Depending on who you ask, some might put deconstructive



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perspectives as critical theories whereas others speak of them as critiques of some established theoretical perspective. For example, postmodernism can be seen as a critique of modernism, poststructuralism can be seen as a critique of structuralism, and postcolonialism a critique of colonialism, and so on. The purpose of deconstructive perspectives is to break apart foundational assumptions so that from the ruins of what is broken something else can be constructed. What that something else is, is open to multiple options, which are also open to further deconstructions.

In the next section, I discuss Critical Race Theory and feminism so that you can understand how some of the discourses around critical theory inform qualitative inquiry. Please explore further into the wide spectrum of critical and deconstructive perspectives for other theories if they are of interest to you.

Critical Race Theory

Considered the founder of Critical Race Theory (CRT), Derrick Bell Jr. highlighted the inequities of race from minority perspectives in the U.S. Later, intersections between race, class, gender, access to other resources, such as legal and property rights, were highlighted by other scholars (Ladson-Billings, 1998; Ladson-Billings & Tate, 1995). While Derrick Bell's background was African American, another prominent scholar, Alan Freeman (who was White) was credited with creating similar concerns about the slow-paced improvement of race reform. The primary premise of CRT is that racism is a pervasive part of American culture and it is not an aberrant occurrence. Instead, the reason why racism might feel absent or normalized is because of how common it is in so many aspects in people's lives (Delgado, 2000) in big and small ways. Originally, CRT came out of the discussions of its predecessor, critical legal studies, where not enough efforts were made to openly disavow the various forms of inequities that were operational daily in the lives of minorities in the U.S. Many scholars of color felt the need to critique the existing social structures in terms of how poorly it



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handled issues of racism. Thus, emerged CRT to address some difficult issues around race, more directly than the ways in which critical legal studies engaged in these issues.

Another reason CRT moved away from critical legal studies is because of scholars who advocated for CRT, valued storytelling as a way to document myths, truths, assumptions, and wisdom of Blacks and minorities otherwise not possible through critical legal studies (Delgado, 2000). Experiential knowledge and shared history with each other were given space for dialoguing. Gloria Ladson-Billings (1998) elaborates that the reason for the emergence of CRT was the dissatisfaction with liberal approaches to pull up people slowly from where they were. This was a slow-paced improvement where many people continued to suffer, and some radical transformation and actions were needed. In addition, with affirmative actions, many White women were benefitted through employment and other opportunities, which highlighted strongly that racial inequity existed as a large barrier to ethnic minorities (Ladson-Billings, 1998).

Thus, the primary thrust of CRT studies is a systematic inquiry about how racial inequities are created and sustained in the lives of ethnic minorities in U.S. These studies cover many areas such as social science, education, and law, and offer tangible data that show the clear divide in opportunities, access, and resources. As more and more scholars practiced CRT, storytelling began to take a primary form of building knowledge where people were able to name their reality (Delgado, 2000). The strength of storytelling was a recognition that people's construction of reality differs and a space needs to be created to acknowledge this variation instead of a dominant narrative or a dominant group narrating truths of about a minority group. Thus, by allowing storytelling, a group can thoroughly reflect on its strengths, weaknesses, areas of needs, areas of strengths, and connect to their own ways of knowing and being through revisiting memories and their ways of making meaning of them. This also allowed for counternarratives to emerge that challenged dominant, ethnocentric narratives.



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In the following section, you will find an abbreviated list that summarizes information presented thus far about CRT. This abbreviated list will allow you to gain some focus on the key ideas of CRT.

Emphasis of Critical Race Theory

- Creates awareness of social structures of oppression that manifest in people's lived experiences, especially in the experiences of African Americans and people of color.
- Interrogates institutional structures that promote oppressive discourses and social inequalities and demonstrates intersections with other social structures of oppression.
- Examines how inequities are sustained and proliferated by oppressive social structures and ideologies.
- Corrects social injustices through interrogation, awareness, policy changes, etc.
- Eradicates oppression.
- Creates transformational learning to create critical consciousness.

Tenets and Assumptions

- Racism is common and not aberrational, and thus dominant ideologies should be challenged routinely.
- The incentive to eradicate racism is not the same for everyone, and therefore as pervasive as it is, it is not something that everyone aims to correct.
- Social construction of race creates the ways in which people experience and understand racism.
- Discourses about minority groups are reflections of the current economic and labor needs.
- Counternarrative and storytelling offer a space for voices that are otherwise absent, thus legitimizing experiential knowledge.



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Selected Major Scholars/Schools of Thought

- Derrick Bell (1930–2011)—founder of Critical Race Theory; offered strong analysis of the sustenance of inequities based on Brown vs. Board decision; offered critiques of traditional civil rights discourse.
- Richard Delgado (1939–)—a prolific scholar of CRT and the legal systems; shaped the pioneering of CRT. He questioned and critiqued the ways in which free speech functioned and integrated storytelling into the workings of the law.
- Gloria Ladson-Billings (1947–)—a strong advocate of CRT in education. She is a scholar and a teacher educator and conceptualized culturally relevant pedagogy emerging out of her understanding of Critical Race Theory.
- William Tate—A strong advocate of educational reform, colleague of Ladson-Billings (have published seminal pieces together), focuses on CRT and education, especially in STEM areas, with documented focus on African American males and African Americans.

Selected Methodologies Used by Critical Race Theorists

- Critical ethnography
- Critical incident methodology
- Critical case study
- Biographical study
- Oral history
- Critical autoethnography
- Critical narrative inquiry/storytelling

Selected Critiques of CRT

- Multipronged solutions are hard to implement.
- Cultural outsiders who conduct CRT might only be able to identify solutions from the researcher's perspective.



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- Solutions can be seen as being presumptuous to knowing what a marginalized group might need even when the researcher is a cultural insider.
- Not all cultural insiders are equally focused on inequities.

Critical Race Theory and Your Research Interest: Interactive Exercise

Recall my wiki research focused on the graduate students' learning experiences when working with wiki within the context of a qualitative research class. If I were to conceptualize the inquiry through a CRT focus, I would reframe my research question as the following:

How do the formal and informal structures of higher education respond to the needs of students of ethnic minority backgrounds as they attempt to become technology literate in their graduate education in a predominantly White institution?

The previous question can be justified as a question informed by CRT because it sets up the question to interrogate both formal and informal structures of education and access to resources, support systems, campus organizations that students of ethnic background might be able to use as they learn how to become more technology literate. The assumptions leading to such a question could be that in a predominantly White institution, how students of ethnic backgrounds navigate and negotiate their available support system is worthy of exploration to either challenge a dominant structure of inequity, and/or provide counternarratives of students successfully navigating in an environment where they are visibly a minority, with risks of feeling isolated and lacking a sense of belongingness.

Now, keeping the above mentioned strategies in mind, what would your research question look like if you informed your research interest through CRT?

Using the tenets of CRT (challenge dominant ideology, evoke storytelling, systematic exploration of inequities, oppressive structures, pervasive forms of racism), list how your research question aligns with



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the tenets.

Feminism

Similar to the previous sections, it would be beyond the scope of this book to discuss all the different forms of feminisms that are out there. Needless to say, there are volumes of books, series, and journal articles that cover the field of feminism with more efficiency than I could in this space. In the next section, I introduce you to a few types of feminism and invite you to explore anything I did not mention on your own.

Liberal Feminism

Liberal feminism is grounded in an individualistic understanding of feminism where discussions of equality are driven by the individual's actions in society. In other words, liberal feminists would fight against any broad form of generalization of women being inferior, less capable of performing or doing some task, and argue for treating each individual woman based on her abilities, choices, and actions, and as an overly generalized category. Often liberal feminists might look for the government to protect everyone through laws for equal rights and opportunities, but also require the government to interfere as less as possible in the lives of people, especially women.

Generally speaking, in the U.S., during the Civil Rights Movement in the 1960s, in addition to the realization of racial discrimination, women began to identify gender discrimination too. Therefore, several groups emerged to advocate for women so that issues of gender discrimination could be brought to light. Often, the popular understanding of feminism is a limited and reductive understanding of feminism that came out of this wave of feminism. Women's rights movements started with laws and reform to bring forward equal rights to all human beings. In many ways, liberal feminism was quite humanist in nature. Issues on which liberal feminists focused were reproduction, reproductive rights and abortion access, income, sexual harassment, voting, work, affordable health care and childcare, and violence against



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women.

Marxist Feminism

Feminists who identify with this group are more focused on the inequities generated due to class structure in our society. Thus, these feminists call for a radical change in the class structure so that the inequities can be addressed effectively. So, if this group of feminists were to speak to the liberal feminists, then they would state that no level of individual equality can be achieved if our society is divided into class structures with the kind of divide that exists between the rich, middle, and poor classes. Understandably, Marxist feminists focus on work, employment, paid work, and unpaid work at home. One of the ideas this group of feminists produced is that domestic work should not just be a woman's domain, but shared between a woman and her partner. Otherwise, women who are working at home and working outside are carrying double the workload but not getting compensated proportionately.

The foundation of Marxist feminism can be found in the works of Karl Marx (of course), but also in the works of Friedrich Engels (1884/2010), especially in *The Origin of the Family, Private Property, and the State*. Engel criticizes the nuclear family as being an oppressive structure for women where she remains subordinated, not because she is less capable, intelligent, or inferior in any way to a man, but because her labor and sexual faculties are being controlled by a patriarchal system. He criticized the notion of holding women to some sexual morality, punished when they commit adultery, and placing them submissive to their husbands. Historically, tracing back to the need to control a group of human beings as women were being controlled in the 1800s when Engels wrote his book, he compared the treatment of women to patriarchs owning slaves.

Radical Feminism

This group of feminists strongly believes that all forms of oppression



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can be best understood if oppression of women is understood in its depth. They propose that oppression of women is one of the oldest forms of oppression and one that runs the deepest in our social fabric. Their understanding of the kind of oppression that women share also forwards the argument that it is unlikely that men could really understand this kind of oppression and at the depth at which women experience and live such oppression daily.

Such specialized ways of thinking about women's oppression for this group of feminists caused them to separate and focus on issues that are exclusive to female or women culture. However, please note, not all radical feminists will align with the above explanation, nor have they ALL separated, but the common trend shared among most radical feminists are women's sexuality and reproductive issues. Thus this group of feminists focuses on issues such as prostitution, rape, sexual harassment, pornography, abortion, domestic violence, and battering.

The issues raised by this group of feminists highlight how even with class issues and individual autonomous issues addressed, what remains the big elephant in the room is the pervasive ways in which patriarchy works. Therefore, unless patriarchy is completely erased, this group of feminists does not see any kind of equality for women in any way that is sustainable. Patriarchy is conceptualized as the intricate and interconnected system of power that sustains male supremacy to suppress women. Of specific concern for this group of feminists were traditional gender roles and they called for complete abandonment of any connection with what women do and equating their abilities to a limited understanding of gender or gender roles. The argument presented forward was that women are not a simple category with which they can be disciplined and limited to only certain acts because of their gender. Instead, women represented diversity and therefore cannot be easily grouped into one or two traditional roles and attempts made to limit women to any roles while preventing them from engaging in other roles should be stopped.



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Situated and Critical Feminisms

Black feminism, Latina and Chicana feminism, postmodern feminism, postcolonial feminism, transnational feminism, and Asian feminism are just broad examples of situated and critical feminism. These groups are focused on more specialized analysis of social structures of oppression as they relate to the experiences and subjectivities of the members in the group. For example, Black feminism focuses on how social structures of oppression play out in subjugating Black men and women. Please note that many feminists would argue that patriarchy hurts both men and women because it is a limiting discourse for everyone as it restricts people to gender roles. Thus Black feminism and many other situated feminisms explore the ways in which oppression exists at the intersection of race, class, gender, and other relevant categories. bell hooks (1990) has been extremely vocal about issues of concern to the Black community that need to be understood within its local and national contexts. For example, hooks raises the issue that since Black males do not have equality with White males, equality for Black women is not the same as equality for their White women counterparts. Additionally, bell hooks does not exclude men from feminism as other groups might (especially radical feminists). She speaks of men as comrades working together with women to erase social structures of oppression.

Similarly, Latina and Chicana feminists raise issues that are specific to their community and analyze how social structures of oppression play out in their everyday lives. Gloria Anzaldúa (1999) raised the issue of mestiza consciousness to help understand how social structures of oppression play out in the lives of those who have mixed ancestry and the continuous shuttling between the physical and psychological borders in which the mestiza people engage.

Postmodern and postcolonial feminism offer critiques of modernist and colonial discourses embedded in patriarchy that affect how we understand and take up various subject positions in our everyday lives. Both of these types of feminisms use deconstructive



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tools to break apart dominant narratives in our society, otherwise known as grand narratives, so that other possibilities could be identified. Moreover, feminists in these groups are especially conscious about the binary relationships formed when we create a line of division between two ideas, concepts, or groups of people and hierarchically organize the two groups. For example, Us versus Them, Citizen versus Alien, White versus Other.

Transnational feminists look at the ways in which human capital is moved from one part of the globe to another and the effect it has on the human beings as part of the move, especially women. Some scholars (Grewal & Kaplan, 1994) have also intersected transnationalism with postmodern critiques to deconstruct global grand narratives. These feminists also explore and analyze the effects of migration, global labor laws, and local immigration laws to closely interrogate various social systems of power that intersect with patriarchy and create multiple social structures of oppression.

In the following section you will find an abbreviated list that summarizes information presented thus far about feminism. This abbreviated list will allow you to gain some focus on the key ideas of feminism.

Emphasis of Feminism

- Breaking apart and recreating a man-made world.
- Critique of patriarchy and other social structures that support patriarchy.
- Struggle for equity and liberation for women on all fronts of life.
- Freeing of human possibilities through struggle against culturally imposed stereotypes, sexuality, responsibilities.
- Politics directed at changing existing relations between men and women in society.
- Explore how patriarchy works with other social structures of oppression, locally, nationally, and globally.
- Break any social structure of oppression that hierarchically



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organizes people and puts labels on human beings that makes them Other.

- Resist essentialization for the purpose of disciplining and silencing of activist voices and agenda.

Tenets and Assumptions

- Societal oppression is driven by patriarchal structures and other structures that help maintain an imbalance of power.
- Documenting personal experiences is a political move.
- Inclusive approach to fight against patriarchy and related social structure.
- Celebrate the diversity of women and their fights against inequities.

Selected Major Scholars/Schools of Thought

- Betty Friedan (1921–2006)—credited with sparking the second wave of feminism with her book *The Feminine Mystique*; a key figure in women’s movement who held various leadership roles in her life, and focused on women’s rights, more so than intersections that take her focus away from gender.
- Carol Gilligan (1936–)—feminist, ethics scholar, and psychologist who challenged Lawrence Kohlberg’s work on morality where he only studied privileged White men and boys to conclude his opinions on women. Additionally, she critiqued his hierarchical placing of the male view of individual rights and rules than the female’s view.
- Simone de Beauvoir (1908–1986)—was known to be an existentialist philosopher, feminist, political activist, and social theorist. One of her famous texts is *The Second Sex* where she calls for a moral revolution by pointing out that one is not born a woman but becomes one through social construction.
- Patti Lather (birthdate unavailable)—Lather is a poststructural,



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feminist qualitative researcher who has contributed to understanding feminist methodology from poststructural perspectives. She has also been a critique of scientifically based research in education, arguing that such discourses have policed and disciplined what can be funded as research and what counts as research, thereby narrowing the understanding of research and ignoring the history of positivism and postpositivism (presented earlier in this unit).

- bell hooks (1952–)—born Gloria Jean Watkins, her pen name being bell hooks, she has focused on the intersectionality of race, class, gender, and connected that intersectionality to social structures of oppression. Through a critical, situated, postmodern (at times) perspective, hooks has discussed key problems in education and in other areas of social science.
- Patricia Bell Scott (birthdate unavailable)—highly respected feminist scholar who focuses on Black women’s narratives, Black women’s auto/biographical writing, and gender and development.
- Gloria Anzaldúa (1942–2004)—a Chicana cultural feminist who presented theory in a way that was innovative, accessible, embodied, and experiential; presented her work on mestiza consciousness, shuttling across many borders, and queer theory. Her book *Borderlands/La Frontera: The New Mestiza* is a seminal book that explores her theoretical perspectives, her poems, her ideas for resolution of inner and outer conflicts, grounded in her experiences of growing up on the Mexico–Texas border with unique insights into cultural migration.
- Chandra Mohanty (1955–)—known for her work as a postcolonial and transnational feminist theorist. Her work continuously questions dominant narratives about producing an exotic Other, colonizing effects of dominant narratives, and the ways in which human migration of labor and capital sustain various social structures of oppression.
- Gayatri Spivak Chakravorty (1942–)—her work has been taken up



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in various fields, especially by poststructural and postmodern feminists. In her seminal work, *Can the Subaltern Speak*, she highlighted the problems of grand narratives created by the dominant group about the Other, where the Other's voice is either absent, minimally present, or distorted. Her self-reflexive translator's introduction for Jacques Derrida's text *De la Grammatologie* was considered path breaking. Her coining of the term "strategic essentialism," where she advocated feminist solidarity for common causes, has been misunderstood and misused, and valued tremendously by various groups of scholars.

Selected Methodologies Used by Feminists

- Critical ethnography
- Critical autoethnography
- Interview studies
- Critical/ethnographic case studies
- Performance ethnography/narratives
- Arts-based and experimental approaches

Selected Critiques of Feminism

- Liberal feminism creates a binary with male and female and excludes male thought and/or men are seen as incapable of being partners with feminists.
- Feminists of color refuse to join White liberal feminists because they do not want to alienate men and want equality for their men and well as themselves.
- Poststructural and postmodern feminism usually deconstructs without any specific ideas for praxis or activism.
- Critical feminists call for emancipation, but notions of emancipation are varied and situated.



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Feminism and Your Research Interest: Interactive Exercise

Recall my wiki research focused on the graduate students' learning experiences when working with wiki within the context of a qualitative research class. If I were to conceptualize the inquiry through a feminist focus, I would reframe my research question as the following:

How do female graduate students negotiate the ways in which they collaborate with each other in wikis? In what ways do the female graduate students work with voice and silence while offering feedback in wikis for a qualitative research class?

The previous set of questions can be justified as questions informed by feminism because they rest on the assumption that there might be some gendered socialization that affects the ways in which women participate in graduate-level classes and offer feedback. The participation of women in these democratically governed webspaces would indicate what discourses the women are drawing upon to inform their roles. Perhaps they were socialized in traditional gender roles. Perhaps they learned to break apart oppressive discourses. Perhaps they were able to develop critical stances to various social systems of oppression early on. Perhaps they are not like the subaltern whose voice cannot be heard. Perhaps they are like the subaltern whose voice cannot be heard. These are various assumptions that are unknown at the onset of the study, and using the abovementioned guiding questions, one can argue that this study can be informed by feminism. However, it would be up to the researcher to identify which kind of feminism she is aligning with.

Now, keeping the abovementioned strategies in mind, what would your research question look like if you informed your research interest through feminism? What kind of feminism appeals to you? Have you aligned your research questions with the tenets of the specific feminism that appeals to you?

Using the tenets of feminism (critique of patriarchy, voice and silence, gendered experiences, existential social structures of oppression



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connected with patriarchy, women's liberation, equal rights), list how your research question aligns with the tenets.

Golden Nuggets: Interactive Exercise

In this unit, you have been introduced to various theoretical perspectives and related those perspectives to your research interest. Below I have a couple of activities for you that would help you further crystallize your understanding about theoretical perspectives. In the first activity, you will go back and recall all the research questions you have created and list them in one place. This is so that you can visually have all the questions in the same place and then you can determine which one of the questions speaks best to who you are and what motivates you. That will help you identify your theoretical perspective that you will use for your study.

TABLE 4.6

Theoretical Perspective and Research Question

Research Question Informed by Symbolic Interactionism

Research Question Informed by Phenomenology

Research Question Informed by Hermeneutics

Research Question Informed by Critical Race Theory

Research Question Informed by Feminism

Research Question Informed by Your Own Selected Theory

Can you identify, from the questions in Table 4.6, which one resonates most with you? What theoretical perspective aligns with that question?

The second activity will help generate class discussion. If this activity is not conducted in class, it will still help learners go through the activity for further engagement with theoretical perspectives. This activity is a modified version of an activity that Patti Lather (2006) introduced. She



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asked the students to think of various objects, people, drinks, etc., as different paradigms and generated discussion around students' choices. Complete the following sentences and provide an explanation:

If **positivism** could be a television show, it would be _____.

Explain below. Remember you are making certain assumptions about the nature of truth, meaning, and the relationship between the observer and observed. This choice needs to be one that would be stable in meaning, and leaves little room for any kind of social construction of meaning. An example (weak one) of positivism as a movie could be any Disney movie where the storyline remains the same, female characters are saved by male characters, good triumphs over evil, and everyone lives happily ever after.

If **interpretivism** could be a television show, it would be _____.

Explain below. Remember you are making certain assumptions about the multiplicities of truths and meanings. This choice could be one that would demonstrate that meaning is constructed, either through a shared experience of a phenomenon, or through making meaning based out of interaction with something symbolic, or making meaning through one's interaction with something textual. An example of interpretivism as a movie could be *Brokeback Mountain* due to the multiple meanings made of the movie.

If **critical theory** could be a television show, it would be _____.

Explain below. Remember you are making certain assumptions about



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social structures of oppression. This means the show will have to demonstrate the difference between the have's and have not's in some way. There has to be some sort of interrogation of established social structure, some challenge of a dominant narrative, and making room for experiences resulting from some hierarchical ordering of society. An example of critical theory as a movie would be *A Time to Kill*.

If **deconstructivism** could be a television show, it would be_____.

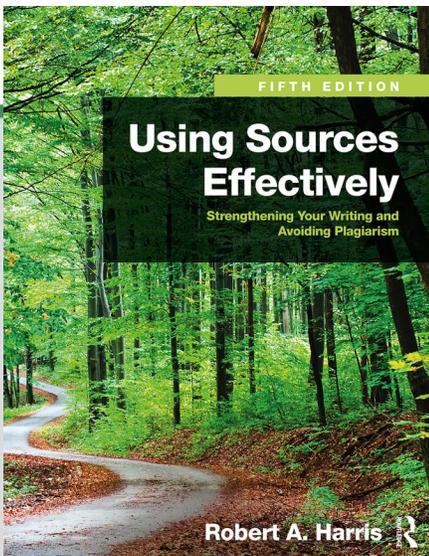
Explain below. Remember you are making certain assumptions about the stability of truth. You have to select some kind of television show where there are structures of truth established and broken apart to never have a stable form of truth or meaning. This means as a viewer you do not walk away with one essential understanding and would look forward to more destabilization of truth and meaning in upcoming episodes. In other words, the show should have elements of deconstruction directly built into its philosophy and execution. An example of a deconstructive movie would be *The Matrix*.



CHAPTER

3

FINDING, CHOOSING, AND EVALUATING SOURCES



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Using Sources Effectively
by Robert A. Harris

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FINDING, CHOOSING, AND EVALUATING SOURCES

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What he said is true. But what he didn't say makes it a lie. —Proverb

Both the enormous quantity of information now available and its wide range of quality make the task of choosing sources wisely more important than ever. This chapter offers some guidelines and ideas for helping to choose useful and high-quality sources.

- Thinking about the purpose and audience of your paper will help guide you research.
- Choosing appropriate types of sources will give you better materials to use in your papers.
- Using a good search strategy will provide you with the sources you need.
- Evaluating the quality and credibility of the sources is important.

2.1 Start by Understanding the Assignment

Before you grab a topic and rush off to the library or computer to look up something about it, read your paper assignment carefully, and if necessary, discuss it with your instructor. If you have a choice of topics, get your choice approved before you get deep into it. (You should do some preliminary research to determine if the topic is suitable for fulfilling the research assignment.) If your topic is assigned, think about the approach you want to take and make sure it conforms to the assignment. The following considerations will help you in your thought process as you plan and research and write.

What Is the Purpose of the Paper?

Why, exactly, are you writing this paper (other than the fact that it has been assigned)? Think about some of these questions:



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- Are you going to write a review, a summary, an analysis, a persuasive argument? A review or summary will be more focused on responding to the work of others, while an analysis or persuasive argument will contain much more about your own ideas. A review or summary will engage a limited number of works (or even one), often chosen for their important content as a whole. An argument might make use of ideas drawn from many works.
- Is the paper going to focus on reasoned argument or factual evidence (or both)? That is, should the discussion be more philosophical, drawing on logic and reasoning more than research, or will it need substantial amounts of supporting data from research and experimentation?
- Will you do a broad survey or engage in an intense examination of a small detail? For example, are you going to examine the changing views toward authority over time in a nation-state, or will you be explicating a sonnet?

How you answer these questions will determine which sources you look for. Your instructor will probably help you with these questions by providing some assignment guidelines, but you might want to clarify your purpose further to avoid unnecessary searching. Ask yourself, “Just what is it that I want to do in this paper, and what kinds of sources will help me?” and write out some notes that will help guide your research.

What Are the Specific Requirements for the Paper?

Many instructors require research papers to include specific ingredients (if I may use that term). The idea behind such requirements is to show you the variety of sources that can be used in researching any subject. An example assignment might include



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something like this:

The research paper must include the use and effective incorporation of information drawn from

- two printed books, published within the last ten years,
- two scholarly journal articles (from printed or online journals),
- one personal interview, survey, or experiment,
- two credible Internet sources,
- one graph, chart, photograph, or other visual source.

Other requirements might specify the length of the paper (often in the minimum and maximum number of words), the approach to the topic (review, argument, pro and con, synthesis), and intermediate due dates (for a plan, a bibliography, a draft, and so on). Read and understand these requirements before you start. Never assume that your instructor wants a “generic research paper” or that you can read your instructor’s mind about the requirements.

Who Is Your Audience?

The question, “Who is my audience and what does my audience expect?” is one of the most crucial and most often neglected questions any writer faces. Don’t be tempted to dismiss the question because it seems obvious that your instructor is the audience. There are several potential audiences for an academic research paper:

- your instructor, of course
- your peers (fellow classmates)
- your friends and dormmates
- a general, educated audience interested in the subject
- other professionals in the subject area



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With regard to this last possibility, when you write upper division or graduate papers at a college or university, it is usually understood that you are preparing yourself for the Great Conversation—communicating with the other professionals and experts in your chosen field. So they are at least in theory part of your audience. This audience will expect excellence—careful thinking, thorough research, and apt use of that research.

If your assignment involves writing for a general audience, consider some issues like these:

- Will you need to include some general information about the topic to provide background or context?
- Will your audience understand the technical jargon that accompanies the subject?
- How will a general audience's preconceptions, knowledge, and lack of knowledge affect the sequence and approach you will need to take in order to be clear and convincing?

In a word, then, first think about what you want the final product to look like before you take the first steps in creating it. A powerful idea in problem-solving theory is to imagine that you have already solved the problem and then ask yourself what happened that enabled the solution to occur. Similarly, you might imagine having already written an excellent paper—that perhaps has won a class or campus-wide award, or even been accepted for publication—and then ask yourself how you worked on it and what you put into it that helped bring about such success.

2.2 Select the Kinds of Sources You Need

The saying, "All sources look alike on a computer screen," cautions us to be careful to consider the wide range of materials available—both in kind and in quality—and to select those that



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best suit the task at hand. Resist the temptation to use just any sources that you locate; take some time to think about the kinds of information you need and how well those needs are met by the sources you locate.

Choose the Kind of Information You Need

For building a solid research paper, you will need facts, of course, but you will also want expert interpretation of some of those facts, together with professional judgments about the importance of the information you are discussing. You may want reasoned arguments, creative ideas, personal examples, accounts of events, experiments, philosophical commentary, and so forth. Many sources contain more than one of these kinds of information, while others focus largely on one or two. If you keep in mind what kind of information you are seeking, you will be able to select sources more quickly and more effectively from among the items you locate.

Take a Shortcut to Selection

You don't necessarily need to read an entire book or article before you can determine whether or not it will be useful. For a faster way to help you choose, try this:

- **Read the abstract.** Most scholarly articles have an abstract at the beginning, summarizing the findings or describing the main focus of the article. Reading the abstract will therefore let you know fairly quickly if the article will be useful for your topic.
- **Read the section headers.** Section headers will often reveal which parts of the article will be the most crucial to your



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paper. For example, if the findings of the study are the most important to you, then a section titled, “Description of the Data Set” or “Alternate Questionnaires Not Used,” could be skipped.

- **Read the first sentence of each paragraph.** Many scholars are accustomed to placing their topic sentences at the beginning of each paragraph, so by reading the paragraph opening sentences you can get a quick summary of each paragraph. Sentences of special interest signal you to read the entire paragraph.

Choose Sources of Appropriate Scholarship

Whether printed or online, publications exist along a range or at various levels of scholarliness. The concept of scholarliness refers to the level of expertise, learning, and evidence brought to bear on a subject as well as the intended audience and even the nature of the information itself. After all, the purpose of some information is to entertain—to tell a good story—rather than to get the facts right. Generally speaking, the more scholarly a work, the more care is taken with accuracy and completeness.

Table 2.1 will give you an idea of the range of informational materials and how their audiences and purposes vary.

You should not take this table too literally: There are not exactly four kinds of publications, and there are exceptions to most of the comments made here. However, the table can serve as a general model to give you a good sense of how the source, purpose, and quality of information vary. For much of your research, it is a good idea to restrict yourself to sources of a professional or substantive variety. Sometimes popular magazines offer useful material; but as entertainment values take on more importance than informational values, the degree of reliability of a



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source can sometimes suffer.

Choose Appropriate Primary and Secondary Sources

A primary source is an original source of information. In other words, a primary source is a firsthand account, the fundamental source that all the secondary sources make use of. Examples of primary sources include:

- a historical document, such as the *Declaration of Independence*
- an experimenter's report, such as Stanley Milgram's *Obedience to Authority*
- a literary work, such as Samuel Johnson's *Rasselas*
- the official report from an NTSB aviation crash investigation
- an interview

TABLE 2.1 VARIETY OF SCHOLARLINESS IN SOURCES

Professional	Substantive	Popular	Sensational
Written by academics, scientists, or experts	Written by staff writer or expert	Written by staff writer or freelance journalist	Written by staff writer or freelance writer
Audience is other academics or those trained in the field	Audience is the well-educated public	Audience is general reader	Audience is less well educated
Purpose is to share findings or present theories: to inform	Purpose is to inform and entertain	Purpose is to entertain and inform	Purpose is to entertain
Discussion is often highly specific and sophisticated	Discussion is more general, easier to understand	Discussion is general and simplified	Discussion is sensational and simplistic
Bibliography of sources is always included	Some sources are cited	Sources are often not cited	Sources are not cited
Article has been peer-reviewed or refereed by other scholars in the field	Article has been approved by an editorial board	Article has been approved by an editorial board or editor	Article has been approved by an editor



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- transcripts of court testimony
- a photograph or print from the Library of Congress
- data from the U.S. government's FedStats

A secondary source makes use of primary sources by summarizing, interpreting, commenting on, analyzing, criticizing, or otherwise working with them. Examples of secondary sources include encyclopedia articles that rely on a number of primary sources to construct a historical narrative, a work of literary criticism, and works that popularize newly reported discoveries or newly presented ideas. Many of the sources you find during your research will be secondary sources, because the Great Conversation continues as one scholar responds to another or updates what is thought or known about a primary source.

Depending on the subject, the class level, the instructor, and a number of other factors, you may be using more of one kind of source than the other. Many instructors view the research paper as the construction of a secondary source, analyzing and commenting on a set of primary sources. In a literature course, you might use secondary sources to support your interpretation of a literary work (the primary source) as you create a secondary source of your own. In a history course, you might use both primary sources (laws, letters, diaries, works written during the period under study) and secondary sources (interpretive works by modern historians) to construct a paper. In the social and behavioral sciences, you might use primary sources (reports of empirical or original studies) and create some primary source material yourself by conducting your own experiment, observation, or interview.

When you have a choice, the use of primary sources is usually superior because you are dealing directly with the original work or evidence rather than seeing it through the lens of another interpreter. For this reason, relying on general encyclopedias for



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sources is often frowned upon because the articles in them are secondary sources or are themselves based on secondary sources. (Using an encyclopedia to get an overview, background information, ideas for the direction you want to take, or the consensus of current thought is an excellent idea. However, your research should then go far beyond that.)

One caution is in order, however. The mere fact that a source is primary or original rather than secondary does not automatically grant it immunity from evaluation. Eyewitness accounts might be biased, original experiments might be flawed, a historical photograph might be misleading (even though it has not been Photoshopped). Just as an eye opener, you might search a newspaper database or the general Web using the exact phrase “study was flawed” and examine the results.

Sidebar 2.1 Ask Librarian

An excellent way to get help in locating and selecting good sources is to talk to a reference librarian. Librarians have expertise in searching for and evaluating information, and they are also familiar with the library’s collection of materials, the subject guides, online databases, and more. A suggestion such as, “You might check Special Collections for that,” or “If you can’t find that Web page anymore, check the Wayback Machine at the Internet Archive,” can be a priceless timesaver and resource. And there’s no better way to get pointed in the right direction than to discuss your research with someone who knows information sources inside and out. A chat with a reference librarian will also help you narrow down an overly broad or unfocused topic.

Avoid Choosing a Source Only Because You Agree With It

If the sources you use are to add strength to your writing, they must be robustly credible,



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well reasoned, and fair. You may find sources that support the direction of your argument but that are unworthy of use because they lack the qualities that will gain your reader's confidence. When you refer to a source, you are saying something about the source (that it is worth listening to) and about yourself (that your judgment has approved its use in a formal presentation). In other words, a little of each source you use rubs off on you and your authorial reputation. If you use good sources, your reader will think better of you, seeing you as smart, educated, and discerning.

Avoid Quoting Standard Dictionaries

Would you like to know the easiest way to make almost any instructor or educated reader cringe? Simply begin your paper with, "According to Webster's dictionary, the word _____ means. . . ." Why is this? Consider the reasons for not quoting a dictionary:

- **Readers have their own dictionaries.** It is assumed that readers have a desk dictionary handy, or that they can quickly go to any of several online dictionaries (such as www.dictionary.com or www.merriam-webster.com) and that if all that is wanted is a standard dictionary definition, they can look up the word themselves.
- **Most dictionary definitions are unhelpful.** Many definitions are, in fact, circular. "Wonderful: exciting wonder"; "Heartbreaker: a person causing heartbreak"; "Heater: an apparatus for heating." Even definitions that are not circular like these are often so condensed, generalized, or vague that they do not come near the meaning of the word as you are planning to develop it.
- **Dictionary definitions are descriptive and not prescriptive.** This means that if enough people use a word in



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a certain way, the dictionary will eventually list it, even though the word has not meant that in the past. For example, some dictionaries now list *imply* as one of the acceptable meanings of *infer*, and some list *continual* and *continuous* as having the same meaning.

- **You can write a better definition.** If you need the definition of an ordinary word, your own definition will be better. For everyday terms, such as *love*, *justice*, or *philanthropy*, a little thought and effort will produce a much better definition than that found in a typical desk or online dictionary.
- **Scholarly definitions are superior.** If you need a more specialized definition, consult a specialty dictionary, such as the *APA Dictionary of Psychology* (VandenBos, 2007). There are specialized works like this in many fields. You might also quote the definition of a key term from a scholarly article. Scholarly definitions are often extensive and focused, and therefore quite helpful.
- **Quoting a dictionary is a red flag.** Quoting a definition at the beginning of a paper implies to an educated reader that the writer does not know how to start a paper (or continue a thought) and is falling back on what amounts to a cliché, and a thoughtless one at that. A paper (or speech, for that matter) beginning with “According to Webster’s dictionary” tells the reader (or hearer) that the writer did not put much thought or research into the product and that there is little to be hoped for in the rest of the performance.
- **Noah Webster died in 1843.** The name *Webster’s Dictionary* is in the public domain and can be used by any publisher for any dictionary. It is now a generic brand and conveys no specific authority.

From these reasons, you can see that quoting a dictionary will



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actually weaken your writing, not strengthen it.

2.3 Search Strategies

When starting a research project, there is sometimes a temptation to sit down at a computer, bring up your favorite search tool, and type in the first word or phrase that occurs to you. Let's take a few minutes to look at a better way of finding relevant and high-quality sources.

Consider the Variety of Sources

The first task before you begin any research on your topic is to consider what a source is, where sources may be located, and which sources are likely to provide you with the answers or information you want. Let's ask each of these questions in turn.

First, what is an information source? A source can indeed be a Web page you found by googling your search topic, but there are many other kinds of sources. As Table 2.2 indicates, not all sources are available electronically. Some are physical, such as books on a library shelf, and some are even alive and human, as in a lecturer or interviewee. A source can be any person, or thing that supplies you with information.

Next, where are sources located? The temptation these days is to "find it online," and ignore any source that cannot be found through a computer search. But as Table 2.2 indicates, sources can be found far and wide. Depending on the nature of your topic, you might want to make use of library card catalogs, library stacks, bookstores, museums, art galleries, lectures, phone interviews, or photographic or video archives.

Which sources are likely to provide you with the answers or information you want? Before you begin your research, take at



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least a few minutes to write a description of the kind of information you're looking for. Then ask yourself, where is this information likely to be found? Some sources, such as refereed journal articles, will provide expert information and the analysis of experiments. Other sources, such as Weblogs (blogs), will provide raw data for analysis and commentary. Even old and out-of-date books can be useful if you are looking for information about the spirit of the age or a particular era's concerns and attitudes.

Now that you're ready to go forth and find some sources, consider this hard-won rule from the research trenches:

Keep Track of Your Searches

You have probably heard that irritating saying, "There's never time to do it right the first time, but there's always time to do it over." In order to avoid quoting this to yourself because you have to repeat a search you didn't record, keep careful track of the searches you perform, together with the results. Setting up a tracking log in a spreadsheet or even a word processing document will make organizing things very easy.

TABLE 2.2 SOURCES OF INFORMATION

Audio recording	Online book, ebook
Blog	Online journal
Dataset	Photograph
Data table	Podcast
Drawing	Printed book
Experiment	Printed journal
Film	Radio broadcast
Graph	Speech or lecture
Interview	TV program
Magazine	Video
Newspaper	Web site or article



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Items to include in your log are these:

- project name (your subject or working title)
- date (when you searched a database)
- database name
- search phrase (the words you searched on, including any Boolean operators)
- results (what was the result and what did you do?)
- notes (names of articles saved, plans for another search, etc.)

Looking Online

The computer has certainly made researching easier with the availability of many online databases containing articles from peer-reviewed or refereed journals, not to mention the enormous amount of information available on the general World Wide Web. However, an important caution about searching online must be raised. When you click on a link in the search results and a Web site or document appears on your screen, you must take a moment to evaluate what you're looking at. An article filled with half-truths, misunderstandings, and exaggerations can look the same as—or even better than—an article from a well-respected encyclopedia or scholarly journal. A sophisticated-looking Web site can create the *simulation of authority* when in fact it has little or none. That old proverb about not judging a book by its cover has new use in its updated form:

Don't judge an information source by its design.

Phrase the Search Terms Effectively

Whenever you use an electronic database—library card catalog, professional database such as ProQuest, or a search tool for the



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Web itself—how you phrase your search will have a dramatic effect on the results you get. Follow the advice here to create the best possible search strings:

◆**Know how the search tool works.** Most search tools have a Help page that describes how to perform a simple search and an advanced search. For example, if you enter the two-word phrase *unemployment insurance*, does the search tool parse this as *unemployment OR insurance*, *unemployment AND insurance* or the exact phrase “*unemployment insurance*”? For online databases, is the search tool applying your search terms to the title, the author, the abstract, or the full text of the article? Is it selectable? Taking some time to read the search tool’s Help page is always worthwhile.

◆**Find out which Boolean operators the tool uses.** For advanced searches, you will want to create search strings of somewhat more sophistication than a single word or phrase. Search phrases are constructed by combining search terms with Boolean operators. Table 2.3 shows the most common of these operators and the effect they have on a search result. Note that some search tools use other operators. Google, for example, parses the plus sign (+) before a word to mean that the word must be included somewhere on the page in order for the result to be generated. Thus, the search expression *+Aztec calendar* would tell Google to return pages that must contain the word *Aztec* with a preference for pages with the word *calendar* also.

Boolean Tip: As Table 2.3 shows, the AND operator *restricts or narrows* the search, while the OR operator *expands or widens* the search. Be careful not to get these backwards.

◆**Remember to include the word variants.** The exact word form or phrase might not appear in an article that otherwise could be useful, although a form of the word or phrase might. If, for



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example, you are looking for information about gold-plated objects, you should be sure to search for *gold plate*, *gold plating*, and *gold plated*. Many search tools make this easier by allowing wildcard searches, where a wildcard symbol stands in for one or more other letters. Two commonly used wildcards are the asterisk (*) and question mark (?). With a wildcard, a search for *gold plat** will return pages with the phrases *gold plated*, *gold plating*, and *gold plate* on them.

Other forms of word variants include fused words (*gold plate*, *goldplate*; *Web site*, *Website*; *e-mail*, *email*; *break room*, *breakroom*) and alternative spellings, especially British and American (*humor*, *humour*; *aluminum*, *aluminium*; *polyethylene*, *polythene*; *theater*, *theatre*; *medieval*, *mediaeval*). To continue with the *gold plate* example, a search might be phrased as *gold plat* OR goldplat** to cover the bases.

◆**Don't forget synonyms.** A synonym is a word with a meaning similar to (not necessarily exactly the same as) another word. For example, *illegal* and *unlawful* are synonyms. If you are writing a paper with the working title "The Illegal Use of Consumer Lasers," you might search on both *illegal laser use* and *unlawful laser use*, because either term might be chosen by an author. A synonym dictionary is a good place to start if you want to find alternate search terms. Once you locate a source or two, you'll find more synonyms there that will help you expand your search.

TABLE 2.3 BOOLEAN OPERATORS

Operator	Example	Returns results with
AND	depression AND dopamine	both terms, none with only one of the terms
OR	Splenda OR sucralose	either term or both terms
NOT	Washington NOT George	Washington except those with George
NEAR	flu NEAR vaccine	the terms within a set number of words of each other
ADJ	word ADJ root	the terms adjacent (next to each other) in either order



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Formal synonyms (*insane, mentally ill*) should usually be preferred over informal ones (*crazy*).

◆ **Try related terms.** Related terms are words connected to a subject but not synonymous with each other. For example, the Centers for Medicare and Medicaid Services (www.cms.gov), the government agency that oversees Medicare, is often referred to simply as CMS. If, therefore, you are writing about Medicare, you might want to search on the related term *CMS*.

◆ **Explore the Ladder of Generalization.** Words exist along a continuum of specific to general. The more specific, the smaller the group of things covered by the word. For example, the search term *Chihuahua* will return far fewer hits than the term *animal*, because *Chihuahua* is a much more specific word. If you are getting too many hits with your search terms, move down the ladder of generalization and use more specific terms. Or, if you are getting too few hits, move up the ladder to more general terms.

Go Beyond the Internet

Even though you may be tempted to get all your research information from a Web search, you should expand your efforts. While the Web does contain billions of pages of information, much of it valuable, it still represents a limited source. You will get a much better and more professional picture of your subject by including non-Web sources, especially books and scholarly articles, in your research. You will also develop much better researching skills.

You can perform some beyond-the-Web searching from your computer. Ask a reference librarian which electronic databases are available to you. These databases, such as ProQuest, InfoTrac, EBSCO Host, and JSTOR feature full-text articles from printed



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journals. Many public libraries also have some of these databases available to patrons, often accessible from home.

The full text of thousands of books is also available online from various sources (perform a Web search on the phrase “full text books” to find some of these sites). Even though these are older books that are out of copyright, they include such classics as *The Federalist Papers*, Adam Smith’s *The Wealth of Nations*, Charles Dickens’ *Great Expectations*, Auguste Comte’s *A General View of Positivism*, and many others still useful and pertinent to various research projects.

2.4 Using and Abusing Internet Sources

The Internet is an amazing grab bag of information, ranging in quality and credibility from excellent to terrible. When you sit down to search the Web, the first thing to remember is that not all information is created equal. Your goal is not merely to find some pages that include your search terms, but to find accurate and reliable information from reputable sources. Cut-and-run searching, where a student grabs whatever comes up on the first page of results, usually produces poor-quality papers. It also teaches students little about the research process.

Search for Reliable Sites

As you will see below in Section 2.5, one of the indicators of the quality of information is its source. We tend to believe those who have knowledge and experience in a subject over those who are expressing the opinion of the day. It is reasonable, then, that organizations specializing in a subject are likely to have better information than a Web page posted by an individual. To begin your topic search, rather than typing in a search phrase and seeing



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what pages come up, start by looking for sites (that is, organizations) related to your topic. A profitable way to do this is to use your favorite search tool, such as Google or Ask or Yahoo, to type in your topic followed by one of these words: *institute*, *association*, *forum*, *foundation*, *institution*. For example, if you will be writing about peace and conflict in the Middle East, typing in *middle east institute* will return a number of organizations dealing with the Middle East. Try your search topic with each of the other words to locate more organizations.

Another way to locate information from organizations is to use the advanced search commands in the search tool to limit the search results to items in the .org and .gov domains. (The .org domain is for organizations, mostly nonprofit; the .gov domain is for government agencies.)

Look Deeply Into the Results

It is true that the major search engines are constantly tweaking their secret methods of ranking pages so that the best pages appear earliest in the results. However, unlike directories, search engines use computer-based formulas to do the ranking, so many times the pages that you want will be well after the first 10 or 20 displayed by the search tool. Good advice is to (1) craft your search phrase carefully, (2) use more than one phrase, and (3) take the time to look at the first 100 to 200 hits for each query. (Looking at 200 hits might seem like a lot, but it doesn't take as long as you might think.) You can set some of the search engines to return 50 or 100 hits on each page, making scrolling through a large number much more efficient.

Understand the Context of Individual Pages



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When you perform a general Web search, do not just grab a page that looks good and use it in your paper. Take some time to discover the context of the page. Try backing up your browser one directory at a time by cutting off each previous directory to see what larger site the page is part of. (Note: If you have the Google toolbar installed in your browser, you can click on the *Web Up* button to go back one folder with each click.)

It may be useful to look at the root Web site of the information, also. On the home page of the root site, you will often find an *About* link that will give you some information about the site and its purpose. This may be helpful as you judge the site's quality.

Remember, too, that blog postings range in quality from the word of experts to groundless rantings to intentional falsehoods designed for good or ill (stock price manipulation, for example) to plagiarized pieces of the writings of others. Be very careful to assess the quality of such sources before you make use of them.

Follow the Links

Use quality information to find other quality information. When you locate a site or article that you find valuable and credible, visit the links from there to the other information. Not all links are recommendations, of course, but another page deemed worth linking to by a site you find valuable can provide a good possibility for finding more useful and reliable information related to your topic.

Use the Invisible Web

A substantial amount of information posted on the Web is not indexed by the search engines. To get to this information, on the



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invisible or deep Web, you must go directly to the various sites that host the information. The extra effort needed to access this information is rewarded by the fact that this information is usually high in quality.

To get access to this restricted information, perform a typical Web browser search on the following terms:

- “invisible web”
- “deep web”
- “invisible web databases”
- “how to search the invisible web”
- “hidden web”
- “locate invisible web databases”
- “deep web research databases”

Why is most of the Internet hidden behind security? Many sites want users to join (often free) before accessing their content. The reasons vary:

- The site might have a “no robots” command on its pages, preventing search engines from indexing them.
- The site might be hidden behind a password setup, so you will need to join first. The good news is that many of these sites are free.
- The site maintains a huge database and its owners do not want to show their information to just anyone.

2.5 Evaluating Sources

Implied above is the idea that sources should be examined for quality before using them. As more and more information becomes available, the range in quality—from treasure to trash—seems to be growing wider. It is increasingly important, then, to apply some effective criteria to the evaluation of each potential source you encounter. Here is one set, known as the EAR test, for Expertise,



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Accuracy, and Reliability.

Expertise

The first check of a source should relate to the author's credentials. Is the author an authority in the area, an expert, through education, experience, or both? If not, is the author at least well informed about the area and aware of all the relevant issues? If there is a corporate author, is the organization widely respected or an authority? Does the way the author handles the subject indicate a knowledgeable, reasonable, and careful thinker? Often, an institutional affiliation will indicate an expert source. For example, a page on the Web site of a chemical manufacturer describing how to mix ingredients to make shampoo should be highly authoritative.

The expertise test: Is there evidence that the source knows the subject?

Accuracy

The next check of a source should relate to accuracy, which includes two parts. First is the currency of the information. Is the information up-to-date? In some areas (technology, business), information becomes outdated rapidly. In other areas (some historical work and literary scholarship), the information remains accurate for long periods. Outdated information can be worse than no information because it can be misleading. Check the date of the source and the date of the information in the source to be sure the information is recent enough for your needs. For example, there was once a concern that LCD televisions could not respond to fast motion quickly enough, resulting in smearing. Reviews of LCD TVs reflected this. Today, after many new generations of LCD TVs, that



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concern has long been resolved as much faster refresh rates have eliminated smearing. However, some of the older reviews are still online, presenting outdated information.

The second part of accuracy relates to correctness: Are the facts right, are the essential details present, is the presentation unbiased, is the whole picture presented? Be careful of sources that describe everything in sweeping generalizations and that lack details.

The accuracy test: Is the information correct today?

A note on biased sources: There are many areas of controversy, not just in politics, religion, and philosophy, but in science and social science as well, where at least some of your sources will be somewhat or even highly biased. You can use biased sources, as long as you are aware of the bias and seek out opposing viewpoints (which may be biased as well). However, sources that argue for a controversial position while ignoring conflicting evidence or arguments should be used cautiously because failure to acknowledge and respond to opposing viewpoints can imply a less than honest argument.

Reliability

The reliability test begins with a look at the source's documentation (bibliography) to see whether the information is well supported. Some sources will have little documentation because the material is a reasoned argument or a report on an original study or empirical investigation. Usually, though, there will be at least some indication of what other books and articles the authors made use of or recommend for further reading.

Another part of the reliability test concerns how well the information in the source correlates with that in other sources.



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Corroboration—one source supporting or agreeing with another—is one way to test the credibility of information. The belief is that in matters of fact or data-based conclusions, a source that agrees with other sources is more likely to be correct than a source that does not agree. A good practice, then, is to triangulate your sources: Find three sources that agree on important information. This test is not infallible, for the three sources could be all wrong and the fourth, conflicting source could be correct. Nevertheless, the test is generally a good guideline.

The reliability test: Is the information supported by other sources?

Evaluating your sources can be challenging. However, as I mentioned in the first chapter (Section 1.2), working with sources improves your ability to “analyze what you are reading.” In other words, the more research and writing you do, the better you will become at evaluating the source material you find. You’ll develop what some have called a Baloney Detector, an almost intuitive sense that will allow you to sniff out the less reliable sources from the more reliable. So don’t confine yourself to the evaluation process outlined here. Devise your own system.

Review Questions

To see how well you understand this chapter, attempt to answer each of the following questions without referring to the text. (Write down your answers to make checking easier.) Then check your answers with the text. If you missed something important, add it to your answer.

1. What is the Ladder of Generalization? Give some examples to clarify.



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2. In addition to facts, what other kinds of information will be useful to include in a research paper?
3. Distinguish between primary and secondary sources. Give examples.
4. How does quoting a standard dictionary definition weaken a paper?
5. What are some techniques for locating high-quality information on the Internet?
6. Explain the importance of evaluating sources.

Questions for Thought and Discussion

Use these questions for in-class or small-group discussion or for stimulating your own thinking.

1. When you write a paper, how do you organize your materials (note cards, data files, folders, etc.)? How effective do you find this method and why?
2. Have you ever needed to look up a source a second time in order to write down all or part of its bibliographic information? Was it frustrating?
3. How careful are you to think about the wide range of quality and reliability of the information you retrieve from electronic sources? Do you evaluate your sources?
4. When you research, are you more likely to use the first sources you locate, or do you make an attempt to select carefully from a larger set of possibilities? Why?
5. Have you ever written a research paper knowing your position before you began? If so, would you say you were biased? Did any of your research change your opinion?



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6. When you finish a paper, what steps do you take to ensure the accuracy of your grammar, spelling, and punctuation?
7. If your school or college has a writing center, have you visited it? What kinds of help did you receive? Did the advice you received improve your paper?

Mini-Research Projects: Source Evaluation Models

You might call these projects “Use the Web to Test the Web,” although they go beyond that. This chapter provided you with a brief rubric for evaluating the sources you locate.

For this project, you’ll find some other source evaluation strategies.

1. Perform a Google or Bing search on “source evaluation” and examine at least half a dozen models. Choose one to evaluate. What are its strengths and what areas could be improved?
2. Choose three examples from your search above and create your own source evaluation strategy by blending the best ideas from each of the three examples. Be sure to include a reference, crediting the three sources. Now test your new strategy on one of your sources.
3. Perform a Google or Bing search on “source evaluation worksheet” and examine the top ten or so briefly. Choose three for closer examination. Then, choose two to fill out, using one of your sources as the test case. Write a brief (50–100 words) review of the worksheet, describing its usefulness.
4. From the ten or so worksheets you looked at, create your own evaluation worksheet. Test it on one of your sources.

A Little Rhetoric: Anaphora



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Anaphora (pronounced uh NAF or uh) is a simple but effective device used for emphasis. The device involves repeating the same word or words at the beginning of several sentences or phrases. The repeated words draw attention to themselves, and that makes for a memorable thought.

Example 2.LR.1

A. The effort to switch the public from energy-wasting incandescent light bulbs to the highly efficient LED bulbs has so far not used the best strategy: incentivize the manufacturers with tax credits, incentivize businesses with tax deductions, and incentivize consumers by subsidizing bulb costs.

B. Throughout the second chapter, Doe (2014) continues to propose that fees on all forms of identification be eliminated. He wants free driver's licenses, free passports, and free senior ID cards.

C. According to Doe (2015) the so-called "train to nowhere" is a poor idea because, as he claims, no one lives there, no one wants to ride it, and even if they did, no one could afford the ticket.

D. Countering Doe, however, Abruster (2016) asserts that the project is worthwhile because, as he says, we desperately need employment opportunities in the area, we desperately need economic development in the region, and we desperately need an optimistic vision for the state.

Anaphora can be used with effect to hammer away demanding questions that begin with the same who, why, how, when, what, or where.

Example 2.LR.2

A. Zithrop (2015) demands to know why such a glaring error slipped by, why it has only now been remedied, and why the



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remedy costs so much.

B. We now know what happened, but some questions remain: Who ordered the transfer of funds? Who carried out the transaction itself? And who failed to notice the unusual activity?

C. But what comes next? What should we expect? Or what should we take as our own responsibility?

Now You Try

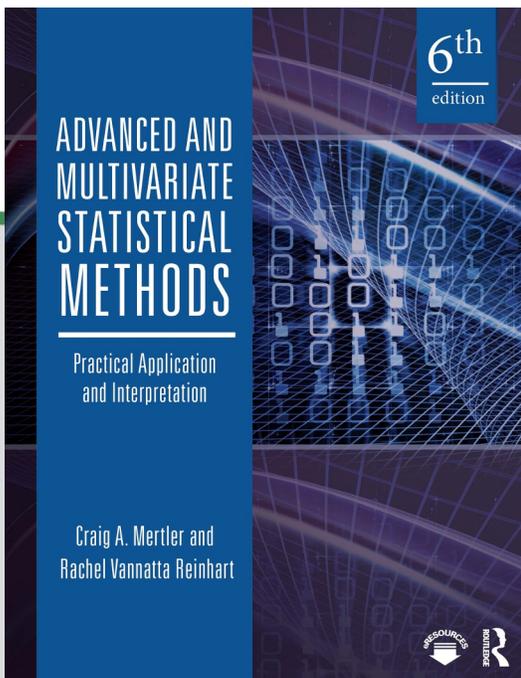
1. Create an example of anaphora using a key word to emphasize an idea of your own.
2. Create an anaphora that reflects the ideas of a source.
3. Create two examples of anaphora that use your choice of *who*, *why*, *how*, *when*, *what*, or *where*.



CHAPTER

4

INTRODUCTION TO MULTIVARIATE STATISTICS



This chapter is excerpted from
Advanced and Multivariate Statistical Methods
by Craig A. Mertler and Rachel Vannatta Reinhart.

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INTRODUCTION TO MULTIVARIATE STATISTICS

Excerpted from *Advanced and Multivariate Statistical Methods*

STUDENT LEARNING OBJECTIVES

After studying Chapter 1, students will be able to:

1. Distinguish between multivariate and univariate analyses.
2. Explain distinctions between experimental and nonexperimental research designs.
3. Apply various categorization schemes for classifying variables.
4. Explain differences between various data matrices.
5. Provide appropriate examples of orthogonal and non-orthogonal relationships between variables.
6. Distinguish between standard and sequential analyses.
7. Explain the process of hypothesis testing and determining statistical significance, using appropriate terminology.
8. Evaluate the difference between Type I and Type II errors.
9. Discuss the relationship between (α) and (β).
10. Describe what is reported by effect size.

For many years, multivariate statistical techniques have simplified the analysis of complex sets of data. As a collective group, these techniques enable researchers, evaluators, policy analysts, and others to analyze data sets that include numerous independent variables (IVs) and dependent variables (DVs). In other words, they allow researchers to analyze data sets where the participants have been described by several demographic variables and also have been measured on a variety of outcome variables. For instance, a researcher may want to compare the effectiveness of four alternative approaches to reading instruction on measures of reading comprehension, word recognition, and vocabulary, while controlling for initial reading ability. The most appropriate method of analyzing these data is to examine the relationships and potential interactions between all variables simultaneously. Relying on univariate statistical procedures would prevent



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proper examination of these data. Due to the increasingly complex nature of research questions in the social sciences, and to the advent—and continued refinement—of computer analysis programs (e.g., SPSS®, SAS®, BMDP®, and SYSTAT®), the results of multivariate analyses are appearing more and more frequently in academic journals.

The purpose of this book is to provide the reader with an overview of multivariate statistical techniques by examining each technique in terms of its purpose, the logic behind the test, practical applications of the technique, and the interpretations of results. The authors' major goal is to prepare students to apply and interpret the results of various multivariate statistical analysis techniques. It is not our intent to inundate the student with mathematical formulae, but rather to provide an extremely practical approach to the use and interpretation of multivariate statistics.

SECTION 1.1 MULTIVARIATE STATISTICS: SOME BACKGROUND

Multivariate statistical techniques are used in a variety of fields, including research in the social sciences (e.g., education, psychology, and sociology), natural sciences, and medical fields. Their use has become more commonplace due largely to the increasingly complex nature of research designs and related research questions. It is often unrealistic to examine the effects of an isolated treatment condition on a single outcome measure—especially in the social sciences, where the participants in research studies are nearly always human beings.

As we all know, human beings are complex entities, complete with knowledge, beliefs, feelings, opinions, attitudes, and so on. Studying human participants by examining a single independent variable and a single dependent variable is truly impractical



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because these variables do not co-exist in isolation as part of the human mind or set of behaviors. These two variables may affect or be affected by several other variables. In order to draw conclusions and offer accurate explanations of the phenomenon of interest, the researcher should be willing to examine many variables simultaneously.

Stevens (2001) offers three reasons for using multiple outcome measures (i.e., DVs) in research studies, specifically those involving examinations of the effects of varying treatments (e.g., teaching methods, counseling techniques, etc.).

1. Any treatment will usually affect participants in more than one way. Examining only one criterion measure is too limiting. To fully understand the effects of a treatment condition, the researcher must look at various ways that participants may respond to the conditions.
2. By incorporating multiple outcome measures, the researcher is able to obtain a more complete and detailed description of the phenomenon under investigation.
3. Treatments can be expensive to implement, but the cost of obtaining measures on several dependent variables (within the same study) is often quite small and allows the researcher to maximize the information gain.

It should be noted that a study appropriate for ***multivariate*** statistical analysis is typically defined as one with several dependent variables (as opposed to ***univariate*** studies, which have only one dependent variable). However, the authors have included several techniques in this book that are typically classified as *advanced* univariate techniques (e.g., multiple regression, factorial analysis of variance, analysis of covariance, etc.). The reason for their inclusion here is that they are ordinarily not included in an introductory course in statistical analysis but are nonetheless



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important techniques for students to understand.

Research Designs

The basic distinction between experimental and nonexperimental research designs is whether the levels of the independent variable(s) have been manipulated by the researcher. In a true experiment, the researcher has control over the levels of the IVs. That is, the researcher decides to which conditions participants will be exposed. For instance, if a researcher was conducting an experiment to investigate the effectiveness of three different counseling techniques, she would randomly assign each subject to one of the three conditions. In essence, she has *controlled* which participants receive which treatment condition.

In nonexperimental research (e.g., descriptive, correlational, survey, or causal-comparative designs), the researcher has no control over the levels of the IVs. The researcher can define the IV, but cannot assign participants to its various levels. The participants enter the study already “belonging” to one of the levels. For instance, suppose a researcher wanted to determine the extent to which groups differed on some outcome measure. A simple scenario might involve an examination of the extent to which boys and girls differed with respect to their scores on a statewide proficiency test. The independent variable, *gender* in this case, cannot be manipulated by the researcher. All participants enter the study already categorized into one of the two levels of the IV. However, notice that in both experimental and nonexperimental research designs, the levels of the independent variable have defined the groups that will ultimately be compared on the outcome DV.

Another important distinction between these two types of research designs lies in the ability of the researcher to draw



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conclusions with respect to causality. In an experimental research study, if the researcher finds a statistically significant difference between two or more of the groups representing different treatment conditions, he can have some confidence in attributing causality to the IV. Manipulating the levels of the IV by randomly assigning participants to those levels permits the researcher to draw causal inferences from the results of his study. However, because there is no manipulation or random assignment in a nonexperimental research study, the researcher is able to conclude that the IV and DV are related to each other, but causal inference is limited.

The choice of statistical analysis technique is extraneous to the choice of an experimental or nonexperimental design. The various multivariate statistical techniques described in this book are appropriate for situations involving experimental as well as nonexperimental designs. The computer analysis programs will run and the statistics will work in either case. However, the decision of the researcher to attribute causality from the IV(s) to the DV(s) is ultimately dependent upon the initial decision of whether the study will be experimental or nonexperimental.

The Nature of Variables

The authors have been using the terms *independent* and *dependent* variables throughout the beginning of this chapter, so a review of these terms—and others related to the nature of variables—is in order. Variables can be classified in many ways. The most elementary classification scheme dichotomizes variables into either independent or dependent variables. Independent variables consist of the varying treatment conditions (e.g., a new medication vs. a standard medication) to which participants are exposed or differing characteristics that the participants bring into the study



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with them (e.g., school location, defined as urban, suburban, or rural). In an experimental situation, the IVs may also be referred to as *predictor* or *causal* variables because they have the potential of causing differing scores on the DV, which is sometimes referred to as the *criterion* or *outcome* variable. The reader should also be aware that a specific variable is not inherently an IV or a DV. An IV in one study might be a DV in another study, and vice versa. *Univariate* statistics refers to analyses where there are one or more IVs and only one DV. *Factorial* analyses are appropriate in situations where there are two or more IVs and one DV. *Bivariate* statistics refers to analyses that involve two variables where neither is identified as an IV or a DV. Finally, *multivariate* statistics refers to situations where there is more than one DV and there may be one or more IVs.

Another way to classify variables refers to the level of measurement represented by the variable. Variables may be quantitative, categorical, or dichotomous. *Quantitative* variables are measured on a scale that has a smooth transition across all possible values. The numerical value represents the amount of the variable possessed by the subject. Examples of quantitative variables include age, income, and temperature. Quantitative variables are also referred to as *continuous* or *interval* variables.

Categorical variables consist of separate, indivisible categories. There are no values between neighboring categories of a categorical variable. Categorical variables are often used to classify participants. Examples of categorical variables include gender (male or female), type of school (urban, suburban, or rural), and categories of religious affiliation. Categorical variables may also be referred to as *nominal*, *ordinal*, *discrete*, or *qualitative*. A specific type of categorical variable is one that is *dichotomous*. A dichotomous variable is one that has only two possible levels or categories. For instance, gender is a categorical



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variable that is also dichotomous. Often, for purposes of addressing specific research questions, quantitative or categorical variables may be dichotomized. For instance, age is a quantitative variable, but one could recode the values so that it would be transformed into a dichotomous variable. Age could be dichotomized into two categories, such as “less than 35 years of age” and “35 years of age and older.” Often, a transformation of data such as these allows the researcher to be more flexible in terms of the analysis techniques she can use.

When conducting a multivariate analysis, researchers sometimes have a tendency to include too many variables. Prior consideration of the analysis is crucial in determining the variables on which to collect and include data. The best recommendation is to obtain the solution with the fewest number of variables (Tabachnick & Fidell, 2007). This is known as a *parsimonious* solution. Arguments for the inclusion of variables should be based on the feasibility (i.e., cost and availability) of collecting data on them and the nature of the theoretical relationships among the variables being considered.

Data Appropriate for Multivariate Analyses

Obviously, the data for multivariate analyses must be numerical. Quantitative variables consist of the scores themselves on specific variables. The values for categorical variables consist of the codes assigned by the researcher. For instance, for the variable of school location, urban schools might be assigned a 1, suburban schools assigned a 2, and rural schools assigned a 3.

There are many forms in which data can be submitted for analysis using multivariate techniques. The majority of the time, a data matrix will be analyzed. A **data matrix** is an organization of raw scores or data, where the rows represent participants, or cases,



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and the columns represent variables. Another possible format in which data may appear for analysis is a correlation matrix. Readers who have completed an introductory course in statistics are probably somewhat familiar with this type of matrix. A **correlation matrix** is a square, symmetrical matrix where each row and each column represents a different variable and the intersecting cells contain the correlation coefficient between two variables. A third option is a **variance covariance matrix**, which is also a square, symmetrical matrix where the elements on the main diagonal (i.e., the intersection of a variable with itself) represent the variance of each variable and the elements on the off-diagonals represent the covariances between variables. Finally, a **sum-of-squares and cross-products matrix** is the precursor to the variance-covariance matrix. Specifically, it is a matrix consisting of deviation values that have not yet been averaged.

The mathematical calculations involved in multivariate statistical analyses may be performed on any of the previously mentioned matrices. However, the calculations are rather complex and involve a set of skills known as matrix algebra. **Matrix algebra** is somewhat different from scalar algebra—that is, addition, subtraction, multiplication, and division of a single number—with which the reader is more familiar. Matrix algebra is an extension of scalar algebra where mathematical operations are performed on an ordered array of numerical values. Because, as stated earlier in this chapter, it is not the intent of the authors to deluge the reader with intricate, and often convoluted, mathematical calculations, matrix algebra will not be discussed further in this text. If the reader is interested in learning more about matrix algebra and its applications in multivariate statistical analyses, several excellent resources include Johnson and Wichern (2008), Tabachnick and Fidell (2007), Stevens (2001), and Tatsuoka (1988).

In multivariate statistics, as in univariate statistics, the



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quality of the data is crucial. Fortunately, advanced computer analysis programs make the computations easy. However, there is a downside to this wonderful feature: The programs will provide output to the requested analysis, including beautifully formatted graphs and tables, regardless of the quality of the data on which the analyses were performed. For instance, assume a researcher has data that have not been reliably collected, contain data-entry errors, and include strange values that will surely influence the results. In this case, the adage “garbage in, garbage out” holds true. However, by simply examining the output, the researcher usually is unable to discern that the results are of poor quality. Prior to analysis, the researcher must take measures to ensure that the data are of the highest possible quality (techniques will be discussed in Chapter 3). Only by doing so can one be assured of the quality of the results and confident of the subsequent conclusions drawn.

Standard and Sequential Analyses

The benefits of—and the disadvantages associated with—multivariate statistics are often direct results of the relationships among the variables in a given data set. A lack of relationship among variables typically enables the researcher to interpret the results of an analysis with more clarity. For this reason, orthogonality is an important concept in the application of multivariate statistical analyses. **Orthogonality** is perfect nonassociation between variables. If we know the value for an individual on a given variable, and if that variable has an orthogonal relationship with a second variable, knowing the value of the first variable provides no information in determining the value of the second variable. In other words, the correlation between the two variables is equal to zero.

Orthogonality is often a desirable quality for multivariate

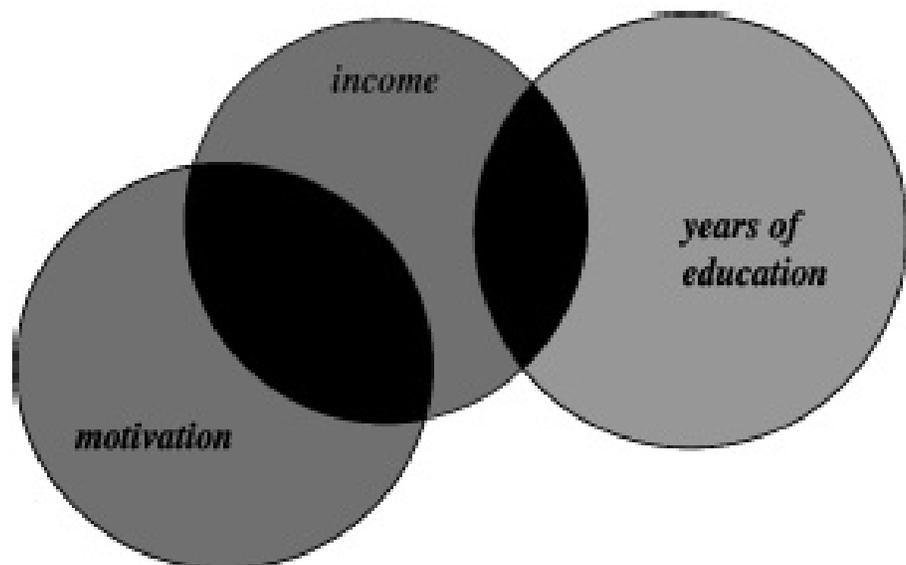


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statistical analyses. For instance, assume we are interested in examining the nature of the relationships among a set of IVs and a single DV. If all pairs of IVs in the set are orthogonal, then each IV adds a distinctively unique component to the prediction of the DV. As a simple example, assume that we are investigating the effects that two IVs (years of education and motivation) have on a single DV (income). If years of education and motivation are orthogonal, then each contributes separately, and in additive fashion, to the prediction of income. For instance, if 25% of the variability in income can be predicted by years of education and 40% can be predicted by motivation, then 65% of the variability in income can be predicted from years of education and motivation taken together. This relationship can easily be shown through the use of a Venn diagram (see Figure 1.1).

Figure 1.1. Venn Diagram for Orthogonal Relationship Among Income, Years of Education, and Motivation.

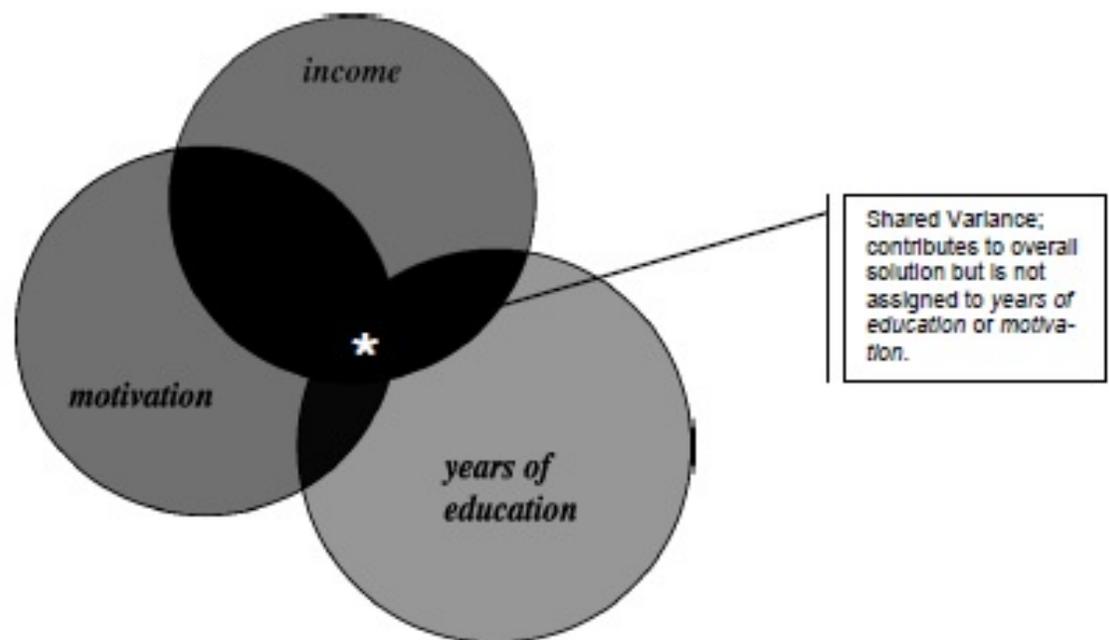




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Figure 1.2. Venn Diagram Resulting From a Standard Analysis of the Relationship Among Income, Years of Education, and Motivation.



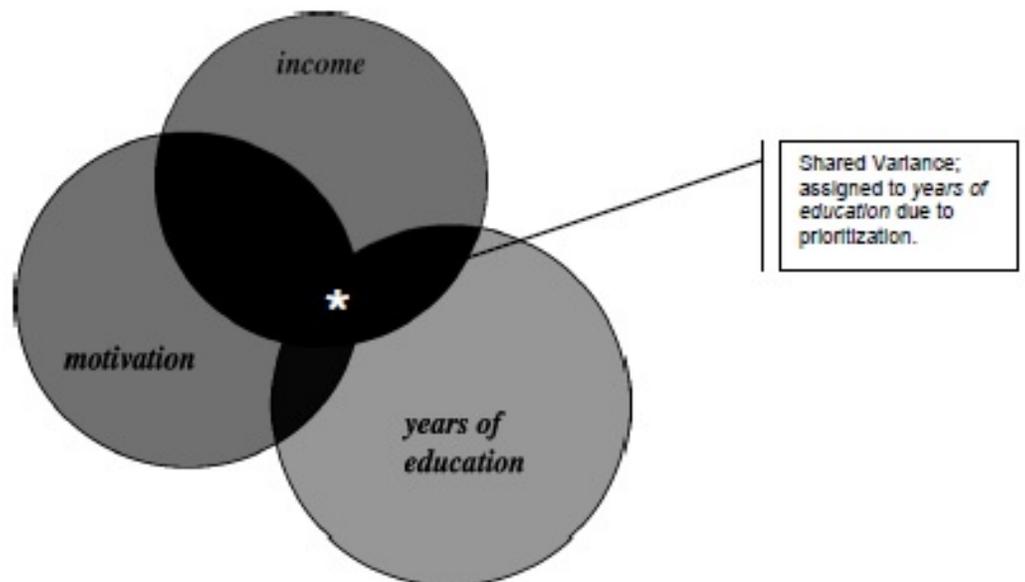
Having a data set with orthogonal variables is the ideal situation. However, most variables with which social science researchers work are correlated to some degree. That is, they are nonorthogonal. When variables are correlated, they have overlapping, or shared, variance. Returning to our previous example, if years of education and motivation were correlated, the contribution of years of education to income would still be 25%, and the contribution of motivation would remain at 40%. However, their combined contribution—which could no longer be determined by means of an additive procedure—would be less than 65%. This is due to the fact that the two IVs share some amount of variance. There are two basic strategies for handling this situation in order to determine the contribution of individual IVs to a DV.



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Figure 1.3. Venn Diagram Resulting From a Sequential Analysis of the Relationship Among Income,



Using a *standard analysis* approach, the overlapping portion of variance is included in the overall summary statistics of the relationship of the set of IVs to the DV, but that portion is not assigned to either of the IVs as part of their individual contribution. The overlapping variance is completely disregarded when evaluating the contribution of each IV, taken separately, to the overall solution. Figure 1.2 is a Venn diagram of a situation where years of education and motivation are nonorthogonal and share some variance. For this shared portion, we are investigating the effects that two IVs (years of education and motivation) have on a single DV (income). Using a standard analysis approach, the shared variance is included in the total variability explained by the set of IVs but is not assigned to either years of education or motivation when examining their *individual* contributions.

An alternative approach, *sequential analysis*, requires the researcher to prioritize the entry of IVs into the equation or solution. The first variable entered into the equation will be assigned both its



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unique variance and any additional variance that it shares with any lower-priority variables; the second variable will be assigned its unique variance and any overlapping variance with lower-priority variables, and so on. Figure 1.3 is a Venn diagram showing this type of approach, where years of education has been assigned the highest priority and therefore is credited both with its unique variance and that which it shares with motivation. Notice that, in this situation, the total amount of variance remains the same. However, years of education now has a stronger relationship to income than it did in the standard analysis, while the contribution of motivation remains the same.

Difficulties in Interpreting Results

The need to understand the nature of relationships among numerous variables measured simultaneously makes multivariate analysis an inherently difficult subject (Johnson & Wichern, 2008). One of the major difficulties in using multivariate statistical analyses is that it is sometimes nearly impossible to get a firm statistical answer to your research questions (Tabachnick & Fidell, 2007). This is due largely to the increased complexity of the techniques. Often, results are ambiguous. Two or more statistical indices resulting from one computer run may contradict each other. The researcher must then determine the most appropriate way to interpret the results of the analysis. This introduces some subjectivity into the process. But rest assured, we believe that the benefits of being able to examine complex relationships among a large set or sets of variables make multivariate procedures well worth the time and effort required to master them.



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SECTION 1.2 REVIEW OF DESCRIPTIVE AND INFERENCE STATISTICS

The purpose of the remainder of this chapter is to provide the reader with a brief review of descriptive and inferential statistics. While it certainly is not our intention to provide thorough coverage of these topics, the discussions should serve as a good refresher of material already mastered by the reader prior to beginning a course in multivariate statistics.

Descriptive Statistics

The first step in nearly any data analysis situation is to describe or summarize the data collected on a set of participants that constitute the sample of interest. In some studies, such as simple survey research, the entire analysis may involve only descriptive statistics. However, most studies begin with a summarization of the data using descriptive techniques and then move on to more advanced techniques in order to address more complex research questions. There are four main types of descriptive statistics: measures of central tendency, variability, relative position, and relationship.

Measures of Central Tendency. Measures of central tendency permit the researcher to describe a set of data with a single, numerical value. This value represents the average, or typical, value. The three most commonly used measures of central tendency are the mode, the median, and the mean. The **mode** is the most frequently occurring score in a distribution. There is no calculation involved in obtaining the mode. One simply examines the distribution of scores and determines which score was obtained by the participants most often. The mode does have limited use and is most appropriately used for variables measured at a nominal level.



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The **median** is the score in the distribution that divides the upper 50% of scores from the lower 50%. Like the mode, the median is also of limited use because it does not take into consideration all values in the distribution. The values of extreme scores, both positive and negative, are completely ignored. The median is most appropriate for ordinal measures.

The most frequently used measure is the **mean**, which is simply the arithmetic average of a set of scores. It is the preferred measure of central tendency because it takes into account the actual values of all scores in a distribution. If there are extreme scores in the distribution, the mean can be unduly influenced (e.g., an extremely high score will increase the value of the mean, thus making it less representative of the distribution). In this case, the median may be the more appropriate measure. However, when data are measured on an interval or ratio scale, the mean remains the favored method of describing central tendency.

Measures of Variability. Often, a measure of central tendency is not enough to adequately describe a distribution of scores. A researcher may also want to know the degree to which the scores are spread around the mean, or another measure of central tendency. The amount of spread is indicated by one of three measures of variability. The most basic measure of variability is the range. The **range** is simply the difference between the highest score and the lowest score in the distribution. The range is not a good indicator of the amount of spread in scores because it is based solely on the largest and smallest values. It is typically used only as a rough estimate of the variability in a set of scores.

When a distribution of scores contains some extreme values, an alternative to the range is the quartile deviation. The **quartile deviation** is defined as one-half of the difference between the 3rd quartile (i.e., the 75th percentile) and the 1st quartile (i.e., the 25th



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percentile). The resulting value is the amount of spread in the scores that are located within a range defined by the median $\pm 12.5\%$ of the cases. A limitation of the quartile deviation is that it does not take into consideration all values in the distribution.

The **standard deviation** is an appropriate measure of variability when variables are measured on an interval or ratio scale. The standard deviation is defined as a special type of average distance of scores away from the mean. It is the most stable measure of variability because it takes into account every score in the distribution. It is obtained by first subtracting the mean from each score, squaring the resulting differences, summing the squared differences, and finally finding the average of that summed value. This value is called the **variance**, and one must simply find the square root of the variance in order to obtain the standard deviation. A large standard deviation indicates that the scores in the distribution are spread out away from the mean, and a small standard deviation indicates that the scores are clustered closer together around the mean. The mean and standard deviation taken together do a fairly good job of describing a set of scores.

Measures of Relative Position. Measures of relative position indicate where a specific score is located in relation to the rest of the scores in the distribution. Interpretation of these measures allows a researcher to describe how a given individual performed when compared to all others measured on the same variable(s). The two most common measures of relative position are percentile ranks and standard scores.

Many of us have seen our performances on standardized tests reported as percentile ranks. A **percentile rank** indicates the percentage of scores that fall at or below a given score. If a raw score of 75 points corresponds to a percentile rank of 88, then 88% of the scores in the distribution were equal to or less than



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75 points. Percentile ranks are most appropriate for ordinal measures, although they are often used for interval measures as well.

There are several types of standard scores that can be used to report or describe relative position. A **standard score** is derived from the manipulation of a raw score that expresses how far away from the mean a given score is located, usually reported in standard deviation units. Because the calculation of a standard score involves some algebraic manipulation, the use of standard scores is appropriate when data are measured at an interval or ratio level. Two of the most common types of standard scores are *z*-scores and *T* scores. A ***z*-score** indicates the distance away from the mean a score is in terms of standard deviation units and is calculated by subtracting the mean from the raw score and then dividing the value by the standard deviation. If a raw score was equal to the mean, it would have a *z*-score equal to 0. If a raw score was two standard deviations greater than the mean, it would have a *z*-score equal to +2.00. If a raw score was one standard deviation below the mean, it would have a *z*-score equal to -1.00. Note that the sign is an important component of a reported *z*-score because it serves as a quick indicator of whether the score is located above or below the mean.

A ***T*-score** is simply a *z*-score expressed on a different scale. In order to convert a *z*-score to a *T*-score, simply multiply the *z*-score by 10 and add 50. For instance, if we had a distribution with a mean of 65 and a standard deviation of 5, an individual who obtained a raw score of 75 would have a *z*-score equal to +2.00 and a *T*-score equal to 70. The reader should be aware that all three measures used in this example (i.e., the raw score, the *z*-score, and the *T*-score) indicate a score that is equivalent to two standard deviations above the mean.



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Measures of Relationship. Measures of relationship indicate the degree to which two quantifiable variables are related to each other. These measures do not describe—or even imply—a causal relationship. They only verify that a relationship exists. Degree of relationship between two variables is expressed as a correlation coefficient ranging from -1.00 to $+1.00$. If the two variables in question are not related, a coefficient at or near zero will be obtained. If they are highly related, a coefficient near $+1.00$ or -1.00 will be obtained. Although there are many different types of correlation coefficients, depending on the scale of measurement being used, two commonly used measures of relationship are the *Spearman rho* and the *Pearson r*.

If data for one or both of the variables are expressed as ranks (i.e., ordinal data) instead of scores, the *Spearman rho* is the appropriate measure of correlation. The interpretation is the same as previously discussed, with values ranging from -1.00 to $+1.00$. If a group of participants produced identical ranks on the two variables of interest, the correlation coefficient would be equal to $+1.00$, indicating a perfect relationship.

If data for both variables represent interval or ratio measures, the *Pearson r* is the appropriate measure of correlation. Like the mean and standard deviation, the *Pearson r* takes into account the value of every score in both distributions. The *Pearson r* assumes that the relationship under investigation is a linear one; if in reality it is not, then the *Pearson r* will not yield a valid measure of the relationship.

Inferential Statistics

Inferential statistics deal with collecting and analyzing information from samples in order to draw conclusions, or inferences, about the larger population. The adequacy, or representativeness, of the



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sample is a crucial factor in the validity of the inferences drawn as the result of the analyses. The more representative the sample, the more generalizable the results will be to the population from which the sample was selected. Assume we are interested in determining whether or not two groups differ from each other on some outcome variable. If we take appropriate measures to ensure that we have a representative sample (i.e., use a random sampling technique), and we find a difference between the group means at the end of our study, the ultimate question in which we are interested is whether a similar difference exists in the population from which the samples were selected. It is possible that no real difference exists in the population and that the one that we found between our samples was due simply to chance. Perhaps if we had used two different samples, we would not have discovered a difference. However, if we do find a difference between our samples and conclude that the difference is large enough to infer that a real difference exists in the population (i.e., the difference was *statistically significant*), then what we really want to know is, “How likely is it that our inference is incorrect?” This idea of “how likely is it” is the central concept in inferential statistics. In other words, if we inferred that a true difference exists in the population, how many times out of 100 would we be wrong? Another way of looking at this concept is to think of selecting 100 random samples, testing each of them, and then determining for how many our inference would be wrong.

There are several key underlying concepts to the application of inferential statistics. One of those is the concept of standard error. Any given sample will, in all likelihood, not perfectly represent the population. In fact, if we selected several random samples from the same population, each sample would probably have a different sample mean and probably none of them would be equal to the population mean. This expected, chance variation



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among sample means is known as **sampling error**. Sampling error is inevitable and cannot be eliminated. Even though sampling errors are random, they behave in a very orderly fashion. If enough samples are selected and means are calculated for each sample, all samples will not have the same mean, but those means will be normally distributed around the population mean. This is called the **distribution of sample means**. A mean of this distribution of sample means can be calculated and will provide a good estimate of the population mean. Furthermore, as with any distribution of scores, a measure of variability can also be obtained. The standard deviation of the sample means is usually referred to as the standard error. The **standard error of the mean** tells us by how much we would expect our sample means to differ if we used other samples from the same population. This value, then, indicates how well our sample represents the population from which it was selected. Obviously, the smaller the standard error, the better. With a smaller standard error, we can have more confidence in the inferences that we draw about the population based on sample data. In reality, we certainly would not have the time or resources to select countless random samples, nor do we need to. Only the sample size and the sample standard deviation are required in order to calculate a good estimate of the standard error.

The main goal of inferential statistics is to draw inferences about populations based on sample data, and the concept of standard error is central to this goal. In order to draw these inferences with confidence, a researcher must ensure that a sample is representative of the population. In **hypothesis testing**, we are testing predictions we have made regarding our sample. For instance, suppose the difference between two means was being examined. The **null hypothesis (H_0)** explains the chance occurrence that we have just discussed and predicts that the only differences that exist are chance differences that represent only random



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sampling error. In other words, the null hypothesis states that there is no true difference to be found in the population. In contrast, the **research** or **alternative hypothesis (H_1)** states that one method is expected to be better than the other or, to put it another way, that the two group means are not equal and therefore represent a true difference in the population. In inferential statistics, it is the null hypothesis that we are testing because it is easier to disprove the null than to prove the alternative.

Null hypotheses are tested through the application of specific statistical criteria known as **significance tests**. Significance tests are the procedures used by the researcher to determine if the difference between sample means is substantial enough to rule out sampling error as an explanation for the difference. A test of significance is made at a predetermined **probability level** (i.e., the probability that the null hypothesis is correct), which obviously allows the researcher to pass judgment on the null hypothesis. For instance, if the difference between two sample means is not large enough to convince us that a real difference exists in the population, the statistical decision would be to “fail to reject the null hypothesis.” In other words, we are not rejecting the null hypothesis, which stated that there was no real difference, other than a difference due to chance, between the two population means. On the other hand, if the difference between sample means was substantially large (i.e., large enough to surpass the statistical criteria), we would “reject the null hypothesis” and conclude that a real difference, beyond chance, exists in the population.¹ There are a number of tests of significance that can be used to test hypotheses, including, but not limited to, the *t* test, analysis of variance, the chi-square test, and tests of correlation.

Based on the results of these tests of significance, the researcher must decide whether to reject or fail to reject the null hypothesis. The researcher can never know with 100% certainty



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whether the statistical decision was correct, only that he or she was *probably* correct. There are four possibilities with respect to statistical decisions—two reflect correct decisions and two reflect incorrect decisions:

1. The null hypothesis is actually true (i.e., there is no difference), and the researcher concludes that it is true (*fail to reject H_0*) — correct decision.
2. The null hypothesis is actually false (i.e., a real difference exists), and the researcher concludes that it is false (*reject H_0*) — correct decision.
3. The null hypothesis is actually true, and the researcher concludes that it is false (*reject H_0*) — incorrect decision.
4. The null hypothesis is actually false, and the researcher concludes that it is true (*fail to reject H_0*) — incorrect decision.

If it is concluded that a null hypothesis is false when it is actually true (Number 3), a **Type I error** has been committed by the researcher. If a null hypothesis is actually false when it is concluded to be true (Number 4), a **Type II error** has been made.

When a researcher makes a decision regarding the status of a null hypothesis, she or he does so with a pre-established (*a priori*) probability of being incorrect. This probability level is referred to as the **level of significance** or **alpha (α) level**. This value determines how large the difference between means must be in order to be declared significantly different, thus resulting in a decision to reject the null hypothesis. The most common probability levels used in behavioral science settings are $\alpha = .05$ or $\alpha = .01$. The selected significance level (α) determines the probability of committing a Type I error, which is the risk of being wrong that is assumed by a researcher. The probability of committing a Type II error is symbolized by β (beta) but is not arbitrarily set, as is alpha. To



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determine the value for α , a complex series of calculations is required. Many beginning researchers assume that it is best to set the alpha level as small as possible (thereby reducing the risk of a Type I error to almost zero). However, the probability levels of committing Type I and Type II errors have a complimentary relationship. If one reduces the probability of committing a Type I error, the probability of committing a Type II error increases (Harris, 1998). These factors must be weighed, and levels established, prior to the implementation of a research study.

The **power** of a statistical test is the probability of rejecting H_0 when H_0 is, in fact, false. In other words, making a correct decision (Number 2). Power is appropriately named because this is exactly what the researcher hopes to accomplish during hypothesis testing. Therefore, it is desirable for a test to have high power (Agresti & Finlay, 2009). Power is determined in the following manner:

$$\text{Power} = 1 - \alpha$$

Power, as with α , is established arbitrarily and should be set at a high level because the researcher is hoping to reject a null hypothesis that is not true and wants to have a high probability of doing so (Brewer, 1978).

Another factor related to hypothesis testing is *effect size*. **Effect size** (often denoted as ES or partial η^2) is defined as the size of the treatment effect the researcher wishes to detect with respect to a given level of power. In an experimental study, ES is equal to the difference between the population means of the experimental and control groups divided by the population standard deviation for the control group. In other words, it is a measure of the amount of difference between the two groups reported in standard deviation units (it is a standardized or transformed score and is, therefore, metric-free). Effect sizes can



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also be calculated for correlation coefficients or for mean differences resulting from nonexperimental studies (Harris, 1998). Effect size, like η^2 and power, is set *a priori* by the researcher, but it also involves strong consideration of what the researcher hopes to find in the study as well as what constitutes important and trivial differences.

A more powerful statistical test will be able to detect a smaller effect size. Cohen (1988) established a rule of thumb for evaluating effect sizes: An ES of .2 is considered small, one of .5 is considered medium, and one of .8 is considered large. A researcher would want to design a study and statistical analysis procedures that would be powerful enough to detect the smallest effect size that would be of interest and nontrivial (Harris, 1998).

Sample size (n) is a final factor whose value must be considered when conducting a research study and which must be considered prior to data collection. The required sample size for a study is a function of α , power, and effect size. Because sample size has several relationships with these three factors, values for the factors must be set prior to the selection of a sample. For instance, for a fixed α -level, the probability of a Type II error decreases when the sample size increases. In addition, for a fixed α -level, power increases as sample size increases. If sample size is held constant and α is lowered (e.g., in an attempt to reduce the probability of committing a Type I error), power will also decrease. This fact provides partial justification for not setting α near zero. The power of a test would be too low and the researcher may be much less likely to reject a null hypothesis that is really false (Agresti & Finlay, 2009). However, the solution to this dilemma is not to obtain the largest sample possible. A huge sample size might produce such a powerful test that even the slightest, most trivial difference could be found to be statistically significant (Harris, 1998). In summation, as n increases, ES, η^2 , and α will decrease,



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causing power to increase (Brewer, 1978). However, obtaining the largest possible sample size need not be the goal because the most appropriate sample involves a balanced combination of n , ES, and power. Tables have been developed to provide optimum sample sizes for a diverse range of values for n , ES, and power (Cohen, 1969).

SECTION 1.3 ORGANIZATION OF THE BOOK

The remainder of this textbook is organized in the following manner. Chapter 2 presents a guide to various multivariate techniques, in addition to a review of several univariate techniques. Included for each is an overview of the technique and descriptions of research situations appropriate for its use. Chapter 3 addresses the assumptions associated with multivariate statistical techniques and also discusses methods for determining if any of those assumptions have been violated by the data and, if so, how to deal with those violations. The concepts and procedures discussed in Chapter 3 are requisite to conducting any of the statistical analyses in subsequent chapters.

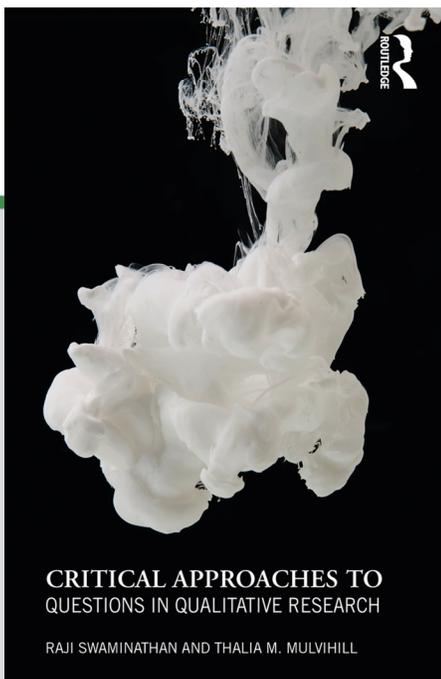
Chapters 4 through 11 present specific multivariate statistical procedures. Included in each chapter (i.e., for each technique) are a practical description of the technique, examples of research questions, assumptions and limitations, the logic behind the technique, and how to interpret and present the results. A sample research study, from problem statement through analyses and presentation of results, is also included in each chapter. Finally, a step-by-step guide to conducting the analysis procedure using SPSS is presented.



CHAPTER

5

BACKGROUND QUESTIONS AND THE CRITICAL FRAMEWORK IN QUALITATIVE RESEARCH



This chapter is excerpted from
Critical Approaches to Questions in Qualitative
Research

by Raji Swaminathan and Thalia M. Mulvihill.

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Questions: The Heart of Research

Asking good questions is fundamental to the heart of research, critical thinking, creative thinking, and problem solving. In our deliberations regarding this book, one of the reasons we focused on questions was rooted in our own experiences of research, where our mutual dialogues often took the form of questioning each other and the content of our enterprise. It was in many ways at the heart of the research activity, a space where curiosity was ignited and an excitement to investigate or find out took over.

The rationale for developing a book on this topic is to elevate the much-needed discussion about the nature of the thinking processes needed in order to design critical approaches that are innovative and successful. Our aim is to provide a comprehensive overview of critical approaches to questions in qualitative research. To us, questions represent a key competency in conducting research. We use “questions” as a way to work against prescriptive and mechanical how-tos and instead discuss them as an overarching strategy to stimulate qualitative thinking for research purposes. Qualitative thinking has been defined by several scholars (Saldana, 2015; Vagle, 2014) as eschewing a single point of view or the seeking of an “objective truth” in favor of drawing on multiple perspectives and diverse ways of thinking; observing events, scenes, and people; discussing, interviewing, and analyzing talk and text; and constructing stories from listening deeply to participants’ views of phenomena. Such thinking draws on art and creativity, as well as planned, systematic categorization leading to new insights about phenomena under inquiry. We utilize “questions” to stimulate wonder, curiosity, and mystery during the lifecycle of the research process.

Despite our acknowledgement that questions are at the center of research, our aim in this book is to resist thinking about



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questions as a necessity but instead conceptualize questions as a tool that can stimulate different types of thinking. The objective of this book is to provide a synthesis of how scholars have approached the subject of questions in qualitative research along with practical suggestions on how to use questions as a stimulus to thinking throughout the process of research. How do questions serve as tools for the planning and implementation of a study, for analysis of data, and for writing up research? To this end, we discuss how questions have been raised in the literature, but we also provide the qualitative researcher who wishes to undertake a project with tools that can be adapted to specific projects. The questions and suggestions for question generation that are presented in this book are not prescriptive but emerge from our own experiences of research and teaching. It is our intent, through examining and centralizing questions in qualitative research, to keep alive the mystery and wonder of research.

Whom Is this Book for?

We aim to provide a comprehensive discussion of questions through the lifecycle of the research process. The critical paradigm is central to this endeavor; however the book can be used by any qualitative researcher who wants to get an overview of the effective use of questions in qualitative research. We direct this book toward students of qualitative research and academic scholars who may want to use it as a companion book in their courses. Scholars affiliated with the social sciences, health sciences, and humanities can all use this book. In addition, those who are writing their theses or dissertations and are seeking to use different approaches will also find this book useful.



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What Is the Book About?

In this book, we present questions as tools for strategic thinking and decision-making in the research process. Maxwell (2005) suggests that questions are at the “hub” or “heart” of research and emerge from the design while other researchers (Metz, 2001) suggest that questions are the starting point of research. Although they may differ on when questions should be posed, scholars are in agreement that questions undergird the research process and the strength of the research project is often dependent on the quality of questions posed by researchers. Yet, as we have frequently found in our classes, students often cannot initially distinguish between research questions (RQs) and interview questions (IQs). And further, students have difficulty understanding the variety of ways that interviews can be designed (e.g., structured, semi-structured, unstructured) and how to make these types of design decisions. Most existing textbooks on qualitative research methods embed the sections dealing with questions in relevant chapters (see for example, Bogdan and Biklen, 2003; Creswell, 2013; Flick, 2009; Hatch, 2002; Maxwell, 2012) and tend to focus most attention on research questions and interview questions. However, they do not devote much space to ways to formulate questions during the data-analysis process, or during the various stages of reflexivity, or the time when you pull the whole manuscript together working and reworking during the revisions process. Further interrogating the range of ways questions can be used as dynamic tools, and recognizing that we, as qualitative researchers, can elevate our abilities to formulate and use these tools, is the driving motivation for our explorations within this book.

We provide a focused discussion of questions in qualitative research through the full lifecycle of the research process. While



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some articles in the qualitative literature discuss question generation, they are few (see McCaslin and Scott [2003] and White [2013] for a more recent example). There is a need to bring together, in one place, critical approaches to questions in qualitative research.

Qualitative research methodologists (Burns and Grove, 1999; Creswell, 2013; Morse, 1994) distinguish between different approaches to qualitative research and point out the types of questions asked in each research approach. They emphasize that the type of question asked depends on the paradigm or epistemology underlying each type of approach. For example, Morse (1994) explains that questions for a phenomenological study would differ from that of an ethnography or a grounded study. The field of qualitative research is quite expansive, including qualitative studies that are participatory action research or feminist research; yet anywhere on the spectrum of qualitative inquiry, questions are a central feature. Our aim with this book is to focus on critical approaches to questions in qualitative research while recognizing the larger surrounding critical framework we have chosen to explore. In this chapter we provide an overview of the ways in which scholars and researchers within the critical paradigm have approached discussions regarding questions and the importance of questions in qualitative research. We examine and describe assumptions of the critical paradigm that guide the framing of questions.

What Do We Mean By Critical Approaches?

Kuntz (2015) points out that the term “critical” has been overused to the point of not meaning anything anymore. A book titled *Critical Approaches*, therefore, needs to be explained. For us,



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the use of the term “critical” in “critical approaches” is to indicate an interest not only with procedures, but more importantly, the rationale behind such approaches, as well as to draw attention to the process in research that goes backstage and asks, “Why do researchers make the choices they do?” If questions are the mainstay of research, what would critical approaches to questions in the research process look like? To do this, we draw on the literature and give examples from researchers’ studies and their methodological notes to point out the ways in which they made decisions and how these examples can guide the researcher to an understanding of the rationale for such decision-making. Kuntz (2015) uses the term “critical” to mean intervention, drawn from the work of Kincheloe and McLaren (2005), and it has a social justice goal. Our use of the term “approaches” clarifies our intent not to prescribe a single model or method. Critical approaches to questions is as much a tool for critique as it is a way to release the imagination. It requires a look beyond the immediate, to question that which we take for granted and seek connections between seemingly disparate ideas; it is an approach that nurtures creativity. This is in line with Harvey’s (2001) idea of critical geography, in which he explains that critical scholarship exposes the “artificiality of the separation between fact and value” (p. 36). By critical approaches to questions, we hope to resist the practice of positioning the methodologist as a technocrat (Kuntz, 2015) and to invoke a vocabulary that embraces the messiness of the research process.

Critical approaches can be situated among the spectrum of approaches that currently exist. Our view of “critical” is focusing on the paradigm broadly, not narrowly on “critical qualitative research projects,” as this is in fact antithetical to the “critical” paradigm and not as an either/or juxtaposition to other related paradigms, such as the interpretive paradigm. Rather “critical approaches” are



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meant to make ever-present the power issues inherent in all research endeavors, with an eye toward social change. We are advocating for a nesting relationship between “designing questions for qualitative research projects” and using critical approaches when designing questions for qualitative research projects. It is more than semantics and it is important to clarify our terms and meanings and to be cognizant of the various starting points different reading audiences might occupy as they enter this book.

Our use of the term “critical” connotes the nurturing of an attitude and sensibility that encompasses the following:

1. The capacity to interrogate and inquire against the grain;
2. The skill to ask questions that confront prevailing assumptions leading to an analysis, dismantling and uncovering of omissions and invisibilities;
3. Paying increased attention to power and privilege;
4. Learning to eschew “absolute truth” in favor of multiple or “partial” truths and perspectives;
5. Privileging the perspectives of the marginalized for purposes of empowerment, equity, and freedom;
6. Examining context and structure along with individual agency;
7. Using questions to challenge neoliberal ways of knowing and the conditions giving rise to them; and
8. Resisting atomization of the research process and the researcher.

The above components comprise an attitude that takes into account a humanistic and critical framework—at once paying attention to issues of power and rights within an ethic of care.



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Critical Approaches and the Role of the Researcher

Critical approaches to questions means approaching questions from a variety of perspectives to uncover assumptions, analyze issues of power that are visible and invisible, and examine omissions. We want researchers to engage in a discussion on multiple truths rather than remain neutral or passive in the face of taken-for-granted assumptions about research. The intent is to stimulate the questioning of statements such as “the data revealed” that indicate data speaking for themselves that obscures the role and the responsibility of the methodologist. There is a need for a balance between alignment of methodology with research questions and interview questions and the necessarily messy nature of qualitative research that eludes and resists the grasp of neat categories or consistent themes. We situate this book broadly within the critical paradigm since contemporary qualitative researchers use the critical paradigm extensively. Newer strands of qualitative research such as indigenous research, cultural research, feminist research, and narrative research are all situated within the critical paradigm. In order to better understand the term “critical,” our own experiences of being regarded as the “methodologist” on dissertation committees inform this discussion. As Kuntz (2015) mentions in narrating his experiences, we too are often persuaded to be on dissertation committees as the “expert qualitative methodologist,” a position that reduces the dissertation process into a series of parts and loses sight of the interwoven character of the intellectual enterprise in research. It sets apart method as a technique rather than as a thoughtful process—a process that cannot be separated from the rest of the research undertaking: the content, the questions asked, the analysis, and the review of literature.

Kuntz (2015) argues that neoliberal discourses have allowed



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the methodologist to assume the role of a technocrat and suggests that methodologists need to refuse to allow themselves to be boxed into such roles. We consider “critical approaches” in qualitative research to work against compartmentalization and instead regard the whole research endeavor as a meaningful and imaginative act. Research from a critical perspective would work to counter neoliberal conditions where “power [is] applied . . . through the normalizing use of statistics” (Newheiser, 2016, p. 3) or where market forces enter noneconomic areas of life (Sandel, 2013), resulting in people being known as parts of a whole, or in the language of Deleuze (1995) as “dividuals,” by which process people are turned into data bits. An example of such a process would be to identify a person’s health in terms of blood pressure counts or their cholesterol count and a person’s economic wealth by credit scores. Crawford, Miltner and Gray (2014) argue that data and statistics and the advent of big data routinely separate the powerless from the powerful, those who can analyze the data and those who cannot, thus creating new pockets of privilege in society. We argue that in research, a desire for objectivity and neutrality may well crowd out concerns of social justice by stripping context from such data pieces. Research driven by data bits at the expense of the human experience would result in a loss of social responsibility (Giroux, 2014). Critical approaches to qualitative research work against such loss and are indisputably tied to social responsibility.

Eco (2015) points out that “social science methodology has fetishized quantitative statistical methods, producing enormous studies that are dense with data but not useful for understanding real phenomena” (Section 2.6.2). The representation of an individual solely through numbers can be dehumanizing. Critical approaches works to correct such partial views in research through examining how people make meaning of their lives and how they



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represent their lived experiences.

Critical approaches introduce complexity on the one hand while offering tools and strategies on the other. The latter is a way into “deep work” (Newport, 2016) rather than a way out of complex thinking. Tools and strategies to create questions that can serve as catalysts to one’s creative and critical thinking or that which can disrupt habitual patterns are needed. Thus critical approaches ask the researcher to be methodologically naive (Bennett, 2010) and allow oneself to be uncertain and engage in what Rebecca Solnit (2005) refers to as “the art of being at home in the unknown [and] being at home with being lost” (p. 22). However, this step away from the position of a researcher as neutral observer does not signal a move towards a relativistic claim on reality—in other words, it does not mean that a researcher’s positionality allows only for commentary on “insider” research. It does mean, however, that critical approaches ask that researchers take on challenges that are also ethically grounded and responsible, as well as to be ready to face the uncertainty of not quite knowing what results the research will produce.

Alvesson and Skoldberg (2000) outlined three versions of critical approaches to qualitative research that also meet the emancipatory ideal of the critical paradigm. In the first, they cite the work of Thomas (1993), who outlines some key characteristics of critical qualitative research. These include subject matter or a focus on questions that have to do with injustice or control, an attention to power issues, an emphasis on researcher reflexivity, a skeptical stance towards data, and a focus on reporting ideas that go against prevailing thought. In the second version, they advocate an “intensive critical interpretation or close reading” (p. 141). In the third version, the critical researcher works at the theoretical level using existing studies and adding a small study of her own. In this instance, the study would be regarded as part of the larger



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work and not subject to the intensive critical approach.

Critical approaches to research require an attention and action that interrupt one's own habitual patterns of thought. As Kuntz (2015) explains, researchers often engage in the "logics of extraction" almost habitually and without enough thought given to the assumptions behind such procedural concerns. He gives the example of interview as a method for gathering data in which a person's sense of being and experience is converted into a disembodied digital voice and then to text and "extracted" into the final report in the form of excerpts of data. His concern for the loss of the whole person in such cases is an echo of the work of feminist scholars. Feminists have long argued that the editing of the voices of participants can sometimes lead us away from those new interpretations or constructs that are required for us to make meaning of experiences not yet articulated or less voiced in the dominant discourse (Devault, 1990). A critical approach to questions is rooted in the reflexivity of the researcher.

Critical Approaches to Questions

Critical approaches to questions in research would mean encouraging researchers to use reflexivity to challenge assumptions and conventional modes of thinking. Reflexivity means being aware of oneself in the process of reflecting, interviewing, or observing. It means learning to examine why we think what we think. It means analyzing hidden assumptions that grow into habitual patterns of thought. It also means deliberately setting out to interrupt such patterns of thinking so that researchers would reframe questions and ask questions that push at the boundaries of their frame of reference. For example, in place of the question "why don't workers work harder?" (Burawoy, 1979), they might ask "why do workers work as hard as they do?" This



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promotes a different type of thinking that is counter to prevailing expectations. In order for researchers to undertake research that goes against dominant patterns, it may require researchers to be reflective and reflexive, to ponder upon what they are interested in, and also to ask how their own positionality intersects with the questions of their investigation. Since researchers are susceptible to being socialized into dominant thought patterns, questions that stimulate critical and reflexive thinking can be useful tools for strategic interventions.

Critical Thinking as a Basis for Questions

Critical thinking is a desire to seek, patience to doubt, fondness to meditate, slowness to assert, readiness to consider, carefulness to dispose and set in order; and hatred for every kind of imposture.

Francis Bacon (1605)

Developing the ability to formulate and pursue different types of qualitative inquiry questions requires a strong conceptual and practical foundation in critical thinking, an ever-expanding researcher's imagination (Mulvihill and Swaminathan, 2012) that engages with the human condition through portals of wonder and curiosity, and a propensity to enjoy the central tenet of mystery whereby certainty is not deemed possible. Hansen (2012) reminds us that qualitative researchers are involved in an "existential awakening and [a process of] coming-to-the-world-as-if-for-the-first-time" (Hansen, 2012, p. 3). Hansen (2012) further reminds us that Socratic questioning is "led and nurtured by a fundamental lived experience of wonder (*Thaumazein*), which is not to be confused with a conceptual and epistemological puzzlement and deadlock (*Aporia*)" (Hansen, 2012,



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p. 3). And he cautions that if the

use of methods and techniques is not governed by a higher musicality for the “subject matter” (the living phenomenon) then the phenomenological researcher will become just an “epistemological bookkeeper”; one who may be an expert in systemizing and analyzing data but who does not have the necessary phenomenological “ear” to hear the phenomenon itself (*die Sache selbst*).

(Hansen, 2012, p. 4)

While Hansen is building arguments specifically for phenomenologists, his basic premises are applicable for all qualitative researchers.

Socratic Questioning and Critical Thinking

Socratic questioning and other critical thinking tools offer qualitative researchers exciting opportunities to diversify their understanding and use of questions. While there is an extensive literature on the uses of Socratic Questioning for pedagogical purposes, it is rarely applied to the thinking used to develop and carry out qualitative inquiry projects. For example, Paul and Elder (2007) offer six types of Socratic questions (see below), which can be used not only to illustrate the complex variety of questions available to us as qualitative researchers but also the various categories under which we can develop specific questions. Consider how these categories could be used to prompt the development of questions at different stages of a research project:

1. Questioning clarity: questions that assist with elaboration, illustration, exemplifiers
2. Questioning precision: questions that seek more details,



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- more specifics
3. Questioning accuracy: questions that assist with evaluating trustworthiness of claims
 4. Questioning relevance: questions that help ascertain reasonable connections and appropriate focus
 5. Questioning depth: questions that explore levels of simplicity and levels of complexity
 6. Questioning breadth: questions that examine from multiple points of view or frames of reference (paraphrased from Paul and Elder, 2007, p. 32).

Here are some examples of how these categories can be used to help aid our thinking about designing useful questions for qualitative inquiry projects.

Try It Out: Research Journal Exercise 1.1

Using Table 1.1 sketch out several questions for each stage of your qualitative research project using all six categories of questions for each stage.

In addition to Socratic questioning, there are other useful typologies of questions that can further assist qualitative researchers. One such typology can look at questions as a broad sweep across the process of research. These typologies are to serve as catalysts for your thinking about your research project and to allow the time to immerse yourself in the topic.

A Typology of Thematic Questions

Qualitative researchers can clarify their research projects by working through and thinking about each of the following:

The Concept or the Idea Question: This represents what concept the researcher might want to investigate further. For example, we



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TABLE 1.1 Six Categories of Questions Per Each Stage of Qualitative Research Project

<i>Research Project Stages</i>	<i>Clarity</i>	<i>Precision</i>	<i>Accuracy</i>	<i>Relevance</i>	<i>Depth</i>	<i>Breadth</i>
Purpose Statement and RQs						
Literature Review						
Data Collection (e.g., Interview Questions)						
Data Analysis						
Discussion and Implications of Findings						
Further Research						

might want to know: How do different people define friendship? What is bullying? How do teenagers define bullying?

The Learning Question: Once a concept is identified, we might want to ask: Where would I learn about this? In the above example, we would want to find out and identify how best to learn about friendship or bullying.

The Context Question: The context that frames the study needs to be identified. Do we want to learn about friendship in the context of teenagers, activities pursued by youth, or friendship among neighbors?

The Historical Question: How has this concept or idea changed over time? How was it practiced in the past? For example, cyber bullying did not occur before internet use. The use of the internet brought with it a different type of friendship and bullying. Friends do not need to stay in geographical proximity to be regarded as friends and friendship itself can be defined in a variety of ways since the advent of Facebook.



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The Setting Question: What is the setting in which we want to study the phenomenon or activity? Is there something we can learn from the place or setting? Why is this my choice of setting?

The Participant Question: Why am I choosing this particular set of people or places or activities? How can they advance my understanding of my research question?

The Values Question: How do my values play a role in the research?

The Value Question: Who will find this research valuable and why?

Use the above questions and try them out on your own research. Research Journal Exercise 1.2 gives you some suggestions and prompts for your research journal.

Try It Out: Research Journal Exercise 1.2

In your research journal write about the following:

- 1) What is the topic you are interested in?
- 2) How can you learn more about this topic?
- 3) Where can you find this phenomenon occurring?
- 4) What is the history of this topic? How has it changed over time?
- 5) Why engage this particular group of people in your study? What ties them together? Whom would you not consider to be part of your study and why? What are reasonable alternatives?
- 6) How does your background and identity (cultural, family, class, race, gender) predispose you towards viewing the phenomenon you are investigating and the participants? Does it predispose you to view them favorably or negatively?
- 7) What situations either make you comfortable or uncomfortable? Do you think you might encounter such situations? How will you deal with such circumstances?



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How Have Scholars Discussed Questions?

Questions have been discussed in connection with the purpose of the study or while formulating the problem for which research needs to be carried out. The purpose of qualitative research often takes the form of describing, exploring, and explaining phenomena being studied. Qualitative research questions often take the form of *what is this?* or *what is happening here?* and are more concerned with the process rather than the outcome. While questions are undoubtedly central to qualitative research, textbooks on qualitative research nevertheless tend to confine discussions on questions to sections on research design or data collection (see for example, Bogdan and Biklen, 2003; Creswell, 2013; Flick, 2009; Hatch, 2002; Maxwell, 2012). Other references to questions are usually placed throughout the text. What is missing is a comprehensive and focused discussion of questions in qualitative research and the tools to be able to formulate clear questions and to use questions as strategic devices.

Research questions cannot be confined to the beginning of the research process and are always evolving (Creswell, 2013). Scholars agree that questions can change during the process of research (Charmaz, 2006; Creswell, 2013) and that new questions are asked at different stages of research. The process of generating questions is critical to qualitative work during the research design, data collection, analysis, and writing processes, as well as for theoretical considerations. All these demand an ongoing reflexivity on the part of the researcher, a state of mind that seeks to “maintain the state of doubt and to carry on systematic and protracted inquiry” (John Dewey, 1910/1971, p. 3). Researchers (Burns and Grove, 1999; Creswell, 2013; Morse, 1994) distinguish between different approaches to qualitative research and point out the differences between research approaches and the types of



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questions asked in each research approach. They emphasize that the type of question asked depends on the paradigm or epistemology underlying each type of approach. For example, Morse (1994) explains that questions for a phenomenological study would differ from that of an ethnography or a grounded study. The distinctions between these approaches are elaborated in the second chapter of this book.

What Is Missing in Researching the “Gap”

Several scholars have pointed out that questions for research emerge from “gaps” in the existing literature. In formulating research questions in qualitative research, several issues and factors come into play. We read the literature, identify what is missing or mis-stated or even under-emphasized, and then formulate a question that links these “gaps” to our research interest. While this aspect of coming to research questions has been described in texts on methodology in a fairly procedural manner, it leaves out important factors such as the curiosity of the researcher, the unique way of thinking about and analyzing the problem that a researcher might have, and the intuitive thinking that accompanies the process. The biography of the researcher is missing in the descriptions of objectively examining the “gaps” in literature. We do not mean to suggest that researching gaps is not crucial; instead, we draw your attention to the factors that are usually obscured that provide the link between the researcher’s interest and the particular gap in the literature.

In qualitative research, questions represent possibilities and are integral to the process of understanding the worlds of participants’ lives and perspectives. They provide the occasion for the co-construction of knowledge. They offer the telling of stories rather than producing answers.



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Our intent is to stimulate the questioning of statements such as “the data revealed” or “the data show” that indicate data speaking for themselves and obscures the role and the responsibility of the methodologist.

In this chapter, we have outlined what we mean by critical approaches to questions and laid the foundation for the chapters to follow. In the following chapters, we elaborate on procedures for arriving at different types of questions during the qualitative research process as well as ways to critically approach such a process.

Any questions so far? :)