

## **Writing a Psychology Literature Review**

There are two main approaches to a literature review in psychology. One approach is to choose an area of research, read all the relevant studies, and organize them in a meaningful way. An example of an organizing theme is a conflict or controversy in the area, where you might first discuss the studies that support one side, then discuss the studies that support the other side. Another approach is to choose an organizing theme or a point that you want to make, then select your studies accordingly.

Regardless of how you decide to organize your literature review, it will have two purposes: (1) to thoroughly describe work done on a specific area of research and (2) to evaluate this work. Both the descriptive and evaluative elements are important parts of the review. You can't do one or the other. If you just describe past research without evaluating it, you are merely summarizing information without digesting it. If you just discuss recent theories in an area without describing the work done to test those theories, then your arguments lack supporting empirical evidence.

### **What to Evaluate**

Authors of literature reviews evaluate a body of literature by identifying relations, contradictions, gaps, and inconsistencies in the literature and by suggesting the next step needed to solve the research problem (APA Manual 2010, p. 10). A literature review may compare studies in terms of assumptions about the research question, experimental method, data analysis, and any conclusions drawn.

### **Literature Reviews versus Research Articles**

Literature reviews survey research done in a particular area. Although they also evaluate methods and results, their main emphasis is on knitting together theories and results from a number of studies to describe the "big picture" of a field of research.

Research articles, on the other hand, are empirical articles, specifically describing one or a few related studies. Research articles tend to focus on methods and results to document how a particular hypothesis was tested. The Introduction of a research article is like a condensed literature review that gives the rationale for the study that has been conducted.

Published literature reviews are called review articles. The emphasis in review articles is on interpretation. By surveying all of the key studies done in a certain research area, a review article interprets how each line of research supports or fails to support a theory. Review articles are valuable, not only because they cite all the important research in the area surveyed, but also because they compare and evaluate all the key theories in a particular area of research. Again, notice the companion goals of a literature review: to describe and to evaluate.

### **Steps in Developing a Literature Review**

Most literature reviews by students present the highlights of a research area and are not truly exhaustive. There is no strict rule, but a short literature review generally requires about 7-12 research articles and is about 10-15 pages long. There are three main steps: (1) select a research topic, (2) collect and read the relevant articles, and (3) write the review article. This straightforward-sounding process in fact requires quite a bit of work. Suitable topics must be selected with care and discrimination. Finding the right articles can be a challenge. Finally, once you have selected your articles, you must read them and understand their implications before you can begin to write. Each step is discussed in more detail below.

## SELECTING A TOPIC AND COLLECTING ARTICLES

Selecting a topic, not writing the paper, is the hardest part of writing a competent literature review. Some research topics are much easier to write about than others. A fruitful topic covers a well-defined and well-studied area of research, and selecting such a topic will make your job much easier and the resulting paper much more satisfying to read as well as to write.

Start early to select your topic and collect articles (not necessarily in that order). Don't underestimate the time and effort required before you can start writing. Plan to budget at least half of your time choosing and researching your topic, and the other half writing about it.

### Choose a Current, Well-studied, Specific Topic

*Choose a topic of current interest.* Your goal is to summarize and evaluate current findings of a line of research. Pick a research topic about which articles are continuing to be published. Avoid defunct or little-known areas of research. To find out what's "hot", browse through recent issues of APA journals, particularly *Psychological Bulletin*, which consists entirely of review articles. And don't forget that the topic should be personally interesting, not just of current interest in the scientific community.

*Choose a well-researched area.* An area that is well defined and well studied will give you more **lines of research** to choose from. A line of research is a series of studies by the same individual or laboratory. A line of research may be initiated by a professor working with a graduate student (e.g., Carter & Chen, 1988). Later studies may be conducted primarily by the graduate student (e.g., Chen & Carter, 1990), followed by studies done by the graduate-student-turned-professor and her or his students (Chen, Mulino, & Young, 1994). An area of major research interest will have several lines of research as different labs approach a theory in different ways.

*Narrow your topic.* The topic in a short review article has to be very narrow. A broad topic such as hypnosis, telepathy, or dreaming has literally thousands of articles on it, and you won't be able to adequately cover such a topic in a relatively short paper. It is far more satisfying, to both the writer and the reader, to restrict your topic and cover it in depth. Comprehensiveness and narrowness of topic go hand in hand.

DON'T: Pick a broad topic (e.g., language production in early childhood) and present an article on different aspects of it (e.g., one on syntax, one on semantics, one on individual differences), because your coverage of each area will be too superficial.

DO: Choose a narrower topic (e.g., production of passive constructions in English-speaking children ages 4-6 years) and explore in depth recent work done in this specific area.

Unless you're already familiar with a research area, you usually cannot preselect a narrow enough topic. Go to the library or start an online literature search with a general topic in mind, then scan the articles that you find within that subject area to identify lines of research.

*Write about what interests you.* Contrary to popular opinion, instructors like students to write about topics that they care about. If you're interested in the topic, you're likely to already know something about it, which will make it easier to gather information. As a result, you'll write a paper that is more fun to write and probably more fun to read, too.

### Library Research

*Do a preliminary search.* Visit the library or do an online literature search before you even decide on a topic. You may find several promising topics simply by looking for well-defined lines of research. The right topic may not be the one that sounds most intriguing at first. You will not know enough about potential topics to decide on one until you see what research is available. Look for well-defined research areas, then identify lines of research within those areas.

*Initially, consider several topics.* Don't get too attached to one topic before you see what research has been done.

*Search for helpful articles.* Some articles will contribute more than others to your understanding of a topic. Sometimes you can find a pivotal article that can serve as a foundation for your paper. No one characteristic identifies a pivotal

article. It may be exceptionally well written, contain particularly valuable citations, or clarify relationships between different but related lines of research. Try to find at least one article that you find really helpful before finalizing your topic. Two good sources of such articles in psychology are:

- *Psychological Bulletin*, mentioned above
- *Current Directions in Psychological Science*, published by the American Psychological Society, which has very general, short articles written by people who have published a lot in specific areas.

Older review articles (written five or ten years ago) that you can update in your own review may help you to understand the history of a research area. To follow up on an older review article, use online searches to find out:

- whether authors of articles cited in an early review article have continued to do research in the area (e.g., PsycInfo)
- what recent studies have cited the authors from in the early review (e.g., Social Sciences Citation Index, or SSCI).

*Find readable articles.* Some areas of research will be harder to understand than others. Scan the research articles in the topic areas you are considering to decide on the readability of research in those areas.

*Identify accessible articles.* Avoid choosing a line of research in which all the articles have been published in journals found only in distant libraries ("distant" could mean Berkeley, Tacoma, or Health Sciences, depending on your mobility and transportation). NEVER assume that you can get articles through Inter-library Loan in time for a quarterly research project.

*Online research.* Skillful use of online databases, such as PsycInfo, SSCI, or Medline, to narrow your search. Online search tools are rapidly changing. Consult your instructor or reference librarian if you're not sure how to conduct an online search.

## READING THE ARTICLES

Reading research articles is different from other types of reading. It tends to be slow and sometimes frustrating if you are not familiar with the topic and the language of the field. A good understanding of the research literature is a necessary prerequisite for writing a competent review article yourself. Understanding the literature requires you to read, re-read, and mentally digest complex ideas.

### How to Proceed

*Read the easier articles first.* Difficult, condensed, or poorly written articles will be easier to understand if you read them last.

*Scan the article.* Identify (1) the research question, (2) specific hypotheses, (3) the findings, and (4) how the findings were interpreted. It may help to use a summary sheet to list these key points for each article.

For the initial scan, don't read the articles straight through or you'll get bogged down in detail. Read each section on its own until you understand it. First, look at just the Abstract to get an overview of the study. How you proceed from here is entirely up to you. You may want to read the Introduction to get a quick picture of the background and hypotheses, then skip to the tables and figures in the Results, then scan the Discussion to get a general idea of how the results were reconciled to the hypotheses.

Jot down the main conclusion of each article, either on your summary sheet or next to the abstract, so that you can see it at a glance. This quick summary will later help you to incorporate each article into your paper.

*Read for depth.* After you have an idea of the main ideas in each article, identify the precise methods used and the theories tested. An in-depth understanding is necessary for comparing the work of different researchers.

A careful reading will reveal subtle (and sometimes not-so-subtle) differences in theoretical outlook. For example, you should notice some overlap among articles in the work cited, but how do different authors cite the same work? One author (a supporter of an earlier author's work) may explain the method of the earlier study, delineate its results, and cite it repeatedly; a less enthusiastic author may simply include the earlier study as part of a long list of previous studies. Use such clues to discern differences in experimenter outlook. This exercise should be the most interesting part of your research, and your ability to write about them can enliven your literature review.

*Allow enough time.* Before you can write about research, you have to evaluate it, which means that you first have to understand it. You have to digest it in order to understand it, which requires that you read it, thoroughly. This takes more time than many students realize.

## WRITING THE LITERATURE REVIEW

You're now ready for the last step: writing your review.

*Number of articles reviewed.* Published review articles may cite more than 100 studies. Fortunately, most instructors require fewer than 20 (5-15 is typical). However, writing a less than exhaustive literature review means that student authors must be discriminating in choosing the most representative articles.

*Length.* Student papers are typically 8-20 pages, double-spaced, but standards vary. Check with your instructor for course guidelines.

*Organization.* Remember, you either began your literature review process with some theme or point that you wanted to emphasize, or you discovered some sort of theme as you read your articles. Either way, the organization of your paper should highlight the main theme. Although no two reviews look exactly the same (at least, they shouldn't!), they tend to be organized something like this:

- Introduce research question (what it is, why it is worth examining)
- Narrow research question to the studies discussed.
- Briefly outline the organization of the paper (for example, if there is a major controversy in this literature, briefly describe it and state that you will present research supporting first one side, then the other. Or, if three methodologies have been used to address the question, briefly describe them and then state that you will compare the results obtained by the three methods).
- Describe studies in detail
- Compare and evaluate studies
- Discuss implications of studies (your judgment of what the studies show, and where to go from here)

It is common (and often better) to combine the description and evaluation sections. If you do combine them, don't forget to evaluate them.

*Headings.* Headings delineate major sections to help show the organization of the paper. When you're writing your draft, headings also pinpoint organizational problems. They're useful only if they are specific. Vague article titles and headings are common weaknesses of student papers -- and one of the easiest weaknesses to correct.

*How to Proceed:*

1. Make yourself comfortable. Give yourself whatever is an optimal environment for you.
2. When writing the introduction, start off with a research question (e.g., cognitive abilities of infants), progressively narrow it (category formation in infants), and finally state the specific lines of research you will be discussing

(eight recent articles on infant discrimination of basic-level categories for concrete objects). You want to establish a brisk but even pace when moving from a broad topic to a specific topic, avoiding sudden jumps that will lose your reader.

3. Describe each article (or each line of research, depending on what makes sense), then compare them. Comparisons are essential; descriptions alone are not illuminating. What do you compare? The possibilities include: research assumptions, research theories tested, hypotheses stated, research designs used, variables selected (independent and dependent), equipment used, instructions given, results obtained, interpretation of results, researcher speculations about future studies. Your job is to determine which factors are relevant. All studies have strengths and weaknesses. Finding them will help you make meaningful comparisons.

*Hint:* If you're having trouble here, it probably means that you don't thoroughly understand the articles. Go back and look at them again.

4. Based on your comparisons, **evaluate** the work done in the area you are researching. State its strengths, weaknesses, and what remains to be done. Your assertions must be well supported by evidence. Then recommend future studies (specify how future work would add to that already done).

*Don't start writing too early.* Budget plenty of time for research and reading. If you start to write too soon, you'll tend to "freeze" or to write in circles because you don't yet have enough to say.

*Leave time for breaks.* Leave time to step away (you'll have a fresh perspective when you return), to revise, and if possible to give your paper to others to read. A complex paper like a literature review will require at least three drafts.

*Use specific language and support your arguments with concrete examples.* Avoid vague references such as "this" (e.g., "this illustrates" should be "this experiment illustrates"). Sentences that start with "I feel" often signal unsupported statements and should be revised or deleted.

*Paraphrase, don't quote.* In scientific writing, paraphrasing an author's ideas is more common than using direct quotes. For information on how to document the source of a paraphrase or quote, see the next section, "APA Citation Format" or the APA Manual (2010).

*Evaluate what you report.* Your goal is to synthesize the research, not just describe it. Many writers find it easy to give detailed descriptions but balk at evaluating the work of established scientists. Do it anyway. Evaluation requires more thought and entails more risk, but without it, your paper is little more than a book report.

*Avoid plagiarism.* Plagiarism is easy to avoid if you give credit where credit is due. Whenever you cite someone else's ideas or use their language, give the name of the author and the year of publication (see next section). Using old review articles as a starting point for your paper is not plagiarism, as long as you don't present someone else's ideas as your own.

## APA CITATION FORMAT

For a literature review, don't use the headings found in published empirical articles (Introduction, Method, Results, and Discussion). Instead, use conceptual headings to delineate different paper sections. For example, a review paper on the topic of whether facial expressions are universally understood across cultures might include headings such as *Studies Conducted in Western Cultures* and *Studies Conducted in Non-Western Cultures*. Dividing the paper into different sections with headings makes the information more organized and accessible to the reader.

The following information is taken from the handout "APA Citations: Condensed Guide" available at: <http://web.psych.washington.edu/writingcenter/writingguides.html>

## **I. REFERENCE SECTION**

Double-space references. Do not indent first line of a source; do indent all following lines (known as a *hanging indent*; APA Publication Manual, 6<sup>th</sup> Ed.). Use only one space after periods, not two. The 6th Edition of the APA Publication Manual requires extra references information related to finding that reference using online tools like PsychInfo and journal websites.

### **A. Journal article by one author with doi (digital object identifier):**

Thompson, L. (1990). Negotiation behavior and outcomes: Empirical evidence and theoretical issues. *Psychological Bulletin*, 108, 515-532. doi:10.1037/0033-2909.108.3.515

### **B. Journal article by two authors when reference was retrieved from a hard-copy print version:**

Loesche, L. S., & Tsai, S. D. (1998). Beneficial effects of caffeine on writing style. *Human Behaviour*, 5, 1-43.

### **C. Journal article by three to seven authors and referenced when doi is not available and the reference was retrieved online:**

Saywitz, K. J., Mannarino, A. P., Berliner, L., & Cohen, J. A. (2000). Treatment for sexually abused children and adolescents. *American Psychologist*, 55, 1040-1049. Retrieved from <http://www.apa.org/journals/amp/>

### **D. Journal article, more than seven authors with doi, as an advance online publication (i.e., journal has not gone to print yet, but .pdf of article is already available online):**

Wolchik, S. A., West, S. G., Sandler, I. N., Tein, J., Coatsworth, D., Lengua, L., . . . Griffin, W. A. (2000). An experimental evaluation of theory-based mother and mother-child programs for children of divorce. *Journal of Consulting and Clinical Psychology*, 68, 843-856. Advance online publication. doi: 10.1037//0022-006X.68.5.843

### **E. Book chapter:**

Booth, D. A. (1980). Conditioned reactions in motivation. In F. M. Toates & T. R. Hall (Eds.), *Analysis of motivational processes* (pp. 77-102). New York: Academic Press.

### **F. Book:**

Toates, F. M., & Hall, T. R. (Eds.). (1980). *Analysis of motivational processes*. New York: Academic Press.

**Note:** If more than one city is given for the publisher of a book, name the most convenient city for locating the book (e.g., Academic Press is published in New York and London; cite only New York).

## 2. CITATIONS IN TEXT

### A. First time cited

- **One author:**

Thompson (1990) reviewed research on negotiation and found that it spans many disciplines.

Negotiation research spans many disciplines (Thompson, 1990).

This effect has been widely studied (Abbott, 1991; Kelso, 1998; Martini, 1992).

*Note: With multiple references (see example 3 above), cite authors in alphabetical order.*

- **Two to five authors** (use ‘&’ within parentheses; use ‘and’ outside parentheses):

Becker and Seligman's (1996) findings contradicted this result.

This result was later contradicted (Becker & Seligman, 1996).

Medvec, Madey, and Gilovich (1995) examined the influence of "what might have been" thoughts on satisfaction among a group of Olympic medalists.

Research on Olympic medalists has shown that bronze medalists are more satisfied than silver medalists (Medvec, Madey, & Gilovich, 1995).

- **Six or more authors**

(Cite only the last name of the first author, followed by "et al." and the year of publication):

Barakat et al. (1995) attempted to . . .

Recent research (Barakat et al., 1995) has found that . . .

*Note: "et al." is from the Latin "et alia", which means "and others". "Et" is a whole word (no period); "al." is an abbreviation.*

### B. Citing the same article within the same paragraph

*Note: The guidelines below refer only to correct citation of sources in the text (see examples). However, when you cite a source in parentheses at the end of a sentence, always include both author and year.*

If you cite a paper in the text more than once in a single paragraph, omit the year in subsequent citations, unless you are citing more than one work by the same author. To cite a reference by three or more authors more than once in the same paragraph, use only the first author's last name followed by "et al."

*Note: If you have multiple sources with three or more authors that have the same first author, include additional names to distinguish the sources from one another. For example:*

“Jones, Smith, Cleaver, et al. found that...”

“In contrast, Jones, Smith, Simpson, et al. found...”

### C. Citing the same article in subsequent paragraphs

- **One or two authors:** Use the same format as for the first citation.
- **Three or more authors:** Include only the first author's last name followed by "et al." and the year of publication:

Medvec et al. (1995) examined the influence of "what might have been" thoughts on satisfaction among Olympic medalists.

Research on satisfaction among Olympic medalists has shown that bronze medalists are more satisfied than silver medalists (Medvic et al., 1995).

### D. Secondary sources

Use sparingly and only when necessary. Suppose that you want to refer to a 1989 study by Nguyen and Lee, which you read about in a 1996 study by Becker and Seligman. Use one of the following citations:

Nguyen and Lee (as cited in Becker & Seligman, 1996) found the opposite effect in two-year-olds.

The opposite effect was observed in two-year-olds (Nguyen & Lee, as cited in Becker & Seligman, 1996).

In the References, list only Becker and Seligman (the source that you read).

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Reference:

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6<sup>th</sup> ed.).

Washington, D.C.: American Psychological Association.