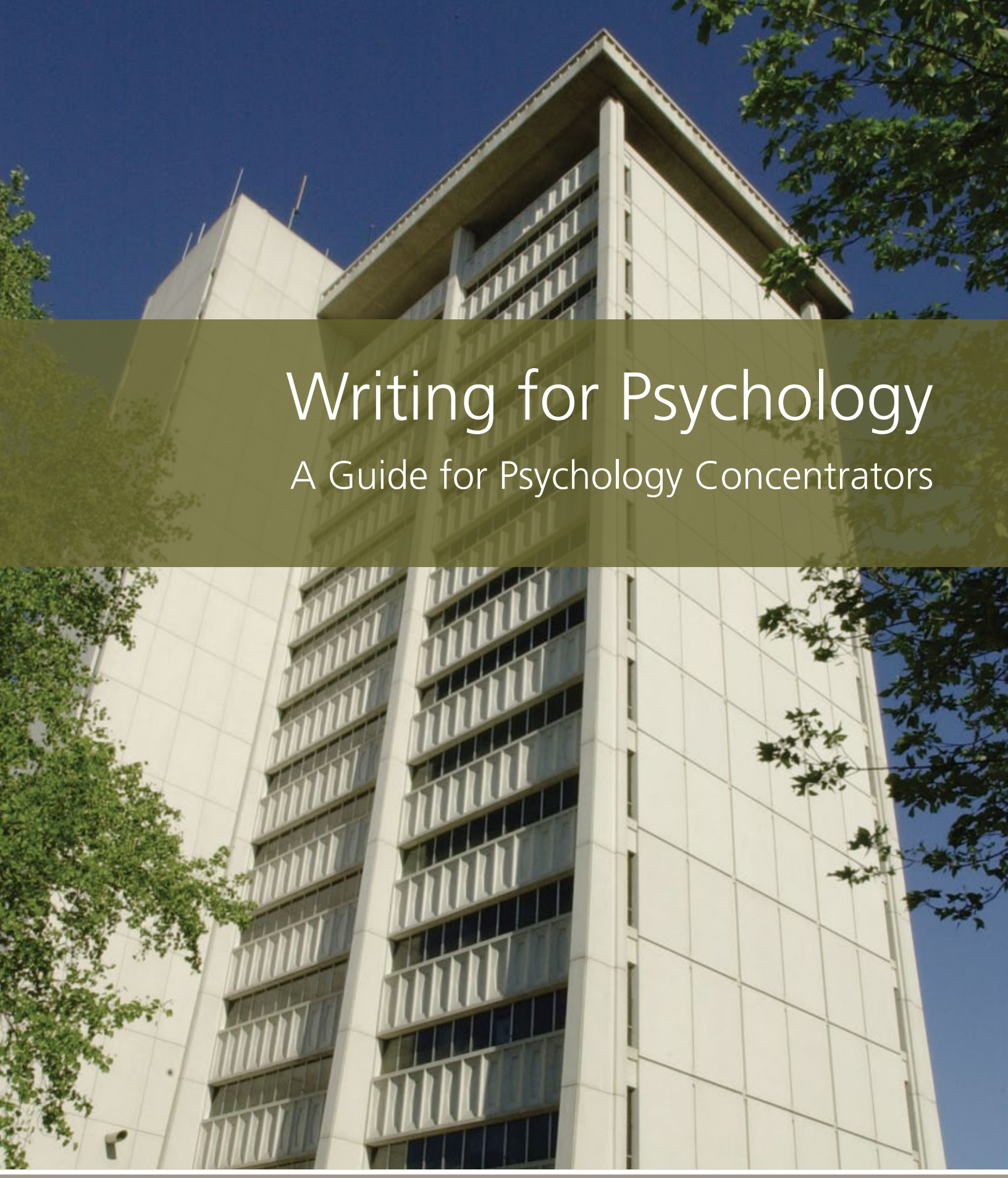

Writing for Psychology

A Guide for Psychology Concentrators

Department of Psychology
Faculty of Arts and Sciences
Harvard University

HARVARD
COLLEGE

Writing for Psychology

A Guide for Psychology Concentrators

by
Shelley H. Carson
Jeanne Fama
Kate Clancy
Jeffrey Ebert
Adrienne Tierney

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introduction

Writing for psychology incorporates many of the organizational elements you learned in Expository Writing. In Expos, you were taught general academic guidelines for formulating a thesis, providing a motive for the thesis, supporting this thesis with convincing evidence, and anticipating objections from readers. You were also taught the principles basic to scholarly writing across the curriculum. These critical thinking/writing skills, as well as the ability to form and support an argument, create a foundation on which you will build the more specialized skills required for psychological writing.

Writing in the field of psychology (like writing in any specialized field) differs in several respects from the general academic writing style you learned in Expos. Psychological writing is a form of scientific reporting that is based on American Psychological Association publication style, widely recognized as a standard for scientific writing. The format employed in psychological writing (APA style, discussed below) reflects the principles of **clarity**, **concise wording**, and **accuracy** and facilitates the rapid and logical flow of information from author to reader. Thus, scientific writing values prose that is more straightforward, objective, and less reflective than what you may be used to. In the beginning, you may feel that APA style is dry and colorless, and that it stifles your creativity. However, after a bit of experience, you will find that the guidelines delineated by APA style will help you to write clear, informative, interesting papers. Creativity in psychology tends to come from the ideas behind the writing, not the writing itself.

This booklet is designed to acquaint you with the basic principles of psychological writing and to help you avoid pitfalls that beginning writers in the field often encounter. First, in How to Read Sources Critically, we will discuss why it is important to for you to be a discerning reader of the work of other psychologists, and we will present guidelines to help you read critically. In Writing a Conceptually Coherent Paper, we will go through, step by step, the process of writing an essay or term paper in psychology. The section on Academic Honesty in Writing reinforces information you have previously received about using sources responsibly (and avoiding plagiarism). The Do's and Don'ts for Effective Writing in Psychology include examples of common mistakes made by beginning writers in the field. Finally, the APA Format Guidelines summarizes some of the basic elements of APA style.

For more complete information on science writing, psychological writing, and APA style, we recommend the *Publication Manual of the American Psychological Association, 6th Edition* (2009) and the *APA Style Guide to Electronic References*, as well as the other excellent references listed at the end of this booklet.

How to Read Sources Critically

chapter one

The guidelines that follow are based on the wisdom and advice of numerous researchers, writers, teachers, and students who have helped us understand what makes a good psychology paper. Much of the information that follows is explained in greater detail by Kosslyn and Rosenberg (2001) and Maher (1978). You are encouraged to read both sources directly.

The first step in learning to write well in field of psychology is to learn to read sources critically. There are at least two reasons for this:

1. In order to write well, you must be well informed about the subject matter.
2. By training yourself to spot strengths and weaknesses in others' theses, arguments, methodologies and conclusions, you will become more aware of strengths and weaknesses in your own work. This awareness should help you to become a critical reader of your own writing.

Researchers write review papers, theoretical papers, and reports of empirical studies in order to advance a point of view. You, as a reader, are more likely to adopt a writer's point of view if the writer backs up this point of view with solid evidence. As a critical reader of psychological literature, you must consider both the *quality* and the *quantity* of the evidence that a writer uses to support his or her argument. You will also need to consider the following:

- implicit or explicit author bias (the author's agenda)
- soundness of the methodology
- appropriateness of the statistical analyses
- whether the strength of the conclusions matches the strength of the evidence

This section of the guide will teach you to make these determinations about the quality of evidence, which will help you to read sources critically and to write your own papers persuasively.

I. Consider Whether the Information in the Source is *Evidence*

What is viewed as evidence in one academic discipline is not always viewed as evidence in others. In some fields in the humanities or social sciences, logic and rhetoric are forms of evidence. *In the field of psychology, however, evidence is in the form of empirical research results: data becomes evidence once it is evaluated in the context of a hypothesis.* Empirical data arise from observation or experimentation under controlled conditions; in contrast, opinions are personally-held convictions that may or may not be based on controlled observations, and may even contradict well-gathered data.

Example: In many scientific fields, the opinion held by the majority has been that men are more attracted to science than women, and that this explains not only the larger numbers of men in science, but also their greater success. This *opinion* was so widely held that for many years little was done in any scientific institution to improve access to science for women. However, in the last decade several *empirical studies* have demonstrated that bias against women explains a significant portion of the difficulty women have in succeeding in science and that blinding fellowship committees and article reviewers leads to better representation of women in science. Wenneras and Wold (1997) found that men were regarded as more competent than women in a funding competition, even when their objectively-measured productivity was identical. More recently, Budden et al. (2008) showed that double-blinding the review of articles for publication in the journal *Behavioral Ecology* (neither reviewer nor reviewee know the other's identity) led to a significant increase in the publication of articles where the first author was female. These results do not completely condemn the opinion that men are better equipped or are more attracted to science as a profession. But they provide positive *evidence* in support of the argument that bias against women has played some role in their underrepresentation. The difference between opinion and empirical data demonstrated by this example is that while many people may have had this opinion about women in science, only the empirical studies provide evidence on the issue. Empirical studies go beyond the conjecture of opinion—as informed as that opinion may be—and provides data that serve as evidence.

In the field of psychology, evidence consists of empirical research results rather than quotations and opinions of scholars.

It is perfectly okay to consider the opinion of an author as well as the opinions of other writers cited by that author (secondary sources). However, remember that opinions *do not* constitute evidence.

II. Consider the *Quantity* of Evidence:

In addition to considering the type of evidence a writer uses, you should consider the *amount* of evidence that supports the writer's argument. In psychology (as in all science), it is common to find empirical studies that report contradictory findings. This is why researchers place so much emphasis on the replication of results. Multiple data points (i.e., converging evidence from multiple studies or multiple measures) with the same results are more convincing than a single observation. An author may present contradictory findings, but his or her conclusions should be supported by the preponderance of data presented.

In psychological writing, the opinions of authors *do not* constitute evidence.

Example: In 1994, psychologists D. Bem and C. Honorton conducted and analyzed eleven studies on extrasensory perception (ESP). They used a method called the ganzfeld procedure, in which two participants sit in separate rooms and try to convey information to each other. Bem and Honorton (1994) concluded that participants were able to do this at greater rates than chance, thus supporting the concept of ESP. In a later analysis of 30 ganzfeld experiments conducted in seven different labs, other researchers (Milton & Wiseman, 1999) concluded that participants were not able to communicate telepathically at rates greater than chance. In the absence of methodological concerns about the studies Milton

and Wiseman analyzed, it would be reasonable to conclude that preponderance of the evidence from published studies did not support the demonstration of ESP. Therefore, even though Bem and Honorton (1994) found evidence of ESP in one study, one cannot conclude that ESP exists on the basis of one study if many other studies found evidence against ESP. In evaluating evidence, you must examine whether the finding has been replicated across more than one study.

III. Consider the *Quality* of Evidence — Evidence Presented in Review Articles and Empirical Journal Articles

In addition to considering the quantity of evidence that an author cites in support of his or her conclusion, you must consider the *quality* of that evidence. As readers of psychological literature, you will often need to evaluate the quality of the evidence presented to you in review articles and empirical journal articles. Each type of article requires a different discerning eye; review articles require that you assess the authors' intentions and the way they use other empirical articles to support their argument, whereas empirical articles require that you assess hypothesis, methodology, conclusions and other issues more directly.

A. Review Articles

An author writes a review article to provide a summary of the studies that have been done in a given area and to advance a thesis/conclusion based on his or her reading of this literature (e.g. pointing out limitations, establishing the state of a field, etc). To support a thesis in a review article, the author must substantiate it with evidence (i.e., data from the pertinent studies reviewed). Otherwise, his or her thesis is an unsupported opinion. Ideally, an author should specify the type of evidence that would support the conclusion as if it were a logic problem (for example: If thesis **x** is true, then the available research should show that **a**, **b**, and **c** are true, but **d** is false). If the available research proves inconclusive with respect to **a**, **b**, **c**, or **d**, the researcher's thesis is only partially substantiated, and the conclusions must be tentative. If a conclusion or any of its premises are contradicted by the extant data, and the author of the review has not presented evidence to question these data, the conclusion is likely ill-conceived and inaccurate, and you should regard it as such.

Some review articles venture into theoretical territory by presenting a framework that integrates previous research and makes predictions for future research. In this instance the author will also explain the logic of the problem and the expected outcomes of necessary studies.

B. Empirical Studies

An author writes an empirical article to present data that speak to a particular research question. Typically, the author will present evidence that either supports or challenges a specific hypothesis about the relationship between two or more variables.. Some questions to ask yourself when reading an empirical article are:

1. Is the author's research question/hypothesis logical?
2. Do the methods adequately address the research question posed?

When reading an empirical article, ask yourself: Does the research hypothesis follow logically from the results of previous studies, or is the author making assumptions?

3. Do the data support the author's specific hypothesis?
4. Are the author's conclusions supported by the data he or she presents?
5. Can you think of OTHER possible explanations for the results?

1. Research Question/Hypothesis

Empirical articles begin with a brief introduction that provides the conceptual basis of the study. The context provided is often a review of research studies that have been conducted on the topic. The studies cited should be directly relevant to the research question/hypothesis being addressed in the author's study. When reading an empirical article, you should consider the manner in which the researcher derived the research question or specific hypothesis. Does the research question/hypothesis really follow directly and logically from the results of previous studies, or is the author making assumptions, jumping to conclusions, or misinterpreting previous studies? If the researcher is testing a specific hypothesis, then he or she should be able to clearly articulate both that hypothesis and an alternative hypothesis in the following form:

" If Hypothesis A is true, then the study results should show B"

" If Hypothesis A is not true, then study results should show C"

If the hypothesis cannot be put into the above format, either by the researcher or the reader (and you will read many published articles that do not meet this ideal!), then the hypothesis is logically murky. As a result, the study methods will likely be inadequate, and the conclusions that can be drawn will likely be limited.

When reading an empirical article, ask yourself: Do the methods employed in the research actually test the hypothesis the author presented?

Example: One team of researchers hypothesized that aggression and testosterone would increase in men exposed to a violent object (Klinesmith et al., 2006). The alternate hypothesis was that exposure to a violent object would not affect aggressive behavior or testosterone. The researchers measured the testosterone of thirty men before and after playing with either a realistic toy gun or a nonviolent game. To test aggressive behavior, the subjects were asked to add hot sauce to some water that the next subject would drink as part of a taste sensitivity test; the addition of more hot sauce was a proxy for more aggressive behavior. Both testosterone and the proxy for aggressive behavior increased significantly in those men who played with the gun (Klinesmith et al., 2006), which appears to support the researchers' original hypothesis. This is an example where the authors did indeed present both their preferred hypothesis and acknowledged an alternate hypothesis. In this instance the alternative hypothesis is simply the opposite of the preferred hypothesis—that testosterone would not have an effect. However, at times an alternative hypothesis is not simply the opposite hypothesis but reflects a competing hypothesis that involves a different set of results, not just a lack of an effect.

After ascertaining whether a hypothesis is conceptually sound, you should consider whether the author has done a good job designing an experiment to test the hypothesis. The study design is presented in the Method section of an empirical article.

2. Method

The Method section of an empirical article describes exactly how the researcher carried

out the study. Many students — indeed, many long-time scholars — are tempted to skip reading the Method section; often assuming that nothing useful will be gleaned from this section, or that reading it will be tedious. However, just because a research question or a specific hypothesis is conceptually and logically sound, you should not assume that the methods used to test the hypothesis were sound. One way you can better understand an empirical article's methods is to give them a cursory look on the first read-through of the article, then go back more meticulously once you have seen the authors' discussion and conclusions.

When trying to understand the methods and how they fit the hypotheses being tested, ask yourself:

- "If Hypothesis A is true, then is B the only possible result? If A is true, are any other results possible?"
- "If Hypothesis A is NOT true, then is C the only possible result?"
- "If B could result from factors other than those specified by Hypothesis A, has the researcher included appropriate methods to control for these other factors?"

When reading the Method section, you should consider whether the following methods are appropriate to answer the question posed by the researcher:

- sample of participants (gender, ethnicity, education, clinical status, etc.)
- materials (scales, questionnaires, scenarios written for the study, etc.)
- apparatus (computer test batteries, EEG, neuroimaging, etc.)
- procedures (what exactly the participants did…and in what order)

a. Experimental Group Participants. If a researcher is interested in drawing conclusions about a population, he or she must test a sample group from that population (i.e., an experimental group). Always ask yourself: Are the type of people (or animals) who are participating in the researcher's study the types of people (or animals) about whom he or she is interested in drawing general conclusions? Or, alternatively, is the study sample limited in some way?

> **Example**: In the above example of men, aggression, and testosterone, clearly the researchers needed to conduct a study of men. The extent to which a researcher can generalize from the behaviors of the men who participate in a study to men in general depends upon the make-up of the researchers' sample. In this case, Klinesmith et al. (2006) used a sample group limited at least by age and educational status — they were 18-22 year old male college students — and also possibly by race and class. The question is whether these limits on the sample population limit generalizations to men as a whole. Though the only way to truly answer this question is to repeat this study on more populations, perhaps it could be argued that age and educational status should not affect the particular variables studied. These are determinations you get to make as a critical reader of psychology.

b. Controls (Participants or Tasks). In order to test a hypothesis about the effect of a particular variable (i.e., independent variable), one must try to isolate the effects of that variable. To do this, a researcher must design a study that manipulates the inde-

pendent variable while keeping everything else constant. Only then can a researcher truly be confident that his or her study results are directly related to the manipulation of the independent variable. Often, however, it is not possible to keep "everything else" constant and more than one variable is manipulated at the same time. When this occurs, all is not lost if the researcher includes appropriate controls. A study design may require a control group, control tasks (or conditions in a task), or both.

Example: In their study of violent objects and aggression, Klinesmith et al. (2006) knew they could not simply measure testosterone and aggression when their subjects played with a gun; they needed to have a control group do something similar but nonviolent and have their testosterone and aggression measured as well. Thus, they had half the subjects play the game "Mouse Trap" as the control task, and the other half of the subjects played with the realistic, but toy gun. The researchers might also have considered studying responses to guns in a group of women, but as sex differences in the responsiveness of testosterone have been well studied, it was probably safe for them to keep their sample to men only. This is an example of work where a control task was an important component of the empirical article.

c. Confounds. In addition to considering the study procedures and the sample characteristics, you should consider factors not discussed in the article that may have influenced the results. In particular, you should ask whether there were any confounds, factors correlated with both the independent and dependent variables, that might explain their relationship.

When reading a psychological report, you should consider factors not discussed in the article that may nevertheless influence the results.

Example: Klinesmith et al.'s (2006) hypothesis was that mere exposure to a violent object would increase aggressive behavior, but there are many differences between playing with a gun and playing with Mouse Trap besides the gun's status as a violent object. To take just one: Perhaps Mouse Trap is more fun and engaging than a gun, and thus leaves people in a better mood. Because mood can affect aggressive behavior, mood may have been a confound in the study design. To rule out this alternative explanation—that those in the gun condition were more aggressive because they were in a worse mood, not because they had handled a violent object, per se—the researchers could have included a measure of mood and statistically controlled for any differences in mood between the two conditions to see if the difference in aggression remained significant.

Thus, when reading an empirical article, you must make sure to ask yourself whether the researcher has done a good job of setting up the study so that the effects of the independent variable are isolated. Only then can a researcher be confident that if two groups differ, they do so as a result of the independent variables, not as a result of confounding variable. That is, "if B occurs," one can be confident that "it is because hypothesis A is correct." The types of factors that can confound study results will differ depending on the kind of independent variable(s) a researcher is examining. For experiments, in which the independent variable is manipulated, common confounds include participants' mood, interest level, and fatigue. In correlational studies, common confounds include gender, age, socioeconomic status, and IQ.

3. Results

The Results section is the place where researchers present the study results. Because the Results section is usually filled with statistics, it can appear intimidating. Resist the urge to skip over this section, though again, it may help to read the discussion section first, then return to the results section. Even those without any knowledge of statistics can garner important information from reading the results section. In this section you will find such information as group averages, percentages, data tables, and figures. Take the time to review this information and consider how it bears on the researcher's question and/or whether it appears to support the researcher's hypothesis. In the discussion section, the researcher will tell you whether he or she believes the results support the hypothesis, but you should form your own opinions of the data.

If you have not yet taken statistics, you will not be able to understand all that is presented in a Results section. This is okay to start, but the more you can educate yourself about statistical methods the savvier a reader of psychological literature you will become. In the beginning, it is helpful to know two things: that correlation does not equal causation, and the that a lower *p*-value indicates a lower probability that a relationship between two variables was detected by chance.

Note on correlation vs causation: After reading that a researcher has found a significant relationship between two variables, you may be tempted to conclude that the independent variable causes changes or differences in the dependent variable. However, you should resist this temptation. Much of psychology research deals with correlations between measures, but correlation doesn't necessarily mean causation, even though causation is accompanied by correlation.

When reading a research article, be sure to distinguish between the empirical results and the researcher's interpretations of them.

> **Example**: Klinesmith et al. (2006) showed that aggressive behavior and testosterone increased when male college students played with a gun. Here, two variables — aggressive behavior and testosterone — increased with exposure to a violent item. Did the gun cause increases in both aggressive behavior and testosterone, which were unrelated to each other? Did the gun **cause** an increase in testosterone, which then caused an increase in aggressive behavior? Or, did the gun cause an increase in aggressive behavior, which then caused an increase in testosterone? This study is unable to resolve the correlation versus causation issue, and thus only a relationship between these variables testosterone and aggression can be reported, not cause and effect.

Note on p values: When a relationship is observed by a researcher, it means one of two things: either (1) the effect is a "real" effect that you would observe time and time again if you repeated the study, or (2) the effect is a fluke, merely the result of chance, and would not be observed if you repeated the study. A researcher uses "inferential" statistics to ascertain whether an observed effect is real. Specifically, with the use of inferential statistics, a researcher calculates the probability that an observed effect is due to chance. This probability that a given effect is merely due to chance is presented as a p-value, expressed in the form $p = .xxx$ (or $p < .xxx$). According to statistical theory, the smaller the *p*-value, the less likely it is that an observed effect is due to chance. Usually, when $p < .05$, researchers feel relatively confident that an effect is real, and not the result of a fluke. Usually, results associated with *ps* $< .05$ are called "significant" results. "Significance" doesn't mean that the result is necessarily conceptually or pragmatically important (that depends on how novel, big, or relevant to real-world problems the effect is), but it does mean that the result should be taken seriously in the sense that it is probably detecting

something real and replicable. That said, the only way to be really confident that your effect is "real" is to conduct the study again and again, and see whether the result shows up again and again.

Example: The results of Klinesmith et al (2006) were statistically significant, yet they were not able to parse out causation of the variables observed. Future research with a study design that can test the mechanisms behind the relationships of these variables may get at causation, and repeated studies will help determine whether the relationships observed were "real."

4. Discussion

The Discussion section is where the researcher interprets the results. The researcher not only must explain how the results bear on the research question being asked (or support or challenge any specific hypotheses that were made), but also should offer tentative explanations for unexpected results. Because the Discussion section is mainly interpretive, it is where the authors explain their reasoning behind the inferences and conclusions they make based on their results. Much of actual empirical work requires simplification in order to operationalize and isolate variables, but the Discussion section is where the researchers return to the broader concepts and make conclusions about the relationships among these concepts. Read the Discussion section carefully. Consider all the author has to say, but continue to ask yourself: Do these results really support the researcher's conclusions? Ask yourself: Is the author sticking closely to the facts (i.e., the data) or is he or she jumping to conclusions, making assumptions, or viewing her own speculation as fact when it is really opinion? Be sure to distinguish between the empirical results and the researcher's interpretations of them. When attempting to distinguish between the two, bear in mind the hypothesis, the study methods, the actual data, and all limitations you noted and their implications.

Example: In our final look at the study of guns, aggression and testosterone, it's important to note that in addition to testing increases in aggressive behavior and testosterone with exposure to a gun, the authors of the study also hypothesized that testosterone mediates the relationship between exposure to violence and aggression (Klinesmith et al. 2006). That is, exposure to violence causes an increase in testosterone, which in turn causes an increase in aggressive behavior. As evidence for this hypothesis, they pointed to results showing that guns and testosterone were correlated, guns and aggression were correlated, and testosterone and aggression were correlated. But is this the correct interpretation of the results? If exposure to a gun was correlated with both testosterone and aggression, it is likely that testosterone and aggression would be correlated with each other, and this correlation would not imply that testosterone caused an increase in aggression (in fact, the reverse might be true). Familiarizing yourself with the statistics involved will help you to determine whether the authors interpreted their results appropriately.

Writing a Conceptually Coherent Paper

chapter two

In Expos, you were directed to use a number of basic elements in the construction of your essay: presenting an arguable *thesis* and the use of evidence, situating on a thesis in terms of a question or problem, *analysis*, *structure, transitions, orienting*, and *key terms*. You also had to write pre-drafts, drafts and revisions of your papers. Although most psychology courses will not assign pre-drafts and drafts, it is essential that you do similar kinds of prep work before writing the final version of any psychology essay: freewrites, literature searches, annotated bibliographies, outlines, and drafts are still essential to putting together a piece of writing that is coherent and concise. All good researchers in psychology utilize at least some of these prewriting exercises, as well as all of the elements of the essay you learned in Expos.

I. Before You Begin to Write: Reviewing the Literature and Generating a Thesis Statement

Generating a *thesis statement* for the psychology essay is similar in many ways to generating a *thesis* for an Expos paper. Although the type of evidence required in Expos essays often differs from that required in psychology essays, you must rely on evidence when generating your thesis for either type of writing.

In some cases, you will have a thesis idea before you begin your review of the literature; in other cases, reviewing the literature will suggest a thesis statement to you. It can be great to have tentative ideas about a topic, because they can drive your motive or help direct your literature searches. But remember not to stop there; your *thesis* must be an empirically justifiable position that is supported by the evidence you gather from the studies that you review. So, you will need to gather evidence by conducting a thorough review of the articles that have been written about your topic before you generate your final *thesis statement*.

A. Reviewing the Literature: The Lit Search

The purpose of the literature search is to find out what is currently known about a particular topic in a given field and to determine the sequence in which discoveries on the topic were made. Without reviewing the current state of knowledge on your topic, you cannot determine whether opposing theories have been tested, whether new theories need to be generated, or where future research needs to be directed. Whenever you wish to gather evidence to answer a question in psychology, whether your goal is to write a course paper, to gain background information prior to designing an experiment, or simply to increase your own personal knowledge in a subject area, you will begin the process with a lit search. A lit search is a survey of the published literature (journal articles, reports, books, and dissertations) in a given field of study.

You may conduct a literature search by using one of the electronic databases available to Harvard students or you may use the reference sections of course materials, such as

textbooks or assigned articles. We suggest that you conduct both types of search in order to cover the full spectrum of possible references for your topic.

Using Online Databases

Two databases widely used in the field of psychology, PsycINFO and PubMed, are available to you online through the Harvard Library system website (see Appendix). Both provide publication information and abstracts (or short summaries) of articles and book chapters. In addition, general academic data bases, such as Academic Search Premier and Google Scholar, may provide articles of interest and are also available through the Harvard Library system.

Using Reference Sections

You may begin a literature search by reading the section of a course textbook (or other assigned reading) that pertains to your topic. Note the citations on your topic and look them up in the reference section of the textbook. Acquire these referenced works and then check their reference sections for further articles on your topic. You will note that many articles cite the same sources. Sources that are cited by many authors are usually central to the topic, and thus you should read them in the original. (Note that you should not use textbooks themselves as references in your paper. Textbooks are not primary source materials; however, they can provide an informative list of primary source references on your topic as a starting point.) Most of the articles that you will cite in your paper should be empirical journal articles or review articles published in a peer-review journal. For information on locating sources in the Harvard Library System, see Appendix.

Once you have read your sources, ask yourself: What conclusions does the existing research support? It is likely that one of these conclusions *will be your thesis.*

B. Generating a Thesis Statement

What is a thesis and where does a thesis come from? A thesis is not a "topic." A topic is an area of study, whereas a thesis is a specific point of view that makes sense of data about the topic. One way to develop a thesis is to select a *topic area* of interest. Then ask a *research question* about that topic area that could be answered by examining the current literature. Your answer to that question will be your *thesis*.

Example of *topic area:*

> Creativity and psychopathology

Example of *research question:*

> Are artists and creative writers more often depressed than less creative individuals?

Example of *thesis*:

> Artists and creative writers are at greater risk for mood disorders than members of the general population.

Before you begin to write, you first should locate and read the sources in your chosen topic area. Even if you have not generated a research question before you begin to read, an examination of the source materials may suggest one. Once you have read your sources, ask yourself: What conclusions does the existing research support? It is likely that one of these conclusions *will be your thesis*. Before arriving at this thesis, you will need to consider the importance of each article that you have read. Ask yourself: What

does the overall pattern of results suggest? When *analyzing* and *reflecting* about this pattern of evidence, make sure to consider all relevant evidence.

Remember that, sometimes, different pieces of evidence will appear contradictory. Do not simply brush over results that appear inconsistent or incompatible at first glance. Ask yourself why the studies may have contradictory results. How do the studies differ? Are the study methodologies comparable? Are the study samples comparable? Do the studies really address the same hypotheses/questions or do they address different pieces of a question? Before arriving at your conclusion, you should attempt to resolve inconsistencies among studies, or propose potential empirical studies that would help resolve inconsistencies. A close look at ostensible inconsistencies can often spark an idea about a new angle from which to view the studies. If you had a tentative thesis before you reviewed the literature, and you now realize that this tentative thesis is not supported by the literature you reviewed, don't panic, and instead realize you have just been initiated into academia! Throwing out initial hypotheses in favor of more complex ones is an exciting component of research, and one that shows your maturity as a scholar.

A good thesis will be based on the available research, but will do more than simply summarize this research. In Expos, you learned that your thesis should be *"true but arguable (not patently or obviously true)"* (Harvey, p.1, adapted from Harvey, 2002). Similarly, when writing an essay in psychology, you should choose a thesis that is supportable, but not so obvious that it would be a waste of time to write about it. Your thesis should advance a novel contribution of your own. You can make a novel contribution to the psychological literature in various ways:

A good thesis will be based on the available research, but will do more than simply summarize this research.

- You may provide a critique of an existing theory and offer a new theory that seems better supported by the research you review.
- You may compare and contrast two or more competing theories and provide an informed opinion about which theory is better supported by the available data.
- You may combine the data from two or more disparate topic areas to arrive at new insights about your topic.
- Or, you may point out a trend in the data that has been overlooked by others.

When constructing your thesis, look for logical inconsistencies or holes in your argument. If there are inconsistencies in your argument, your readers will notice them. Try to anticipate any potential objections your readers may have with your argument. Then, provide your readers with the evidence that counters these objections (i.e., *counterarguments)*. That said, you may know that there is a logical inconsistency in your thesis as you are first writing your paper but not know how to resolve it. Make a note of where you are uncomfortable, but it often makes sense to start writing. Once you have begun to articulate the evidence and the justification for your thesis, you will have a better sense of what's wrong with your thesis and will be able to modify it. Usually this is not as drastic a change as you may fear, and you will be all the more pleased with the results if you take the time to write your way through the problem with your argument.

II. Beginning to Write: Annotated Bibliography and Outline

Lay out the *structure* and *transitions/signposting* for your essay.

Once you decide what it is that you wish to say to your readers, you must figure out how to *structure* your argument so that it is clear to your readers how you came to your conclusion.

A. Annotated Bibliography

The first step to writing a paper of this sort is to construct an annotated bibliography. Each of the articles you review is like a different piece of a puzzle, and constructing an annotated bibliography can help you decide how to piece the puzzle together. In order to construct your annotated bibliography:

a. supply identifying information for each article that you will reference in your paper.

b. write a brief summary (a few sentences) about each article.

c. write a brief justification for why you need to include each article in your paper (i.e., a brief justification of how the article will help you advance your thesis).

The annotated bibliography will be a great resource when you are preparing your outline and when you are actually writing your paper.

B. Outline

When you are writing your outline, it may be helpful to pretend that you are talking with a friend and explaining why you hold the opinion you are advancing in your essay. Consider how you would demonstrate to your friend that the argument you make in your thesis is valid.

- What are the major points you would have to make to win your friend over to your way of thinking?
- What evidence do you have in support of each point?
- How would you explain contradicting evidence and competing arguments?
- Continue your imaginary conversation with your friend until you have completed your outline.

When constructing your outline, consider carefully how you will stitch your essay together; such stitching requires you to make clear to your readers how each point is related to the one before it — often by using appropriate headings, transition words and phrases, or signposting. Spend the time to think through in detail the logic of your argument while you are writing your outline. Because APA style encourages the use of headings and subheadings in essays, the outline becomes an especially important and productive exercise when writing for psychology. You can use the main points and supporting points from your outline as the headings and subheadings of your finished paper.

Example:

Your thesis is: "Artists and creative writers are at greater risk for mood disorders than members of the general population."

You determine that in order to convince a friend that your thesis is valid you would need to present the following evidence in your outline:

I. Introduction

- Describe mood disorders
- Examples of artists and creative writers that had mood disorders

II. Evidence linking artists to mood disorders

- Artists and major depressive disorder
- Artists and bipolar disorder

III. Evidence linking poets to mood disorders

- Creative writers and major depressive disorder
- Creative writers and bipolar disorder

IV. Evidence suggesting why mood disorders may enhance creativity

- Components of mania and creativity
- Components of depression and creativity

V. Conclusions

To see how you could use this outline to form headings and subheadings for your finished paper, check the Headings section under APA Format Guidelines.

The introduction is the place where you will present your thesis statement and make a case for why your topic is important and currently relevant.

III. Writing the Essay: Introduction, Body, and Conclusion

A. Introduction

Present *thesis* and *question/problem/stakes* while orienting readers and defining important key terms.

The introduction is the place where you will present your thesis statement. It is also the place where you provide the intellectual *motivation* for writing your paper, and where you briefly *orient* your readers to the intellectual context from which your thesis arose. As noted by Harvey (2000), the introduction is not a place to discuss personal reasons for being interested in the topic, but rather to make a case for why your topic is important and currently relevant.

- Briefly orient the reader to the area by giving a few sentences about what previous studies have shown.
- Briefly tell the reader why it is important to reconsider or further analyze the previous research in this area.
- Make sure to define *key terms* that the reader will need to understand in order to follow your argument.
- Then, tell your readers what your reconsideration/new analysis of previous re-

search has led you to conclude. That is, tell your reader what your novel conclusion (thesis) is. You need to state your thesis plainly, clearly, and soon. Indeed, when you write, you should present your thesis within the first page or so. Sometimes, students feel as though they don't want to give too much away in the introduction, but an academic paper *should* introduce the main points of the argument, as well as the thesis, early in the essay. Don't make the essay into a mystery novel, where the reader must guess at the point you are trying to make.

- Finally, after stating your thesis, tell your readers why they should care about your thesis (you may remember this from Expos as *question, problem, or what's at stake)*. That is, why is it important?

One way to set up an introduction would be to follow a structure similar to that outlined below:

Previous research suggests……

However, previous research has not……..

Hence, in this paper it is argued that…(thesis)

This is important because……

This is the most basic template to set up an introduction. Exactly how you set up your introduction will depend upon what it is that you have to say. However you set up the introduction, make sure that you readers are given enough information to follow your logic and understand your thesis.

The body of the paper is where you will advance your thesis - point by point.

B. The Body of the Paper

The body of the paper is, of course, where you say what you have to say. It is where you advance your thesis, point by point. If you have really done the work required in preparing the annotated bibliography and the outline, then writing the body of the paper is mostly a task of connecting the dots of logic that you have already outlined for yourself. How well you do this depends upon your ability to write clearly and present systematically the evidence necessary to make your point, including the relevant details of the empirical studies that you review.

1. Writing Clearly: Paper Structure and Word Choice

How clearly you are communicating to your readers depends upon how well you are structuring and transitioning/signposting your arguments and how well you are choosing your words.

a. Paper Structure

Make sure that your readers understand how each paragraph is related to the paragraph preceding it. Also make clear how a set of paragraphs works together to make a point, and how these points work together to communicate your thesis. One way to structure your paper is to repeat the 3-step process (below) at multiple levels of organization within the paper.

Step 1) Introduce a point you want to make.

Step 2) Provide the evidence (e.g., study summaries/interpretations) that supports this point.

Step 3) Recap your point and relate it to the main thesis or to the topic of that particular section of the paper.

Let's look at how the 3-step process can be used to support the sample thesis statement we used earlier: "Artists and creative writers are at greater risk for mood disorders than members of the general population." Note how the overall outline first presented on page 17 conforms to the 3-step process.

I. Introduction (Step 1-introduce point)

II. Evidence linking artists to mood disorders (Step 2 - evidence)

III. Evidence linking poets to mood disorders (Step 2 – evidence)

IV. Evidence suggesting why mood disorders may enhance creativity (Step 2- evidence)

V. Conclusions (Step 3 - recap)

In addition, within each of the "evidence" sections of the paper (Step 2), the 3-step process can be repeated.

Evidence linking artists to mood disorders

- Introductory paragraph (Step 1 – introduce point)
- Artists and major depressive disorder (Step 2 - evidence)
- Artists and bipolar disorder (Step 2 – evidence)
- Summary of evidence (Step 3 - recap)

Using the 3-step process in both the overall structure and the structure of each section of evidence is one way to provide clarity in the body of your paper.

b. Word Choice.

When writing a scholarly paper for psychology, assume that your audience is educated and has a basic knowledge of general psychology. You cannot assume that your audience is familiar with technical terms or concepts of a specific branch of the field. Therefore, you need to provide as much information as is necessary to make your point crystal clear. You should do this, however, with the fewest words possible. Hence, when writing your paper, you must be exceptionally mindful of the words you choose. You should strive both to "omit needless words" (Strunk & White, 1979) and to choose all words that are maximally informative. Most of the time, you cannot make your point maximally concise in your first go at a paper; you must draft and revise in order to see the structure of your argument and the components that are unnecessary.

2. Presenting the Evidence: Summarizing the Relevant Details of Empirical Studies

The body of the paper is where you will provide the relevant details of the empirical studies that you cite as evidence. Throughout the body of the paper, many of the paragraphs will contain details about empirical studies that support your point (main points and mini points) or that, at first blush, appear to contradict your thesis. Beginning students often have questions about how much detail to include when summarizing studies. Some guidelines about what to include follow. However, the number and type of details you include about a particular study will depend, in part, upon your reason for

discussing the study: Are you citing this study because of its methodology? Its data? The way it conflicts with your own thesis? Tell the reader what you would want to know about the study before you accepted it as evidence for whatever point another author was making. Some things critical readers often want to know about a study being cited as evidence are :

- What did the study researcher hypothesize?
- How did the study researcher test his or her hypothesis (procedures, sample, limitations, etc.)?
- What did the study researcher find?
- How did the study researcher interpret her results?
- What controls were used to rule out alternative interpretations?
- How do you interpret the results? Why?
- Finally, do not forget to tell the reader how the study results (or your interpretation of the results) support whatever point (main or mini) that you are making. Remember, the whole reason that you are describing the study is because you are using it as evidence to support your argument.

The conclusion of your paper should restate the importance and relevance of your topic. Leave the reader feeling that they have learned something very worthwhile.

Although most of the citations in your paper will be citations of empirical articles, there may be times when you include other types of citations. For example, there may be times when you wish to refer to an expert's untested opinion or theory (perhaps, before reporting the empirical results of the studies that would support or disconfirm this expert's opinion or theory.) Do not present untested opinion as fact. It is fine to refer to an expert's opinion, as long as you make the reader aware that you are referencing opinion and not data. One way of making this distinction clear is to use words that indicate whether you are citing opinions or data. Use words like "suggested," "theorized," and "posited" when referring to opinions or theories. Consider the difference between the following sentences:

1. Research has **shown** that girls are more likely to cry than are boys.
2. Researcher A has **theorized** that girls are more likely to cry than are boys.

Sentence 1 indicates that there are data in support of the claim being made. Sentence 2, however, does not indicate this.

C. Conclusion of Your Review Paper.

Here are some guidelines for writing a strong conclusion.

- Restate your conclusion/thesis, summarizing the evidence that supports it.
- Do not introduce new evidence in the conclusion.
- Do not lead the reader through twenty pages of literature review only to leave them with a conclusion that is unrelated (or only tangentially related) to the research that you have reviewed!
- You can offer future suggestions for research, but again, be sure to base any suggestions for future research on what has been reviewed in your paper.
- Finally, restate the importance and relevance of the topic of your paper (with-

out overstating the importance or implications of your thesis). Leave the reader feeling that they have learned something very worthwhile.

D. Revising Your Review Paper.

Many (probably most) authors cannot easily monitor their writing when they craft their initial drafts. Revision is a critical part of the writing process. Specifically, keep in mind the following:

- Is the paper clear? If you can, put the paper aside for a few days and then try to read it as if you are someone who knows nothing about the topic you are discussing. Is each word clear? Each sentence? Is a point clearly made by each paragraph, and by each major section of the paper? Mark any points that might be unclear. Revise them. It is helpful to have a friend, roommate, or peer at the Writing Center read your revision for clarity.
- Re-examine the logic and flow of your paper. Add stitching where needed. Reword unclear parts. Provide additional background information if needed. Check for grammatical and spelling errors. Not only will poor writing detract from your argument, it tends to pit the reader against you.
- Is the paper succinct? When revising, go through your paper and remove any word, sentence, paragraph, or paper section that does not contribute to the advancement of your conclusion/thesis (Bem, 1995; Strunk & White, 1979).

With these tools, you should now be more comfortable in your role as a junior scholar of psychology. You can now read sources critically, both in order to learn from their writing style and to become a good evaluator of evidence. You also have the tools to write well and concisely. Remember that when you write a research paper in psychology you are not only enhancing your knowledge, you are, in effect, becoming an expert on the topic area in which you choose to write. You will gain great satisfaction by communicating your ideas and knowledge in writing to others. Best of luck in your scientific pursuits!

Revision is a critical part of the writing process.

Checklist for Writing a Conceptually Coherent Paper

- ☐ Select general topic area (e.g. "treatment of anorexia nervosa")
- ☐ Conduct literature review through online database (e.g. PsycInfo)
- ☐ Generate thesis statement based on lit review
- ☐ Create annotated bibliography
- ☐ Create outline (using headings and subheadings)
- ☐ Write introduction (thesis and motivation)
- ☐ Write body of paper (present the evidence, including alternative arguments)
- ☐ Write conclusion (restate thesis, summarize evidence, suggest future research, restate importance)
- ☐ Rewrite for clarity and completeness
- ☐ Proofread!!!

Academic Honesty in Writing

There are three reasons that you must adhere to strict guidelines for maintaining academic honesty in your writings as a psychology concentrator:

1) New findings in the field of psychology are built on the ideas, theories, and research of other scholars. It is of utmost importance to give appropriate credit to those who have made our current understanding of psychology possible. Proper citation of the work of others is crucial to the advancement of truth in psychology and in all scientific endeavors. It is your responsibility as a novice scientist to make certain that you cite every idea, opinion, research finding, or conclusion that is not your own. Failure to do so is considered a breach of scholarly honesty.
2) One of the most important skills you will learn at Harvard is the ability to write excellent scholarly papers. This skill can only be honed by completing written assignments in the form of term papers, essays, and response papers. If you lift material from other sources and claim it as your own, you are actually cheating yourself out of the opportunity to learn the valuable skill of academic writing. You are here to learn; don't shortchange your education.
3) Academic dishonesty in the form of plagiarism (either intended or unintended) is considered a major violation of integrity and carries severe consequences within the Department of Psychology that may result in a failing grade and disciplinary action by the College. Because ignorance of what constitutes plagiarism or academic dishonesty is not an excuse, we ask that all psychology concentrators review the following rules contained in the Faculty of Arts and Sciences *Handbook for Students.*

Plagiarism and Collaboration*

The College recognizes that the open exchange of ideas plays a vital role in the academic endeavor, as often it is only through discussion with others that one is fully able to process information or to crystallize an elusive concept. Therefore, students generally are encouraged to engage in conversations with their teachers and classmates about their courses, their research, and even their assignments. These kinds of discussions and debates in some ways represent the essence of life in an academic community. And yet, it is important for all scholars to acknowledge clearly when they have relied upon or incorporated the work of others. To ensure the proper use of sources while at the same time recognizing and preserving the importance of the academic dialogue, the Faculty of Arts and Sciences adopted the following policy:

It is expected that all homework assignments, projects, lab reports, papers, theses, and examinations and any other work submitted for academic credit will be the student's own. Students should always take great care to distinguish their own ideas and knowledge from information derived from sources. The term "sources" includes not only primary and secondary material published in print or online, but also information and opinions gained directly from other people. Quotations must be placed properly within quotation marks and must be cited fully. In addition, all paraphrased material must be acknowledged completely. Whenever ideas or facts are derived from a student's reading and research or from a student's own writings, the sources must be indicated (see also "Submission of the Same Work to More Than One Course" below.)

Students must also comply with the policy on collaboration established for each course, as set forth in the course syllabus or on the course website. Policies vary among the many fields and disciplines in the College, and may even vary for particular assignments within a course. Unless otherwise stated on the syllabus or website, when collaboration is permitted within a course students must acknowledge any collaboration and its extent in all submitted work; however, students need not acknowledge discussion with others of general approaches to the assignment or assistance with proofreading. If the syllabus or website does not include a policy on collaboration, students may assume that collaboration in the completion of assignments is permitted. Collaboration in the completion of examinations is always prohibited.

The responsibility for learning the proper forms of citation lies with the individual student. Students are expected to be familiar with the Harvard Guide to Using Sources, which is available at http://usingsources.fas.harvard.edu. Students who are in any doubt about the preparation of academic work should consult their instructor and Resident Dean before the work is prepared or submitted.

Students who, for whatever reason, submit work either not their own or without clear attribution to its sources will be subject to disciplinary action, up to and including requirement to withdraw from the College. Students who have been found responsible for any violation of these standards will not be permitted to submit a Q evaluation of the course in which the infraction occurred.

Submission of the Same Work to More Than One Course*

It is the expectation of every course that all work submitted for a course or for any other academic purpose will have been done solely for that course or for that purpose. If the same or similar work is to be submitted to any other course or used for any other academic purpose within the College, the prior written permission of the instructor must be obtained. If the same or similar work is to be submitted to more than one course or used for more than one academic purpose within the College during the same term, the prior written permission of all instructors involved must be obtained. A student who submits the same or similar work to more than one course or for more than one academic purpose within the College without such prior permission is subject to disciplinary action, up to and including requirement to withdraw from the College.

Students are urged to consult their Resident Dean or the instructors involved with questions concerning this important matter (see also Plagiarism and Collaboration above).

Tutoring Schools and Term Paper Companies*

In keeping with the principle that all material submitted to a course should be the student's own work, any undergraduate who makes use of the services of a commercial tutoring school or term paper company is liable to disciplinary action. Students who sell lecture or reading notes, papers, or translations, or who are employed by a tutoring school or term paper company, are similarly liable and may be subject to disciplinary action, up to and including requirement to withdraw from the College. If a student wishes to accept compensation for private tutoring in Harvard courses, prior written permission of the Dean of the College is required.

Official Forms and Petitions*

Students should understand that providing false or misleading information or signing any other person's name or initials on a study card, Plan of Study, change-of-course petition, registration form, or on any other official form or petition will make them subject to disciplinary action, up to and including requirement to withdraw.

* excerpts from 2012–2013 Harvard College Handbook for Students available at http://handbook.fas.harvard.edu/icb/icb.do

chapter three

Do's and Don'ts of Effective Writing in Psychology

The primary purpose of APA style is to report information and findings in the field of psychology. Its goal is a **clear**, **concise**, and **orderly flow of ideas** presented in a scholarly and objective manner. Appropriate citation of the work of others is also paramount. The following do's and don'ts of writing are based on mistakes (both APA style errors and scholarly writing errors) commonly made by beginning writers in psychology. Many of the points raised earlier have been boiled down and summarized here, as well as more detailed points that bear specifically on APA rules. **Do** check your paper against this list before turning it in!

APA Style Errors:

1. **Don't write a novel**. Fiction writing and scientific writing have difference purposes and consequently different styles. Don't weave a tale of suspense complete with foreshadowing, flashbacks or surprise endings. *Don't* wait until the end of the paper to give the punch line!

   Do tell a story. Your paper should be a straightforward tale of a circumscribed question in want of an answer. The answer is your thesis, and you are going to tell the tale of why your thesis is the answer to the question. Keep it simple and direct and make it clear from the beginning what you are arguing.

2. **Don't try to "prove" a theory.** In science, you cannot prove a theory. The best you can hope for is that a theory accounts for the known data. There is always a chance that new data will come along that challenges the existing theory, and the theory will then have to be revised. So all theories in psychology (as in other scientific fields) are provisional. Therefore, it is incorrect to talk about "proof" in psychology. You are better off comparing and contrasting two or more alternative theories (or hypotheses), and showing that the weight of the evidence favors one of them. Your primary job in evaluating a hypothesis or a theory is deciding whether there is evidence in support of or against it, not whether there is proof for it.

   Example (avoid): This proves that Bellows' (1998) theory was right.

   Do support the theory. Even though you cannot prove a given theory, you can certainly provide support for (for against) it in the form of evidence.

   Examples (preferable):

   This study provides support for Bellow's (1998) theory.

The results of this study are consistent with Bellow's (1998) theory.

3. **Don't overuse low-value sources of evidence.** Not all sources of information are equal. Newspapers, popular magazines, and best-selling books are considered lower-value secondary sources. They may best be used to provide examples or case studies, which can be helpful when introducing your topic to the reader, but cite these sources sparingly.

   Do use high-value journals and professional books as your main sources of scientific evidence. The highest value sources of scientific evidence are peer-reviewed journals. Many of these can be located online through the Harvard Library System (see Appendix), or in hard copy in Widener. Articles in peer-reviewed journals have been subjected to review by experts in the appropriate field of psychology. (Note that, in Reference sections, the APA gives preference to professional journals by capitalizing each word in the journal name.) Trade or professional books are also high-value sources (although these books are generally not subjected to peer review; APA capitalizes only the first word of a book title). The bulk of your reference section should be composed of articles from professional journals and chapters from professional trade books.

4. **Don't editorialize.** Avoid evaluative terms such as "horrible," "ridiculous," "indefensible," etc. Let the facts you present speak for themselves.

   Examples (avoid):

   "It would be foolish to ignore the evidence in favor of this theory."

   "This study completely failed to prove the author's point."

   "It is obvious that [this theory] is correct."

   Do express your point of view through an objective presentation of evidence. One of the main goals of scientific writing is the **objective** reporting of information. Of course, you will have a point of view (your thesis). You want your readers to arrive at the same conclusion that you did by objectively weighing the evidence that you present.

5. **Don't overuse secondary sources.** If you find that you are using more than two or three "as cited in" references, then you need to get hold of the original articles and read them for yourself. Whenever you take one author's word for what another author has reported, you run the risk of misinterpretation. Use these secondary sources very sparingly. (Textbooks are considered secondary sources. They are summaries and interpretations of the work of others. As a rule, you should not cite textbooks in your paper.)

   Do read the work of all authors whom you cite. Remember that you are responsible for the accurate reporting of the work of others. When you cite an author directly, the assumption is that you have read the work in question.

6. **Don't overuse technical jargon.** Psychology, like all scientific fields, has its own jargon. However, the more jargon you use, the narrower the audience who will "get" your paper. Strive to make your paper comprehensible to an

audience with a good general education.

Do define key terms. If you must use a technical term, be sure to define it (either directly or by using it in a context where its meaning becomes apparent).

Example (preferable):

"Expressed emotion (EE) refers to the amount of hostility, criticism, or overinvolvement by family members directed toward the patient."

Also, be sure to define your specific intended usage of terms that may have multiple meanings or connotations. (The word *aggression* has one meaning for sports psychologists, a different meaning for psychopathologists, and still a different meaning for animal psychologists. Its specific meaning in your paper should be defined.)

Example (preferable):

"Aggression, for the purposes of this paper, is defined as any case of unprovoked attack (hitting, biting, or kicking) upon another child."

7. **Don't overuse direct quotations.** Remember that although quotations from experts may be considered "evidence" in many liberal arts disciplines, the opinions of others are not considered evidence in scientific fields. Direct quotes interfere with the flow of ideas and should be used sparingly. Beginning writers in psychology often flood their papers with direct quotes from published researchers.

   Example (avoid): Seidman et al. (1997) have stated that for ADHD "the impact on society is enormous in terms of financial cost, stress to families, disruption in schools, and its potential for leading to criminality and substance abuse" (p. 150).

   Do rephrase and summarize the important points of other writers (properly cited, of course!) in your own words. Paraphrasing improves the flow of ideas.

   Example (preferable): Seidman and his colleagues (1997) suggested that the social impact of ADHD is enormous, including financial costs, family stress, school disruption, and the potential for criminal behavior and substance abuse.

8. **Don't use footnotes or endnotes.** The interruption of shifting one's eyes to the bottom of the page or (worse!) to the end of the paper to read a note detracts from the orderly flow of ideas.

   Do incorporate footnote material directly into the body of the paper. The APA guideline is: if it is important enough to include in the paper, put it in the body of the text. If it is not important enough, delete it altogether!

9. **Don't substitute synonyms when expressing a given concept or vary sentence structure in an attempt to make your sentences more interesting.** Using different words or phrases for the same concept will only confuse your readers.

   Example (avoid): Extraverted children demonstrate anger when their play is interrupted, whereas, contrary to their more outgoing counterparts,

youngsters with an introverted temperament, do not get mad when their activities are interrupted.

Do attempt to use the same words or phrases each time you express a given concept to promote clarity. Parallel sentence construction also promotes clarity.

Example (preferable): Extraverted children demonstrate anger when their play is interrupted, whereas, introverted children do not demonstrate anger when their play is interrupted.

10. **Don't write in First Person.** Avoid reporting First Person personal anecdotes, as well as phrases such as "I feel…" or "I believe…"

Examples (avoid):

"My Aunt Chloe had the same experience with depression…"

"I feel like Crespi and Cameron (1992) should have included a placebo control group in their study…"

Do write in Third Person.

Examples (preferable):

"Chloe Johnson (personal communication, April15, 1999) reported a similar experience with depression…"

"However, Crespi and Cameron (1992) did not include a placebo control group in their study…"

11. **Don't overuse present tense.** Present tense is appropriate when describing currently-held theories ("Terror Management Theory states that…") or general statements of fact ("Independent cultures place greater value on…"); as such, it is commonly used in introductory and concluding paragraphs, as well as in topic and closing sentences. Don't use present when describing specific work that occurred in the past however. Instead, use past tense if the work occurred at a specific time and present perfect tense if the work spanned several studies or several researchers.

Examples (avoid):

William James, in his 1890 treatise, examines how different researchers conceptualize the unconscious.

Carlyle revisits this question in a series of studies (1992; 1994).

Do use past or present perfect tense. These tenses are preferred for actions that have already occurred.

Examples (preferable):

William James, in his 1890 treatise, examined how different researchers conceptualized the unconscious.

Carlyle has revisited this question in a series of studies (1992; 1994).

General Scholarly Writing Errors:

1. **Don't make your thesis a guessing game!** Your reader should not have to guess at the main point of the paper.

   Do formulate a restricted and concise thesis. Make your thesis very clear and narrow enough in scope that you can thoroughly address it in your paper. State the thesis early in the paper (first or second paragraph). Then do not wander away from the thesis.

2. **Don't expect your reader to automatically understand the importance of your thesis.**

   Do present a motive for your thesis early in the paper. Why is your thesis important? What larger question or problem will your thesis, when properly supported, make strides toward answering? Give your reader a reason for wanting to read your paper.

3. **Don't use vague pronouns**. If your reader must retrace the previous sentence to determine whether "he" refers to the participant or the experimenter of a study you are describing, then clarity has been compromised.

   Do check your pronouns. Make sure that each pronoun in your manuscript has an obvious referent. One good rule is to replace all simple pronouns (this, that, these, those) with the appropriate noun or noun phrase.

   Incorrect: This indicates that creativity and IQ may be correlated.

   Correct: The results of this study indicate that creativity and IQ may be correlated.

4. **Don't use passive voice.** Passive voice often makes the object of a sentence into the subject and forces the reader to retrace the action in order to understand it.

   Example (avoid):

   Incorrect: A connection was found by these researchers between creativity and IQ.

   Incorrect: It has been shown that there is a connection between creativity and IQ.

   Do use active voice whenever possible. Active voice moves the story forward and improves the flow of the writing.

   Example (preferable):

   Correct: These researchers found a connection between creativity and IQ.

5. **Don't include more than one idea per paragraph.** If you have a paragraph that takes up an entire page (double-spaced), check to see if it includes two or more ideas that can be divided.

   Do keep paragraphs and sentences relatively short. Shorter sentences and paragraphs promote clarity. As a general guideline, you should have 2-3 paragraphs per page. Sentences should contain no more than 15-20 words. You

may intersperse shorter sentences, but avoid sentences as long as 30 words.

6. **Don't use colloquialisms.** Your writing should be scholarly, rather than conversational, in tone. A scholarly tone does not imply pretentiousness of language but rather an avoidance of colloquialisms that could interfere with precision and clarity.

   Do choose language that is precise, clear, and scholarly. Some examples:

   Examples:

Avoid	a whole lot	on the mend	just around the corner	write-up
Preferable	numerous	recovering	upcoming	report

7. **Don't treat opposing points of view unfairly.** One mistake often made by beginning writers in psychology is called "bashing the counterargument." This technique includes finding very tiny methodological flaws in studies that contradict your thesis and using these flaws to completely discredit the opposing research results. The same microscopic flaw detection is not, however, employed when evaluating research supporting your thesis. This uneven handling of evidence generally backfires, as most readers will sense the unfairness and pull for the underdog!

   Do present all sides of your argument fairly. Science is generally not black and white. You do not need to discredit all evidence that fails to support your thesis. You merely need to show in a convincing manner why your thesis is the best fit for the existing data.

8. **Don't write a single draft of your paper.** No one can write a good paper in one draft!

   Do revise and edit your paper! Revise, proofread, and then revise and proofread again!

Here are some strategies for revising and improving the quality of your paper:

1. Lay it aside for 48 hours and then reread it. You will see many areas for improvement that were not apparent to you during the initial writing.
2. Read it out loud. It is often easier to hear (rather than see) sections that are unclear or awkwardly worded.
3. Give a copy to a friend (but be sure to proofread it first!). Then don't argue if the friend finds a section that is unclear. By definition, if it is unclear to your reader then it is unclear period!
4. Don't get too attached to a particular phrase, sentence, or paragraph. You have to be able to edit out anything, no matter how cleverly-worded, that does not advance your story.

chapter four

APA Format Guidelines

The American Psychological Association has defined basic formatting rules for psychology papers. For more details consult Publication Manual of the American Psychological Association (2009).

General Document Format

1) Use one-inch margins top, bottom, and sides.
2) Double-space entire manuscript, including references.
3) Manuscript is left-justified and new paragraphs are indented 5-7 spaces.
4) Use 12-pt. standard fonts (recommended: Times New Roman).
5) Although underlining and *italicizing* serve the same purpose, the *Publication Manual of the APA* recommends using *italics* rather than underlining. Use underlining only if required by your instructor, and make sure that you are consistent in your use of either *italics* or underlining.
6) Always include a title page unless advised otherwise by your instructor.

   Title page is page 1 of paper.

   Center title, author's name and other required information.
7) An abstract (one-paragraph summary of your paper) may be required (check with your instructor).

   The abstract (if required) is page 2 of paper.

In-Text Citations

Science advances by building on the work of others. It is important to give credit to all who have contributed ideas, findings, opinions, and theories. The rule is **cite everything that is not your own idea or is not common knowledge.** In-text citations include the author's last name and the date of the publication cited. When direct quotations are used, the page number of the quote is also cited.

- **Single Author:** If the author's name appears as part of the narrative, follow the name with the publication date in parentheses. Otherwise, both the author's name and publication date are placed in parentheses.

  Examples: Sternberg (1990) presented writing tips for psychologists.

  Clarity is a primary objective in good academic writing (Williams, 1990).

- **Two Authors**: If the authors' names appear in the text, connect them with "**and**." However, if the authors' names appear only in the parenthetical citation connect them with "**&**."

  Examples: Costa and McCrae (1985) suggested a five-factor model…

The five-factor model of personality (Costa & McCrae, 1985) includes…

- **Three to Five Authors**: List all authors the first time a work is cited. Thereafter, use the first author's name followed by "et al."

  Examples: Hodges, Cooper, and Bushman (1992) examined…

  Hodges et al. (1992) also examined…

- **Six or More Authors:** Use the first author's name followed by "et al." every time the work is cited (including the first time). However, in the Reference section, list the names of the first six authors, replace the next authors with an ellipsis (...), then list the final author.

- **More than One Work in a Citation**: List **alphabetically** by first author's last name. Separate each work with a semicolon.

  Example: Several authors have noted the importance of clarity in academic writing (Bem, 1998; Hummel & Kaeck, 1995; Williams, 1990).

- **Works by Associations, Corporations, or Government Agencies:** Write out the name of the group that serves as author (corporate author) each time they are cited in text unless the abbreviation of the name is familiar. In the case of familiar abbreviations, write out the entire name in the first citation and use the abbreviation in subsequent citations. The rule is to ensure that the reader will have enough information in the citation to locate the entry in the reference section.

  Example: (*first citation*) Over 12 million women suffer from depression each Year (National Institute of Mental Health [NIMH], 1999).

  (later citations): Twice as many women suffer from depression as men (NIMH, 1999).

- **Direct Quotations (Less than 40 words):** Incorporate them into the structure of the sentence or paragraph, enclose within double quotation marks, and follow with a parenthetical citation including author, publication date, and page number.

  Example: Wisdom, in this context, is defined as "an expert knowledge system concerning the fundamental pragmatics of life" (Baltes & Staudinger, 2000, p. 122).

- **Direct Quotations (More than 40 words):** Do not use quotation marks. Indent the entire passage five spaces from the left margin and follow with a parenthetical citation including author, publication date, and page number.

  Example: One typical problem encountered in data collection is that of missing data. The authors provide explicit directions for scoring:

  > If the respondent has not provided a response to every item and the respondent is no longer available to the examiner, the examiner must determine whether the data may be validly scored and interpreted. The NEO PI-R should not be scored if 41 or more responses are missing. (Costa & McCrae, 1992, p. 5)

- **Secondary Sources:** You should cite only works that you have actually read. If you read about a study by Mednick and Schulsinger cited in a book by Durand and Barlow, your parenthetical citation should include the cited author(s)' name followed by "as cited in" and the author(s)' name/publication date of the source which you actually read. Put only the source you read in the reference section. Use secondary sources sparingly!

  Example: A similar study examined children at high risk for schizophrenia (Mednick & Schulsinger, as cited in Durand & Barlow, 1997).

- **Personal Communications:** Letters, personal conversations, email, and lab discussions provide us with insight and information on topics of interest. These communications are legitimate sources of information and may be cited in your papers. Place authors' initials and last name, followed by "personal communication" and the full date in parentheses.

  Example: (R.J. McNally, personal communication, April 8, 2001)

  Note that accuracy in reporting personal communications is your responsibility!

Reference Section

The reference section should begin on a separate page with the word "References" centered at the top. The section should employ the "hanging indent" format, with the first line flush left and subsequent lines indented 5-7 spaces. All entries should be alphabetized by the first author's last name. Note that book titles and journal names are italicized. The first letter of every word in the journal title is capitalized, whereas only the first letter of the first word of a book title is capitalized. (Please see the reference section at the end of this booklet for an example, but note that in term papers the section will be double-spaced.)

Journal Articles: Include the following:

- **Author** (Last name, comma, 1st initial, period, 2nd initial, period)
- **Year of Publication** (in parentheses, period)
- **Name of journal article** (lower case, period)
- **Name of Journal** (italicized, 1st letter of each word uppercase, comma)
- **Volume (and issue in parentheses) of journal** (italicized, comma)
- **Page numbers of articles** (period)
- If available, **Digital Object Identifier** (prefaced with doi:)

Example: (using hanging indent format)

McCrae, R.R. (1987). Creativity, divergent thinking, and openness to experience. *Journal of Personality and Social Psychology*, 52 (6), 1258-1263. doi: 10.1037/0022-3514.52.6.1258

Books: Include the following:

- **Author** (Last name, comma, 1st initial, period, 2nd initial, period, comma, next author, comma, &, last author, period)

- **Year of Publication** (in parentheses, period)
- **Name of Book** (italicized, lower case, period)
- **City of Publication** (colon)
- **Publisher** (period)

Example:

Williams, J.M. (1990). *Style: Toward clarity and grace*. Chicago: University of Chicago Press.

Chapter Within a Book: Include the following:

- **Author** (Last name, comma, 1st initial, comma, 2nd initial, next author, comma, &, last author, period)
- **Year of Publication** (in parentheses, period)
- **Name of book chapter** (lower case, period)
- **Name of Editors** (preceded by "In," 1st initial of 1st author, period, last name, &, 2nd author, parenthesis, "Eds.", parenthesis, comma)
- **Name of Book** (italicized, lower case, period)
- **City of Publication** (colon)
- **Publisher** (period)

Example:

Eysenck, H.J (1995). Creativity as a product of intelligence and personality. In D. Saklofske & M. Zeidner (Eds.), *International handbook of personality and intelligence.* New York: Plenum Press.

Electronic References: Because a variety of different types of references are available online, APA guidelines for such references are often updated. You may check the following website for the most up-to-date referencing of electronic sources:

http://isites.harvard.edu/fs/docs/icb.topic28359.files/Undergraduates/Forms_for_Undergraduates/APAStyleGuidetoElectronicReferences.pdf.

You will need to log in with your HUID and PIN.

Starting in the 6th edition of the APA Publication Manual, the APA asks that you provide the Digital Object Identifier (DOI). DOIs are links to the article and are more stable than regular URLs.

Headings

Headings and subheadings are extremely useful in scientific writing and serve several purposes:

1) They divide the paper into orderly sections.
2) They act as an outline of the paper.
3) They reduce the need for transition paragraphs.
4) They help the reader anticipate material.
5) They help the reader locate specific material of interest.

The *Publication Manual of the APA* (2009) lists five levels of headings and subheadings. For most student papers, the first three levels should be sufficient, but longer, more in-depth papers may require levels 4 and 5.

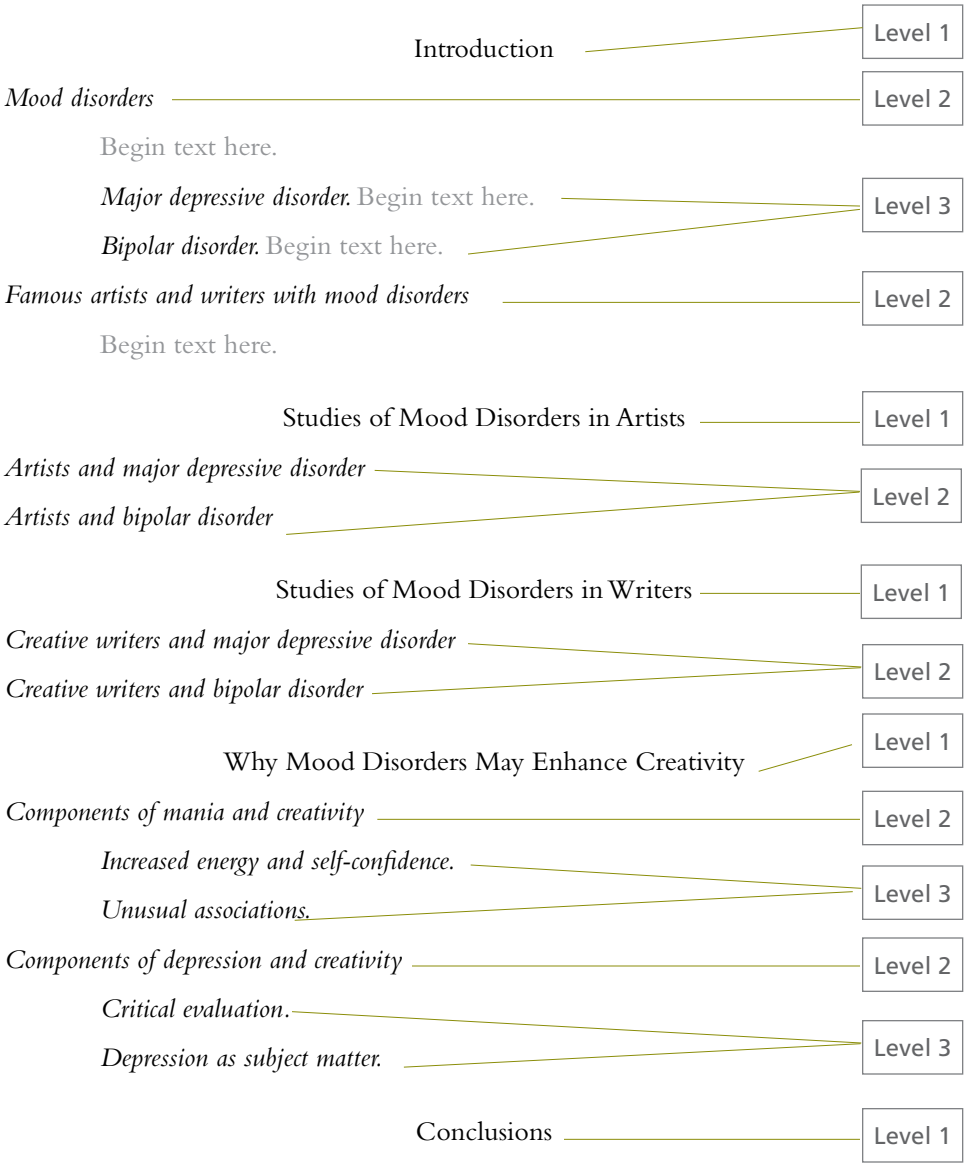
Level	Format
1	**Centered, Boldface, Uppercase and Lowercase Headings** Then your paragraph begins below, indented like a regular paragraph.
2	**Left-aligned, Boldface, Uppercase and Lowercase Heading** Then your paragraph begins below, indented like a regular paragraph.
3	**Indented, boldface, lowercase heading ending with a period.** Your paragraph begins right here, on the same line as the heading.
4	***Indented, boldface, italicized, lowercase heading ending with a period.*** Your paragraph begins right here, on the same line as the heading.
5	*Indented, italicized, lowercase heading ending with a period.* Your paragraph begins right here, on the same line as the heading.

Level 1 headings are used for the title and main sections of the paper (e.g. major sections of your literature review, Method, Results, Discussion). Start text on the line following a Level 1 heading and indent the text.

Level 2 headings are used for subscriptions within the main sections. For example, in the Method section of a paper, it would be used for Participants, Measures, and Procedure. Start text on the line following a Level 2 heading and indent the text.

Level 3 headings are used to divide up these subsections. For example, in the Measures subsection of the Method section, it would be used to describe individual measures, such as the Beck Depression Inventory, NEO-PI, Wechsler Adult Intelligence Scale, etc. Start text on the same line as the Level 3 heading, right after the period.

Here is an example of headings and subheadings from the term paper outline on artists and mood disorders shown earlier.



Word Usage and Unbiased Language

It is permissible to use the word 'subjects' *or* the word 'participants' to describe individuals who participate in research.

The 6th edition emphasizes the use of unbiased language.

Examples:

Problematic	Preferred	Note
wife/husband mankind housewife	spouse humankind, people homemaker	Use gender-neutral language when possible
homosexuals	gay males lesbian females	Use this form when referring to sexual orientation
Oriental	Asian	Use specific race and ethnicity
Native American	Hopi, Seminole	Use nation name when possible
disabled person the mentally ill depressives	person with disability persons with mental illness people who are depressed	Disability - put the person before the disability

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Appendix: Locating Databases and Sources in the Harvard Library System

Two databases widely used in the field of psychology, PsycINFO and PubMed, are available to you online through the Harvard Library system website. Both provide publication information and abstracts (or short summaries) of articles and book chapters.

To access these data bases:

1. Go to the Harvard Library portal page: http://lib.harvard.edu
2. Click on Find E-Resources
3. Go to "Quick Jump to selected major resources"
4. Select PsycINFO (EBSCO host) (1872-) or PubMed with full text (MEDLINE)
5. You may be asked to login with your ID and PIN number
6. Enter keywords or subjects related to your topic
7. APA provides an online tutorial for PsycINFO at : http://www.apa.org/pubs/databases/training/ebsco.pdf

To find the location of any book or journal at Harvard:

1. Go to the Harvard Library portal page: http://lib.harvard.edu
2. Click on HOLLIS
3. Enter the title of the journal or book in the search box
4. Click on the appropriate title and a display including library locations will appear

Note that Harvard subscribes to online versions of many psychological journals. These journals include full text content (including images and graphs) in PDF form.

To determine if a full-text article is available through the library system:

1. Go to the Harvard Library portal page: http://lib.harvard.edu
2. Click on Find E-journals
3. Type in the name of the journal and click GO
4. Click on the journal name
5. Note that some journals will be available through more than one provider, and different providers may offer different dates of publication; select the one that seems best for you.

6. Once you have reached the journal, you may search for a particular article or browse available content.

APA has a website called Library Research in Psychology: Finding it Easily http://www.apa.org/education/undergrad/library-research.aspx

Department of Psychology
Harvard University
William James Hall 218
33 Kirkland Street
Cambridge, MA 02138
Phone: (617) 495-3712
Fax: (617) 496-8279
psychology@wjh.harvard.edu