The Basics of Scientific Writing in APA Style

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For quite some time, the three Rs—Reading, 'Riting, and 'Rithmetic—have been the cornerstone of education. When it comes to "'Riting," scientists use specific scientific writing styles to communicate their findings in a way that generalizes across many disciplines. By utilizing these styles, they effectively organize their material; communicate with clarity, precision, and logic; and cite source materials to avoid plagiarism (inappropriate use of someone else's ideas or expressions). Familiarity with the elements of scientific writing in the field of psychology—specifically, APA (American Psychological Association) style—will enhance successful report writing and assignment preparation in psychology courses. An understanding of scientific writing style also provides a tool that sharpens critical thinking about ideas and evaluation of conclusions.

Scientific writing, like all formal writing, requires a firm foundation in English sentence construction, usage, and punctuation. The abbreviated communication used in instant messages or tweets among friends—such as "RUOK with this?" would likely cause confusion and, possibly, consternation from those who read scientific writing. When studying this chapter, consider its contents a challenge to learning how to organize ideas about science and to expressing science-related thoughts with clear but formal language. Use the chapter as a reference to guide formal scientific writing and APA style, specifically.

Writing for any discipline involves a cycle (or multiple cycles) that includes (1) planning, which encompasses locating and reading source materials; (2) writing a rough draft; and (3) editing and proofreading. Writers aim for continuity and a logical flow of ideas. In scientific writing, all ideas must be supported by evidence, with appropriate citations of the source of the evidence. Of course, different instructors have different requirements for writing assignments. Thus, it is important for you to be thoroughly familiar with the criteria for specific assignments and to assume responsibility for clarifying the answers to questions that arise.


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In psychology courses, the "ultimate source" for appropriate writing style is the *Publication Manual of the American Psychological Association,* 6th edition.* The guidelines for APA style include instructions for formatting, organization, content, citations, lan-

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This content is not a substitute for the *Publication Manual of the American Psychological Association,* 6th edition (2010), which contains broad and comprehensive guidance on all aspects of scientific writing.

APA has a number of resources to help individuals learn APA style, including free tutorials, FAQs, and an APA Style blog. Visit http://www.apastyle.org for more information, and join APA Style on Facebook http://www.facebook.com/APAStyle and Twitter http://twitter.com/#!/APA_Style.

guage, and sentence construction. Unless your instructor says otherwise, use formal language when writing APA-style papers because the typical audience includes researchers and academics. Precise and clear writing is crucial, with adjectives or adverbs used only to advance accurate and objective description. For instance, a scientific writer might describe participants in an experiment as "preschool children"; in this case, the adjective "preschool" helps to clarify the age and experience of the subjects. If this writer had written "cute little children," the word "cute" would express only the writer's opinion, and the word "little" would be a less precise description of the participants' age or experience.

When learning about the elements of APA style, students are sometimes surprised to find that many psychology textbooks do not use it. For example, to engage a student such as yourself, many textbooks (and this very chapter!) frequently use a more conversational tone, addressing the reader as "you." As you will notice in the "Things to Avoid in APA Style" section of this chapter, when writing in APA style, writers avoid the word "you." Instead, rather than addressing the reader directly, they use terms such as "people" or "individuals." To help you make these kinds of distinctions, this chapter outlines several "dos and don'ts" for writing in APA style (see Table 6, page 20).

Further, to illustrate APA style items, Appendix A (pages 1–16) presents an annotated manuscript for an article published in the *Psi Chi Journal of Undergraduate Research* (http://www.psichi.org/pubs/journal/). The annotated comments point out ways in which science writing may or may not meet APA criteria and emphasizes correct APA style. Appendix B (pages B-1–B-2) summarizes and illustrates important rules for proper sentence construction. All examples are drawn from students' final reports of an experimental psychology class project that focused on ageism in the workplace. Armed with this information, you will be prepared to complete written assignments effectively in a variety of psychology courses.

COMMON GENRES OF APA-STYLE ARTICLES

The types of written assignments that instructors may ask you to complete will vary across courses. In an introductory psychology class, for example, your instructor may require an article summary, a book review, or a brief paper on a specific topic. In research methods, experimental psychology, and laboratory courses (e.g., some cognitive psychology or learning and behavior courses), your instructor may require a laboratory report, an empirical report on a project you have completed, or a research proposal. In senior-level courses, instructors may also require an empirical report on an individual project, or they may require that you prepare a comprehensive review paper to compare and contrast different theoretical perspectives on a particular topic. Thus, during the course of your academic career, you will most likely be using APA style to prepare a variety of different types of reports.

To prepare for most of the assignments described above, you will be reading articles from professional journals. Typically, these articles will be classified as empirical reports or review articles. An **empirical report** describes original research that the authors have conducted, typically with human participants or animals. In these reports, authors provide a structured framework for their new research by topically integrating relevant findings of existing studies in a literature review, presenting their hypotheses, describing their methodology and results, and then concluding with a discussion to position the new research in the context of existing knowledge. A **review article** integrates, summarizes, and provides suggestions for extending prior research on a particular topic. Rather than initiating a new investigation with individual participants, authors of review articles study the existing literature on a topic. The information contained in a review article is an expansion of the information contained in the literature review portion of the introduction to an empirical report.

APA style specifies guidelines for the order of report sections. Table 1 lists these sections sequentially. To guide both your reading and writing, it also includes a brief

TABLE 1 Organization of Empirical Reports and Review Articles

Section	Information in Section	Page (typed manuscript)
Title page	Identifies topic/variables studied and provides authorship information	1
Abstract	Provides very brief summary of information from major sections of report	2
Introduction (or Body of empirical report)	Indicates purpose and importance of research and reviews prior research literature and theory • In an empirical report, the introduction typically concludes with specific hypotheses that follow from information in the literature review • In a review article, the literature review and theoretical information are more extensive than in an empirical report and constitute the body (main part) of the report	Start on p. 3
Method	In an empirical report, provides sufficient information about participants, design, materials, and procedures so that interested readers might replicate (repeat) the research	No new page
Results	In an empirical report, provides detailed information about the findings and includes results of statistical analysis for quantitative research	No new page
Discussion (or Conclusion)	Offers interpretation of results, their theoretical implications, limitations of the research, potential applications of the findings, and ideas for further research • In an empirical report, the discussion typically includes a focus on whether results supported specific hypotheses presented in the introduction and an explanation of why hypotheses were (or were not) supported	No new page
References	Lists authorship and source information for all items cited in report or article to enable readers to locate original sources	Start on new page

statement of the information contained in each section. Finally, it indicates which sections should start on a new page in a manuscript.

Supplementary information (e.g., Appendix, tables) follows the References section, and page numbers continue from the end of the References section. In a typed manuscript, you would present supplementary information in the following order, with each section starting on a new page: tables, figures, and then appendices. In a published article, these sections are integrated within the text rather than appearing in a separate section.

STEP 1: PLANNING—LOCATING, READING, AND TAKING NOTES ON SOURCE MATERIAL

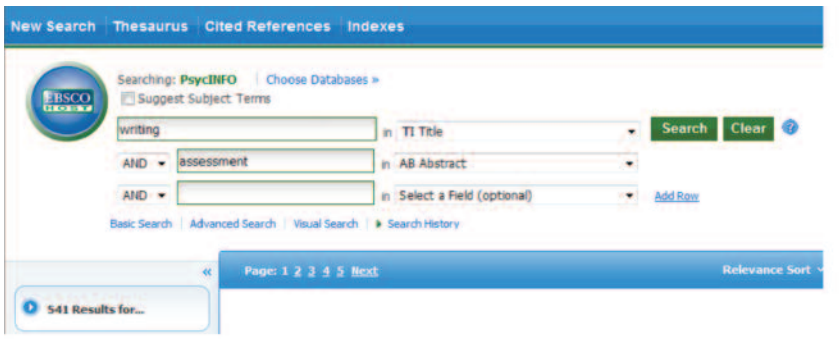
Scientific papers are not written in a vacuum; rather, they build on and extend prior research. Thus, becoming familiar with existing scientific literature on the topic of interest is a crucial first step in planning a paper. Planning a scientific writing assignment involves locating appropriate source articles, reading the articles, and taking notes in a manner that will ultimately facilitate preparation of a first draft that includes accurate citations.

Locating Appropriate Source Material

When locating appropriate source material, it is important to distinguish between scientific material and articles targeted at the general public that may or may not be firmly based on scientific research. Multiple sources are available on the internet, in

books, in newspapers, and in trade publications that may be tempting to use. However, unlike articles in professional, peer-reviewed literature, these sources often do not contain citations to support their claims, may be based on anecdotal evidence such as personal experience, or may include conclusions that are not justified by the data presented. In other words, there may be no "check" on the accuracy of the facts or logic of the arguments.

The peer review process is a safeguard against these weaknesses. If an article is peer reviewed, it means that professionals who are experts in a particular field have carefully evaluated the article on dimensions such as inclusion and citation of relevant background material, methodology, analysis, and interpretation of results. Thus, before you begin a writing project, you will often need to search the professional, peer-reviewed literature on your topic. Computerized databases typically allow users to limit their searches to peer-reviewed sources. PsycINFO is a comprehensive database for psychology-related sources. After entering search terms, you will be able to retrieve a listing of published articles, books, and book chapters. In this database, as in many others, searches can be restricted to terms found in specific fields (e.g., author, title, abstract, source) of database records. As shown below, a search for the term "writing" in the title and "assessment" in the abstract yielded 541 results.



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These results suggest that your initial topic may be too broad to cover in a single paper. Generally, a literature review is more effective if writers probe deeply into a more limited topic rather than skim over a wide range of material. A more limited topic allows you to compare and contrast different approaches or theories rather than simply describing them. Careful selection of articles will make it easier to write a cohesive literature review. Reading the abstract will indicate how closely an article relates to your specific topic of interest. Often, you may decide to restrict your search to specific subtopics or populations. For example, narrowing the results above by adding the term "college students" in the "subjects" field led to a list of 31 potential items.

After locating appropriate sources, the next step is to obtain the full text of the material. In some instances, full text articles are available for downloading directly from the database. When given the choice between .html and .pdf, the .pdf version is preferable because it integrates tables and figures in the text for ease of reference. Although some students are tempted to limit their sources to those that are available for immediate download, yielding to such temptation often leads to the omission of highly relevant information from the literature review. To avoid this potential problem, attempt to locate the material by checking the catalogue at your school's library. If the library does not have the material, check with a librarian (or on the library web page) to determine the procedures for ordering material via interlibrary loan. Typically, school libraries share materials with each other; thus, if the material is not available at your school, your library may be able to borrow it from another school for your use. The time needed to obtain materials from other libraries varies across institutions and by the type of resource requested.

Prior to searching for sources or after reading just a few that have been collected, it is helpful to develop a topical outline for the literature review. This outline can guide the search process, and you can refine it as the search progresses. Then, when reading and taking notes about theories, findings, and relevant terms in the source articles, you can position the notes in the appropriate section of the outline.

Reading Source Material

It takes considerable time to select and collect sources and to extract the appropriate material from each source. Professional articles are not necessarily easy to read and "digest." Reading the abstract first will give you an idea of what to expect. However, if you just read the abstract, you definitely will not have a sufficient depth of understanding (or content) to integrate information into a literature review.

Before reading an article thoroughly, familiarize yourself with the article's structure (the information contained in each section). Table 1 on page 3 indicates what to expect in each section. Then, as you read the article more carefully, direct your attention to issues such as the research purpose and importance, how it relates to prior research on the topic, the hypotheses, general methodology, major findings, and interpretation of the findings. As you read, consider how the material relates to what you plan to write.

As you confront potentially unfamiliar terminology and theories, your first experience reading articles from the professional literature is apt to be quite challenging. If you plan to include information from a source in your written report, be sure that you take the time to understand it. Otherwise, you will not be able to express the ideas correctly in your own words or to integrate them with related material in your report. Early in your academic career, the material in the Results section, which often includes multiple statistical tests, is particularly daunting. To gain a better understanding of the results, read the verbal information that indicates, for example, whether one group performed better than another did or whether one variable predicted another variable. In addition, in the Discussion section, authors often reiterate key results in a straightforward verbal form when they examine support for a hypothesis or explain the findings.

Constructing an Outline and Taking Notes

It is important to develop a topical outline. Do this as early as possible in the literature review process. A topical outline helps overcome the tendency to summarize one article after another. Organizing information by topic encourages you to compare and contrast the findings from one study with those of other studies on the same topic in a single paragraph (integrating information from multiple sources). Your topical outline serves as a framework for presentation of past research and provides an underlying structure for writing.

> *Note:* For a review article, you may opt to use your outline to develop headings for subsections. The outline for a review article encompasses the entire article, leading to the conclusions. For an empirical study, the items in an outline will guide the flow of information relevant to explaining the particular research question, illuminating prior research related to the variables being investigated, and providing a rationale for the research hypothesis.

Good note taking during a literature review typically leads to a higher quality paper. Because a source article may address one or more topics, it is helpful to categorize notes topically and to include identifying information from source articles for citation purposes. To avoid plagiarism in the writing stage, do not copy phrases directly from articles and do not simply change one or two words in a sentence when you add the information to your notes. Instead, describe the ideas and find-

ings in your own words. *Be sure that your notes include all the information you need for citations* that are required for each factual item that is not very common knowledge. If in doubt, cite! Although using quotations in psychological writing is discouraged, if it seems absolutely necessary to use a brief quote (and assignment criteria permit doing so), remember to include quotation marks (and a page number) as well as a citation! Highlighting the sections of source articles from which you draw information will assist subsequent self-checks for signs of plagiarism, which encompass both missing or incorrect citations and use of similar words or expressions. (See Table 5 on page 10 for more details about these topics.)

STEP 2: WRITING A FIRST DRAFT

This section focuses on the types of information that you need to organize and include in each section of a research report. It begins with general guidelines for formatting and provides additional information about formatting for each individual part of the paper. To emphasize the importance of citations in APA-style writing, it includes a special section about citations and their formatting both in the text of the report and in the References section.

General Information About APA-Style Formatting

APA-style formatting includes rules for margins, line spacing, alignment, and font as outlined in the table below. Using the options provided by word processing software, select the appropriate formatting choices before starting your first draft. When preparing the paper, adjust the formatting options for the Abstract and References as noted in Table 2.

There are also APA-style formatting rules for the headings and subheadings, which do not include what APA-style considers section labels (e.g., "Abstract," the title, and "References"). On her APA-style blog, Chelsea Lee includes a table that concisely summarizes these rules at http://blog.apastyle.org/apastyle/2009/07/five-essential-tips-for-apa-style-headings.html or http://tinyurl.com/ykqzm6s. For their respective sections, the words Method, Results, and Discussion are typed using Level 1 boldfaced headings. However, the first section of an APA-style report (the Introduction) begins with the title of the paper (not the word "Introduction"). Although it is centered, the title is not shown in boldface font. "Abstract" and "References" titles are also centered, but not boldfaced.

TABLE 2 How to Format APA-Style Manuscripts

Line spacing	• Double-spaced throughout • No extra spaces between paragraphs
Spacing after punctuation	• Use two spaces after punctuation at the end of a sentence; otherwise, use one space after punctuation
Alignment	• Left for all paragraphs and most headings, but Level 1 headings (for major sections, see illustration) are centered
Margins	• All (top, bottom, left, right) set at 1" for the body of the manuscript, with header ½" from top
Typeface	• 12-point font, Times New Roman
First line of paragraph	• Set indent at .5" paragraph • Exceptions: ▪ The abstract is a single block paragraph (without .5" indent for the first line) ▪ Reference items are formatted using a "hanging" indent (with the first line of each citation beginning at the margin and subsequent lines using a .5" ["hanging"] indent)
Page number & running head	• On the first line of the header in a Word document, the running head appears at top left of all pages, and the page number appears at top right on the same line • Explained in Title Page section

There are five levels of headings in APA style. An example illustrating the use of the first three levels from an empirical paper is shown at right. Level 1, used for the main section heading (Method), is centered and in boldface font. If there were multiple words in the Level 1 heading, all words with four letters or more would begin with a capital letter. Level 2, used for the Participants and Materials subsections in the example, is also in boldface font, but it is positioned flush with the left margin. Capitalization rules are the same as those for Level 1 headings. Level 3, used for Scenarios and related questions in the example, is positioned .5" from the left margin (as is the indent for the first line of a new paragraph), is in boldface font, and is followed by a period (with text beginning thereafter). Only the first word of Level 3 headings is capitalized unless the heading includes proper nouns, which would also be capitalized.

Level 4 and Level 5 headings, if needed, would also be positioned .5" from the left margin and would be followed by a period. Level 4 and Level 5 headings are italicized and follow the same capitalization rules used for Level 3 headings. However, the font style used for Level 4 and Level 5 headings differs: boldface for Level 4 and regular for Level 5.

Method

Participants

Participants included 301 individuals from a community sample (180 women and 115 men, M_{age} = 38.64, SD_{age} = 14.15.

Participants had a variety of ethnic backgrounds, (text continues)

Materials

Scenarios and related questions. Participants read a brief scenario about a mother (Maggie) who was offered the measles, mumps, and rubella (MMR) vaccine for (text continues)

Title Page

The title should clearly and concisely (maximum 12 words) indicate the topic of the manuscript. For an empirical report, it should include the primary variables that you are studying. For a review article, it should contain the major issue that you are investigating. Use Table 3 as a guide for the Title Page.

TABLE 3 What to Include on a Title Page

Title	• Centered horizontally on upper half of page • Capitalize first letters of important words and all words of four of more letters
Author's name and	• Centered, on a line double-spaced below title, including first name, middle initial, last name • If there are two authors from the same institution, both names are typed on the same line with "and" between them
Institutional affiliation	• Centered • On a line double-spaced below author's name
Running head (appears at top of page in published articles) IMPORTANT NOTE	• In header area (use header feature in word processing programs) • Type the words "Running head:" left-justified • After the words Running head: (on the same line in the header area) type an abbreviated title *in all capital letters* (maximum 50 characters including spaces and punctuation) • The actual running head appears on all pages, but the words "Running head:" appear on the title page only. For instructions on creating a unique header for the first page, see http://www.apastyle.org/learn/faqs/running-head.aspx
Page number	• In header on every page, on same line as running head, on right • Title page is page 1 • Do not use dashes or the word "page," just the number • Use automatic page numbering feature in word-processing programs

In manuscripts submitted for publication, title pages also contain an Author's Note. Guidelines specify that an Author's Note should include departmental affiliation, acknowledgments, and contact information for the author. However, your instructor may not require an Author's Note on student papers.

The Abstract

An abstract summarizes a report in 120 to 250 words with maximum length requirements varying across journals (and instructors). When you search databases, the abstract is the only section of a manuscript shown in the database record. By reading the abstract, you typically learn whether a source is directly relevant to your paper.

When you actually write a report, you prepare the Abstract last because it summarizes the entire paper (see Table 4). The Abstract should not contain any information that is not included in the actual paper. Moreover, information in the Abstract should be consistent with information that is included in the body of the report. Abstracts are concise, specific, and self-explanatory.

TABLE 4 What to Include in an Abstract

Empirical Reports	Review Articles
Purpose/problem investigated	Topic/purpose or thesis
Number, type, age, sex (or species) of participants	Types of sources used
Method (materials used, basic procedures)	
Major findings	Major findings
Conclusions and implications	Conclusions and implications

In manuscripts submitted for publication, authors itemize keywords used for database searches. To do so, double-space after the last line of the abstract, indent .5", and type *Keywords* (italicized and followed by a colon). Then, add a few words that indicate key topics of your manuscript. For example, keywords for the manuscript in Appendix A (see pages 1–16) might include "communication" and "self-disclosure." Your instructor may not require keywords on student papers.

The Introduction

The Introduction of an empirical report or the body of a review article begins on page 3 (after the Title Page and Abstract) with the title of the paper. The opening paragraphs highlight general information about the issue under investigation and prepare readers for the detailed literature review that follows. For example, in the opening paragraphs of their Introduction in the sample manuscript, Bruss and Hill (2010) incorporated key facts about communication and self-disclosure that indicated why the issue is important. The paragraphs included specific statements, supported by citations, rather than broad generalities without citations. Typically, the opening paragraphs also include a statement of the goal or purpose of the research. However, in the sample manuscript, the explicit statement of purpose was positioned as a lead-in to the hypothesis at the end of the introduction.

The Thesis Statement

When you write a review article (or an analytical, explanatory, or argumentative paper), you typically begin with a thesis statement, a short, precise statement that indicates what issue you are analyzing, what you are explaining to readers, or

what argument you are making. The thesis statement presents the main idea of your paper. If you have prepared an outline, check to be sure it includes information relevant to your thesis statement. You may need to add topics (perhaps searching for additional sources), or you may need to eliminate topics that are only peripherally related to your thesis. An outline that conforms to your thesis will serve as an effective framework for your paper, guiding your subsequent writing.

The Literature Review

As described at http://www.writing.utoronto.ca/advice/specific-types-of-writing/literature-review or http://tinyurl.com/mt22ly, the purpose of a literature review is "… to convey to your reader what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are" (para. 1). In a literature review, do not simply summarize a series of articles sequentially. Rather, integrate material from multiple articles into paragraphs focused on specific subtopics linked to the purpose of your research. In the sample manuscript, Bruss and Hill (2010) integrated information about self-disclosure, online communication, and face-to-face communication in their literature review. For articles published in professional, peer-reviewed journals, literature reviews are quite comprehensive. However, instructors' expectations for literature reviews typically reflect the extent of your experience with reading professional literature and preparing scientific reports. Regardless of requirements for length or a minimum number of sources, typical expectations include thorough reading of source articles, precise and accurate reporting, appropriate organization, proper citations, and use of formal grammar and sentence construction.

An outline helps you integrate the information from multiple articles into a series of paragraphs about a specific topic rather than summarizing one article after another. If coverage of a particular topic area seems weak, the weakness should be a cue that you need to search for additional articles on the topic. If you do not understand something that seems important when you read it, make sure to clarify the meaning before using the information in a written assignment. Avoid simply trying to reorganize the original author's words without understanding them! Such "reorganization without understanding" tends to result in plagiarism. If there are conflicting findings or opinions on a topic, compare and contrast them in the same paragraph, perhaps commenting on the possible reason (e.g., different methodologies) for the conflict. You seldom need to report detailed information about the number of participants or methodology in a literature review unless the methodology relates to a point about a particular finding. Instead, emphasize the research findings and their theoretical underpinnings. In an empirical report, the literature review provides information needed to justify the hypotheses. In a review article, the literature review provides evidence to support the conclusion.

Concluding the Introduction of an Empirical Report

The final paragraphs of the Introduction of an empirical report typically lead in to the Method section. To do so, they provide a brief description of the research design, a rationale for the hypotheses, and specific hypotheses. A rationale is a statement that indicates the reasoning that underlies a hypothesis based on prior findings or theories introduced in the literature review. In the sample manuscript, Bruss and Hill (2010) clearly stated their rationale for each of two hypotheses based on prior findings about online anonymity and on the concept of reciprocity. Their actual hypotheses identified specific variables and indicated how they expected these variables to relate to or influence each other.

Citations in Scientific Writing

Scientific writing relies heavily on providing evidence from existing research and theoretical perspectives. One of the most important requirements for scientific writing is the obligation to cite the original source of ideas or findings (see Table 5). Not only is such citation an indication of academic "etiquette," but the lack of citation of ideas is considered *plagiarism.* Principle 8.11, Plagiarism, of the Ethical Principles of Psychologists and Code of Conduct, states, "Psychologists do not present substantial portions or elements of another's work or data as their own, even if the other work or data source is cited occasionally" (see http://www.apa.org/ethics/code/index.aspx?item=40 or http://tinyurl.com/749vrw6). The phrase "elements of another's work" refers to even single sentences!! Moreover, although it may be tempting to adapt someone else's sentence from a source article by changing a few words, such minor changes are NOT permissible, *even if you cite the source article*. Rather, in addition to citing sources, use paraphrasing (expressing ideas using your own words and sentence structure).

TABLE 5 Focus on Citations and Plagiarism

Paraphrases

Paraphrasing involves reading something that someone else has written (the original source); "digesting," synthesizing, and otherwise integrating the material with other topically relevant information; and showing accurate understanding of the material by presenting it in your own words. Rather than attempting to paraphrase a single sentence, carefully read an entire paragraph. Then, present the gist of the paragraph in your own words. Below you will find an original source and examples indicating inappropriate paraphrasing (plagiarism) and acceptable paraphrasing.

- **Original source** (Fallahi, Wood, Austad, & Fallahi, 2006): "In conclusion, we recommend that instructors of undergraduate psychology courses incorporate a student-friendly didactic model into their course curricula. Our findings demonstrate that the instructors' time and effort is well spent because it improved students' basic writing skills. Writing proficiency is an essential element of effective communication for future psychology clinicians or academicians that requires ongoing training and feedback, and students are unlikely to master it in a single college-level English course."
- **Plagiarized version #1** (missing quotation marks and ellipsis dots [three dots with spaces between them] to indicate omitted material): Writing proficiency is an essential element of effective communication that requires ongoing training and feedback (Fallahi, Wood, Austad, & Fallahi, 2006).
- **Plagiarized version #2** (a few words changed, sentence structure not changed): Writing well is a key component of meaningful communication that entails continuous training and feedback (Fallahi, Wood, Austad, & Fallahi, 2006).
- **Acceptable paraphrase:** Because writing is an important communication skill, instructors should incorporate writing assignments and provide feedback in multiple courses (Fallahi, Wood, Austad, & Fallahi, 2006).

Quotations

A quotation is an exact copy of the language from a source. If you do use a quote, be sure to include quotation marks, cite the source, and include a page number.

Quotations are very rare in scientific writing. Overuse of quotations may detract from a paper in both style and content. On occasion, instructors may perceive that use of quotations reflects a lack of effort or understanding. Thus, it is extremely important that you thoroughly understand the material that you incorporate into your manuscripts; otherwise, it will be extremely difficult to accurately paraphrase and integrate the material into a written report without using quotes. If your instructor permits you to use quotes, remember the quotation marks, citation, and page number! If you do not include quotation marks, the material may be considered plagiarized even if the source is cited! Below is the correct format for quotations, based on the Fallahi et al. (2006) example:

- **Correct quotation** (Illustrates use of ellipsis dots for omitted material): "Writing proficiency is an essential element of effective communication . . . that requires ongoing training and feedback" (Fallahi, Wood, Austad, & Fallahi, 2006, p. 174).

Citation Format

APA style incorporates author–date referencing for all citations in all sections of any report. The application of this author–date referencing varies slightly (e.g., in the use of "and" versus "&") for citations that are included in the body of a narrative (see Example 1) or in parentheses (see Example 2). The first time a source is cited, if the source includes fewer than six authors, an APA-style citation includes the surnames of all authors, followed by the year of publication.

- Example 1 (in body of narrative): Marek, Griggs, and Christopher (1999) noted that students prefer pedagogical aids that relate directly to test content.
- Example 2 (parenthetical): Students prefer pedagogical aids that most directly assist in preparing for tests (Marek, Griggs, & Christopher, 1999).

If there are more than two authors, all subsequent citations include the name of the first author followed by et al. (and others). There is no period after "et," but there is a period after "al" (an abbreviation for alia).

- Within body of narrative: Marek et al. (1999) indicated that introductory psychology textbooks differed in the number and type of pedagogical aids used.
- Parenthetical: Introductory psychology textbooks differed in the number and type of pedagogical aids used (Marek et al., 1999).

If a source contains six or more authors, only the surname of the first author followed by et al. appears both in the first and subsequent citations. For example, Lynn Fuchs collaborated with five other authors on an article about assessment of learning. Even the first time this source is cited, the citation would read either Fuchs et al. (2011) or (Fuchs et al., 2011), depending on its positioning in the body of narrative or in parenthesis.

If an article has a single author, the author's name is included in all citations. If an article has two authors, both authors' names are always included in all citations. For citations in the body of the narrative, include the year the first time the article is cited in each paragraph but omit the year for subsequent citations to the same article in the *same* paragraph. For parenthetical citations, the year is included in *all* citations. If you include more than one citation in the same parenthesis, put the citations in alphabetical order (by last name of first author) and separated by semicolons. Do not change the order of authors for any citation!

Instructors may require that you obtain copies of all sources cited in your writing. However, in some instances, instructors will permit you to cite a source mentioned in your textbook (or in another published work) when you are unable to obtain the source itself. In such instances, you must distinguish what you actually read from the item cited (the original source of the information). For example, suppose you were reporting information from a textbook by Richard Griggs that included coverage of an article by Schwartz (1999). Although textbooks are seldom cited in formal APA writing, suppose your instructor permits you to do so without obtaining the primary source article. In that case, the citation would read as follows:

> When constructing a survey, researchers should remember that question wording may influence participants' answers (Schwartz, 1999, as cited in Griggs, 2012).

The unread, original source is *not* included in the Reference list. Remember, before citing a source that you did not personally read, *check the criteria for your assignment!* Remember that such citations, whether they are from a textbook, another article, an edited book, or a book chapter, are extremely rare in published manuscripts.

Method Section of an Empirical Report

The Method section provides enough information for readers to replicate the research and to determine if findings are valid and reliable. This section is typically divided into three subsections: Participants, Materials (or Apparatus), and Design and Procedures. Although content of specific subsections may vary somewhat, the paragraphs below highlight typical content, as does the sample manuscript in Appendix A (see pages 1–16).

Participants

This subsection includes information about the number of participants, the overall "group" to which they belong (e.g., college students, workers at Company ABC, children from a specific day care center), and basic demographic characteristics (e.g., age, gender, ethnicity). In addition, this section often includes information about recruiting participants (e.g., random sample from Registrar's list, convenience sample of adults, sign-up sheet posted in a particular area) and incentive offered (entered in drawing for prize, small amount of money or credit, no incentive). In some manuscripts, information about recruiting and incentive is included in a Design and Procedures subsection instead of in the Participants subsection.

Materials (or Apparatus)

The description of materials provides sufficient detail for readers to replicate the research. For an experiment, the Materials section includes a description of the stimuli, and explicitly identifies differences in materials used for different groups. For a survey, the Materials section includes a description of the overall questionnaire (number of questions asked, type of answer options), and identifies key topics covered. For each existing scale (a series of items measuring the same construct) included in a questionnaire, descriptions often encompass the following information: what it measures, original source/citation, number of items, type of answer options, anchor points and descriptions, sample item, and reliability and validity data.

Design and Procedures

This subsection describes how the investigation was conducted. For an experiment, it indicates whether the design was between subjects (each participant was in only one condition) or within subjects (each participant was in all conditions). For a between-subjects design, it clarifies how you assigned participants to conditions. For a within-subjects design, it clarifies how you counterbalanced the order of conditions (systematically changed the order for different participants). It includes information about participants' tasks, the order in which tasks were completed, instructions, and time limits if applicable. For a survey, this section includes information about how questionnaires were distributed and collected, instructions given to participants, and the approximate time it took participants to complete the questionnaire.

Results Section of an Empirical Report

This section contains verbal and statistical information describing the findings. Section organization varies according to the types of analyses involved and the research hypotheses. An opening paragraph often includes information about the type of analyses used and clarification of variables analyzed. Next, following specific rules for formatting of statistics, it presents the results that relate to the hypotheses. For example, in the sample manuscript, Bruss and Hill (2010) reported results for an

independent-samples *t* test, an analysis designed to compare ratings or scores for two unrelated groups of participants. If assignment criteria indicate that you should provide tables or figures to clarify complex arrays of data, refer to and comment on the highlights of each table or figure in the text of the Results section even though the actual tables and figures appear at the end of the report.

Discussion Section of Empirical Report

This section serves as an arena for interpretation of the results. It often begins with an explicit statement or statements regarding whether results supported the hypotheses. Subsequent discussion positions the results in the context of theoretical perspectives and explains similarities to and differences from prior research on the topic. The Discussion section also contains information about the limitations of the study (e.g., the generalizability of findings). It includes coverage of the implications of the findings and potential applications of the results. The section often concludes by indicating how the research extends the existing literature and by offering suggestions for future investigations that emanate from questions raised by the results of the current study. In Appendix A, annotations identify the elements of a discussion section.

References

This section contains a listing in a standardized format (with "hanging indent") of all sources that you have read and cited in your paper. Unlike a bibliography, the References section does *not* include any material that you read but do not cite in the manuscript. Each item in the References contains detailed information that enables readers to obtain the source material. Alphabetize reference entries by the surname (last name) of the first author. Do not change the order of authors for any source!

Individual Reference Entries

Authors' names appear in the same order as they appear on the original source, because the ordering of names typically reflects the extent to which authors contributed to the article or book. The components of each reference entry typically include the authors' names, year of publication, title, and publisher-related information. Authors' names include both surnames and initials. For the most common types of references used in scientific writing, the year is shown within parentheses and then followed by a period. References without a doi (digital object identifier) end with a period. The *doi* (digital object identifier) is a recently added reference component designed to facilitate location of items on the internet (http://www.doi.org/). It is most often applicable to articles in professional journals rather than other types of sources. The order of reference components varies somewhat. Instructions for and examples of reference entries to three common sources (journal article, book, and chapter in edited book) and to an online resource follow. Additional examples of references to journal articles, books, and an online newsletter are included in the sample manuscript in Appendix A (see pages 1–16).

A Citation to a Journal

Include the following components in the following order: author(s) name(s), year, article title, journal name, volume number, page numbers, and doi (digital object identifier). As illustrated, when there are multiple authors, an ampersand (&) is used before the name of the last author. The date and title are also followed by a period. In the title, only proper nouns, the first word, and the first word after a colon (if applicable) are capitalized. The journal name, followed by

a comma and a volume number (also followed by a comma) are both italicized, but the page numbers are not. Here is an example of a reference to a journal article.

> Luttrell, V. R., Bufkin, J. L., Eastman, V. J., & Miller, R. (2010). Teaching scientific writing: Measuring student learning in an intensive APA skills course. *Teaching of Psychology, 37,* 193–195. doi:10.1080/00986283.2010.488531

If a doi is not available, include the words "Retrieved from" followed by the URL (web site address) of the journal's publisher. In the References of the sample manuscript, the citation for Chiou (2006) illustrates use of a journal URL when a doi has not been assigned.

A Citation to a Book

Include the following components in the following order: author(s) name(s), year, book title, publisher's location, and publisher's name. Information about the publisher is found in database records and on one of the first pages in a book. The title of the book is italicized and follows the same capitalization rules used for article titles. Regarding publisher location, standard (postal code) abbreviations are used for states (e.g., GA for Georgia). If the publisher is an association or a press, as in the example below, the publisher's name should be complete; however, if the publisher's name ends with Publishers, Company, or Incorporated, these words are not included in the citation.

> Graham, S., MacArthur, C. A., & Fitzgerald, J. (2007). *Best practices in writing instruction: Solving problems in the teaching of literacy.* New York, NY: Guilford Press.

A Citation to a Chapter in an Edited Book

Include the following components in the following order: author(s) name(s), year, chapter title, editors' names, book title, pages for chapter, publisher's location, and publisher's name. For editors' names, initials precede surnames. The editors' names are followed by the abbreviation "Eds." within parentheses and then followed by a comma. The title of the book is italicized and follows the same capitalization rules used for article titles. Unlike a reference to an article, the abbreviation "pp." precedes the chapter page numbers that are in parentheses. Here is an example of a reference for a chapter in an edited book.

> Schmidt, M. E., & Dunn, D. S. (2007). Teaching writing in statistics and research methods: Addressing objectives, intensive issues, and style. In D. S. Dunn, R. A. Smith, & B. Beins (Eds.), *Best practices for teaching statistics and research methods in the behavioral sciences* (pp. 257–273). Mahwah, NJ: Erlbaum.

If there are eight or more authors for a chapter (or for a journal article or book), APA style follows a somewhat unusual guideline for the citation in the References section. The citation should include the surnames and initials for the first six authors, followed by an ellipsis (three periods with a space between them . . .) and the surname and initials of the last author. An example for a chapter with eight authors in an edited book follows.

> Rijlaarsdam, G., Van den Bergh, H., Couzijn, M., Janssen, T., Braaksma, M., Tillema, M., . . . Raedts, M. (2012). Writing. In K. R. Harris, S. Graham, T. Urdan, A. G. Bus, S. Major, & H. Swanson (Eds.), *APA educational psychology handbook, Vol 3: Application to teaching and learning* (pp. 189–227). Washington, DC: American Psychological Association. doi:10.1037/13275-009

A Citation to an Online Resource

To cite a web page or nonperiodical web document, include the following components in the following order: author(s) name(s), year, title of resource, and URL (website address).

> Seas, K., & Brizee, A. (2010). *APA style workshop.* Retrieved from http://owl.english.purdue.edu/owl/resource/664/01/

STEP 3: EDITING AND PROOFREADING

After the first draft is written, the next step is the initial proofreading, a task that encompasses grammar, sentence construction, punctuation, spelling, and use of APA style, as well as a review of the content. The following sections illuminate rules that are specific to APA-style writing and general rules that apply to all formal writing. These general rules are available in most grammar books. The Purdue Online Writing Lab (OWL, http://owl.english.purdue.edu/) is an excellent source of information for both grammar and APA-style guidelines.

Other online educational sites also offer a variety of exercises for practicing grammar and the mechanics of writing. For clarification and additional practice, you are encouraged to consult any (or all) of the following sites:

> Butte College
> http://www.butte.edu/departments/cas/tipsheets/grammar/parts_of_speech.html or http://tinyurl.com/6vvclno

> Indiana State University
> http://libguides.indstate.edu/content.php?pid=18359&search_terms=writing+center

> University of North Carolina at Chapel Hill
> http://www.unc.edu/depts/wcweb/handouts/index.html or http://tinyurl.com/72ykcmk

> Diana Hacker's *A Writer's Reference* http://bcs.bedfordstmartins.com/writersref7e or http://tinyurl.com/6mnqmop

Grammar and Punctuation Rules for All Writing

The principles outlined below (and summarized in Appendix B, pages B-1–B-2) are applicable to scientific writing across disciplines. The principles include fundamental rules of formal English grammar and punctuation. Some of the topics covered include construction of complete sentences, subject-verb agreement, noun-pronoun agreement, parallel construction, and punctuation. *When editing your manuscript, it is particularly important to leave sufficient time to check these items and to correct any errors.*

Construct Complete Sentences and Avoid Sentence Fragments.

A sentence must contain an independent clause (a clause containing a subject and a verb that expresses a complete thought). In contrast, a group of words (including a subject and a verb) that does not express a complete thought is called a dependent (or subordinate) clause. An independent clause can stand alone as a sentence, but a dependent clause is not a sentence; if you use a dependent clause alone, you have created a sentence fragment (e.g., "Because consumers perceive that generic brands are not as healthy as name brands"). To help you identify dependent clauses that cannot stand alone, remember that they often begin with words such as "although," "because," "if," or "when."

Use Parallel Construction.

Parallel construction applies to using the same grammatical form to express a series of elements in the same sentence. Using parallel construction tends to improve the clarity of a sentence. For example, the sentence "People at the sporting event were either cheering, talking, or had a program to look at" does not use parallel construction. The words "had a program to look at" involve a different grammatical form than do "cheering" and "talking." An improved version of the sentence would read as follows: "People at the sporting event were cheering, talking, or looking at a program."

Make Sure the Subject "Agrees With" the Verb.

The subject of a clause is who or what the clause is about, and the verb describes the action or state of being. If the subject is plural, then the verb must be in the plural form as well. For example, it is *incorrect* to say, "One reason for smoking habits are that young adults may tend to conform." The subject "reason" is singular; thus, the verb should be "is." The correct sentence would read, "One reason for smoking habits is that young adults may tend to conform."

Make Sure a Pronoun "Agrees With" the Noun to Which It Refers.

A pronoun is a word that takes the place of a noun (a name of a person, place, or thing). A pronoun must "agree in number" with the noun that it replaces. If a noun is singular (e.g., participant), then the pronoun must also be singular (e.g., he or she). If a noun is plural (e.g., participants), then the pronoun must also be plural (e.g., they). For example, it is *incorrect* to say, "Each participant was assigned to a group based on a number they had chosen." The subject "participant" is singular; thus, the pronoun should be "he or she." Because the use of "he or she" (to avoid gender bias) may seem somewhat awkward, most sources suggest that you change the sentence so that the subject is plural (e.g., Participants were assigned to a group based on a number they had chosen).

Make Sure a Pronoun Clearly Refers to a Specific Noun or Noun Phrase.

Although the referents for words such as "this," "that," or "it" may be clear to you as a writer, the referents may be unclear to readers. For example, the referent for the word "this" in the second sentence that follows is ambiguous. "To identify each participant, I will assign a number to each individual who submits an informed consent form. This will serve as identification for later analysis." The word "this" could refer to the informed consent form or to the number (the intended meaning). To correct the ambiguity, you may simply add the word "number" after "this."

Use Similar Words Appropriately.

Words such as "then" and "than" are sometimes confused. "Then" typically refers to a point in time (e.g., "Then, we ended the session with a debriefing."), whereas "than" is used in comparisons (e.g., "Women responded more quickly than did men."). Other word sets or pairs that tend to be confused include "there," "their," and "they're"; "to," "too," and "two'; "affect" and "effect"; "who's" and "whose"; "accept" and "except"; "adolescents" and "adolescence"; and "compliment" and "complement." If you have any doubt about which word is appropriate in a particular context, checking a dictionary should resolve the uncertainty.

Use Apostrophes Appropriately.

Apostrophes indicate possession (e.g., the participant's scores). When a sentence involves a plural noun (e.g., participants), the apostrophe is placed after the "s" (e.g., the participants' scores). *One particularly confusing situation involves the use of "its,"* a

possessive form that does *not* require an apostrophe (e.g., "The committee was doing its work."). There is no such word as "its'." In forms of writing other than APA style, "it's" is used as a contraction for "it is." However, in APA style, you should avoid using contractions.

Punctuation

It is sometimes difficult to notice errors in punctuation if you are not actively looking for them. With this in mind, prior to editing, you might develop a list of the types of errors you are personally most apt to make. You can then use this list to systematically check for and correct these types of errors.

- ***Use a comma before a coordinating conjunction that connects two independent clauses.*** Seven coordinating conjunctions are available for connecting two independent clauses in the same sentence. To help remember these connecting words, you may use the acronym FANBOYS, which represents For, And, Nor, But, Or, Yet, and So. When you use one of these words as a coordinating conjunction, you should use a comma before the word (e.g., "The independent variable will be the condition, and the dependent variable will be attitudes toward the anti-smoking policy."). In contrast, the following sentence is incorrect because it lacks a comma before the coordinating conjunction: "Some parents claimed that health care professionals provided vaccination-related information that was too general and other parents noted that information about side effects was vague or lacking (Austvoll-Dahlgren & Helseth, 2010)." Please remember that the rule about using a comma before FANBOYS applies *specifically* to the use of these words to connect two independent clauses. Do *not* place a comma before every "and" in your manuscript (see section about avoiding unnecessary commas)!
- ***Use a comma after introductory phrases, clauses, or words* before *the main independent clause but not if the dependent clause* follows *the main clause.*** In the sentence "Because people are distracted, they may not notice changes in their environment," the dependent clause precedes the main clause; therefore, it is correct to use a comma between the two. The sentence "People may not notice changes in their environment because they are distracted" is also correct. In this second example, the dependent clause follows the main clause; therefore, there is no comma separating the two.
- ***Use a comma after each item in a series of three or more items.*** The following sentence illustrates correct use of commas in a series because it includes a comma after both "eggs" and "bacon": "Ten patrons ordered a combination of eggs, bacon, and waffles." The next sentence is *incorrect* because it is missing a comma after "equity theory": "Theories of work motivation emphasizing the cognitive effects of information include expectancy theory, equity theory and goal-setting theory."
- ***Avoid comma splices.*** A comma splice occurs when you use only a comma to separate two sentences (independent clauses)—for instance, "Many public emergency rooms are understaffed, some may attract homeless people who are seeking shelter." There are two equally acceptable ways of creating a correct compound sentence. One way is to add a conjunction such as "and" after the comma (e.g., "Many public emergency rooms are understaffed, and some may attract homeless people who are seeking shelter."). A second way is to change the comma to a semicolon (e.g., "Many public emergency rooms are understaffed; some may attract homeless people who are seeking shelter."). You may also solve the problem by creating two simple sentences.
- ***Avoid using commas when they are not necessary.*** There are three relatively common types of "comma abuse." First, commas are not used between a subject and a predicate. The subject indicates who or what the sentence is about. The predicate includes a verb or verbs that tell something about the

subject. The sentence "One important attribute of learning, involves elaboration of material" is *incorrect* because it has an unnecessary comma between "learning" and "involves." Second, commas are not used between two parts of a compound subject (a subject with more than one noun). The sentence "Magazines, and televisions often portray models who are very slim." is *incorrect* because it includes a comma between "magazines" and "and." Third, commas are not used between two parts of a compound predicate. The sentence "Fifteen women talked on their cell phones, and crossed the street." is *incorrect* because it includes an unnecessary comma between "phones" and "and."

- ***Use semicolons correctly.*** The most common use of a semicolon is to separate two closely related sentences (independent clauses) that are not connected with a conjunction (e.g., "and"). The following example illustrates the correct use of a semicolon: "People show remorse in different ways; some cry, and others are apologetic." A semicolon should *not* be used to separate an independent from a dependent clause. The following example illustrates an *incorrect* use of a semicolon: "Students in a cooperative learning environment typically enjoy it; particularly when a single grade is given for a group assignment." To correct this sentence, remove the semicolon and replace it with a comma.
- ***Use colons correctly.*** The most common use of a colon is to separate a grammatically complete (independent) clause from a final phrase that extends it. The following example illustrates the correct use of a colon: "The routine included three types of exercises: knee bends, sit ups, and running in place." A colon should *not* be used after a clause that is not an independent clause. The following example illustrates an *incorrect* use of a colon: "According to Freud, the mind is made up of: the ego, the id, and the superego." To correct this sentence, remove the colon.

Rules Pertaining Specifically to APA Style

In addition to rules about grammar and mechanics that apply to formal writing in general, APA style also includes specific guidelines that relate to unnecessary words, use of numerals, use of abbreviations, use of active voice, and distinctions between words such as "while" and "since." These guidelines are summarized in this section.

Economy of Expression

Avoid redundancy by using as few words as possible to express your ideas. For example, the phrase "due to the fact that" can be consolidated to a single word, "because." Another way to reduce redundancy is to consider the precise meaning of words. For example, because "unanimous" means endorsed by everyone, it is redundant to use the phrase "completely unanimous."

Use of Numerals Versus Numbers Expressed as Words

When referring to numbers 10 and above, use numerals except when the number begins a sentence (in which case use words to express the number). To express numbers less than 10, APA style requires that you use words rather than numerals most of the time. For example, the description of a sample of students might read, "The sample included 14 first-year students, nine sophomores, 10 juniors, and five seniors." The most common exceptions to the rule about using words to express numbers less than 10 include using numerals in the Abstract and in tables; for values that precede a unit of measurement (e.g. 9 cm) including time (e.g., 5 min); and for values designating age, scores, points on a scale, or placement in a sequence (e.g., Test 3). Numbers that begin a sentence are always expressed in words (e.g., Thirty-five participants did not complete the survey.").

Use of Abbreviations

The examples for numerals illustrate two of the more common abbreviations in APA style: "cm" for centimeters and "min" for minutes. Other common abbreviations include "hr" for hour, "s" for second, "m" for meter, and "v" for volt. However, APA guidelines state that you should not abbreviate the words "day," "week," "month," and "year." Before using other abbreviations (e.g., "CG" for control group), consider whether the abbreviation is helpful or potentially confusing. With a few exceptions for words familiar to psychologists (e.g., IQ), abbreviations are explained when initially used. You might say, for example, that participants in the control group (CG) did not listen to any type of music. After an abbreviation is introduced, use it consistently throughout the paper.

Use of Active Voice

In general, APA-style guidelines suggest that you use active voice whenever possible. In sentences that use active voice, the subject of the sentence performs an action. For example, the sentence "men completed the task in small groups" is in active voice. In contrast, the sentence "the task was performed by the men" is in passive voice.

Use "While" and "Since" to Refer Only to Time.

To be precise, APA guidelines suggest that you should use the word "while" only when referring to events that occur simultaneously. For example, it is correct to say, "While participants were learning the words, they heard either music or static." It is incorrect to say, "While many reasons parents offered for not vaccinating their children related to potential side effects, others emphasized emotional factors rather than risks (Wroe, Turner, & Salkovskis, 2004)." In this latter instance, you should substitute "although" or "whereas" for "while." Similarly, you should use the word "since" only to indicate that an event occurred after another event. For example, it is correct to say, "Since the time when the data were initially published, there have been divergent interpretations of the findings." It is incorrect to say, "Since studies (e.g., Hedge, 2000) indicate that people spend a majority of the time indoors, it is important to investigate the effect of different types of artificial lighting on performance." In this latter instance, you should substitute "because" for "since."

Things to Avoid in APA-Style Writing

Although the APA guidelines explicitly mention only some of the items in Table 6 (on the next page), the listing encompasses widespread conventions for scientific writing in psychology. Reviewing your writing to adhere to these suggestions will improve the quality of your manuscript!

CONCLUDING THOUGHTS

Manuscript editing and revision completes your first writing cycle. Ideally, if you have time, put the manuscript away for a few days. After some time has elapsed, read it again. Some sources even suggest that you take the time to read your work aloud in order to locate possible discontinuities or awkward phrases. Prior to submitting your written assignment, it is particularly important to check that you have cited all sources accurately and that all articles cited in the body of the report are included in the manuscript. Overall, although you may find these guidelines cumbersome at first, continued practice with formal, scientific APA-style writing, complemented by instructors' feedback and the material included in this chapter, should enable you to develop and enhance your scientific writing skills. In turn, you may approach your written assignments with greater confidence and with heightened potential for academic success.

TABLE 6 Clarification of and Commentary on Items to Avoid

Items to avoid	Clarification	Comment
Using sexist language	Do not use "he" to refer to a person in general.	Unless you are specifically referring to a man or woman, it is often easier to work with plurals (with the nouns "participants" or "people") and the gender-neutral pronoun "they."
Using informal language and colloquial expressions	Phrases such as "kind of," "sort of," "lots of," "pretty much," and "write up," although used in conversation, are not appropriate in formal writing.	Be as precise as possible. Find data that allow you to specify numbers or percentages if possible, or use words such as "many" or "few."
Using the word "prove"	Seek alternatives such as "support the hypothesis" or "gathered evidence for."	In psychology, conclusions are generally probabilistic, not certain, which is why we avoid the use of "prove."
Using the word "you" to refer to the reader	Rather than stating "it is important for you to exercise regularly," report "it is important for people to exercise regularly."	
Using the words "we," "us," or "our" to refer to people in general	Seek alternatives such as "individuals," "students," "respondents," or "people."	"We" or "our" is appropriate only to refer to the opinions or behaviors of the authors if there is more than one author (e.g., "We recruited a convenience sample.").
Using phrases such as "The first article indicated," "The next article demonstrated."	Use citations such as "Myers (2008) reported" or "_____ and _____ indicated."	In a literature review, integrate material topically, using meaningful transitions such as "Similarly," "In contrast," or "Moreover."
Using titles of articles (except in References) or authors' first names.	Use citations as illustrated above.	
Using males and females as nouns	Use "men" and "women" as nouns (e.g., 30 men and 30 women).	Use "male" and "female" as adjectives (e.g., Male participants read a scenario.)
Using contractions	Write "have not" rather than "haven't."	

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Schwarz, N. (1999). Self-reports: How the questions shape the answers. *American Psychologist*, *54*, 93–105. doi:10.1037/0003-066X.54.2.93

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Page numbering starts on the title page, right-justified in the header area.

Appendix A

Sample Annotated Manuscript

Note: The copy above the line below constitutes the name of this section. The material below this line and in the running head above is part of the sample copy itself.

Running head—The running head is left-justified. The words "Running head" (followed by a colon, with only the R capitalized) appear in the header area for the title page only. The actual running head that appears on all pages is typed in all capital letters

Tell Me More: Online Versus Face-to-Face Communication and Self-Disclosure

Key words (and all words with four or more letters) in the title begin with capital letters. The title, authors' names, and byline (affiliation) are all centered.

Olivia E. Bruss and Jennifer M. Hill

Wisconsin Lutheran College

Authors' names are on a line double-spaced below the title and affiliation is on the next double-spaced line.

The abstract is a single block paragraph. Length limits vary for different journals.

Information from Introduction (purpose).

Information from Method (participants and design).

Citations in the Abstract do not "count" as the first citation within the text of the manuscript.

Information from Results that includes specific measure used.

Information about Discussion.

Abstract

The purpose of this study was to examine the effect of type of communication (online or face-to- face) on self-disclosure. A group of 58 college students engaged in a conversation either face-to-face or using an instant-messaging system. Those who conversed online reported a significantly higher amount of personal and perceived partner self-disclosure as measured by an adapted version of the Revised Self-Disclosure Scale (Wheeless, 1978) than those who conversed face-to-face. Implications regarding online communication and its impact on counseling, educational, and personal relationships are discussed.

In the Abstract, *all* numbers are expressed as numerals. Do not begin a sentence with a number in the Abstract. Elsewhere in the manuscript, any number greater than or equal to 10 is also expressed as a numeral (unless it begins a sentence). However, numbers less than 10, with some exceptions, are expressed in words.

Tell Me More: Online Versus Face-to-Face Communication and Self-Disclosure

The introduction begins with the title, not the word Introduction.

In today's technology-centered world, people are no longer required to communicate and form relationships in face-to-face situations alone. In fact, the use of electronic forms of communication, such as text-messaging or online interaction, is rapidly becoming a primary tool for many people to form and maintain many of their relationships. For instance, a recent online survey of 439 college students showed that nearly 20% of college students spent over 20 hr per week online (Burst Media, 2007). This shift in communication impacts several different categories of relationships people have: familial relationships, friendships, romantic relationships, professional relationships, and educational relationships. Consequently, the impact of online communication on building and maintaining relationships is important to understand.

There are two spaces between sentences.

Note the comma after the introductory phrase.

Abbreviate units of time.

Note the use of a colon after an independent clause that is extended with additional information.

Initial paragraph emphasizes the relevance of the topic.

Self-disclosure has been viewed as a key component in developing close relationships (Altman & Taylor, 1973). Jourard and Lasakow (1958, p. 91) defined self-disclosure as "the process of making the self known to other persons." According to this perspective, self-disclosure builds trust which leads to closer relationships. When one individual takes a risk by disclosing to another individual, the receiver feels as though he or she is trusted. In return, the receiver is more likely to disclose information as well. Trust and security are developed when two people respond to one another positively over repeated interactions, which continually strengthen the relationship. A key element of the relationship is that the individuals involved must perceive that their disclosures are being accepted. Therefore, the process is mutually reinforcing (Bennis, Schien, Berlew, & Steele, 1964).

Example of parenthetical citation with use of an ampersand (&).

Example of citation in narrative with use of "and." Because this citation involves a quote, it also includes a page number.

If a citation contains three to five authors, all are included in the first citation in the text, with a comma between them and between the last author and the year.

With the rapid growth of technology, people can now self-disclose

Note the use of a comma before the coordinating conjunction that separates two independent clauses.

If multiple citations are included in the same parentheses, the citations are listed in alphabetical order by the name of the first author.

Note the appropriate use of a semicolon between two closely related independent clauses.

The year is always included in parenthetical citations.

using more indirect means like the Internet, and several recent studies have begun to more closely examine self-disclosure during online communication (Chiou, 2006; Punyanunt-Carter, 2006; Valkenburg & Peter, 2007). One of the most common explanations proposed for people's tendency to self-disclose online is the fact that online communication increases anonymity. This anonymity can then produce a state of deindividuation in which others are not seen as individuals; consequently, people lose their inner restraints (Chiou, 2006). In other words, people may feel more comfortable with self-disclosure online because others do not necessarily know who they are as individuals and their disclosures online are less likely to produce immediate social repercussions.

Online Versus Face-to-Face Communication and Self-Disclosure

Although numerous researchers have compared the self-disclosure of participants in online situations versus those in face-to-face situations, results have been mixed. Tidwell and Walther (2002) found that participants in online situations demonstrated higher self-disclosure than those in face-to-face situations. Conversely, others found that participants in a face-to-face situation reported greater self-disclosure than those interacting online (Mallen, Day, & Green, 2003; Skinner & Latchford, 2006).

Notice the logical organization of information in this paragraph about disparate results. The systematic use of the terms first, second, and third provide a structure to the coverage.

If a citation includes more than two authors, only the first author's name (followed by et al.) is used after the initial citation. Et al. means "and others." There is a period after "al" (because it is an abbreviation for alia) but not after "et" (because it is an unabbreviated word).

Factors that may have contributed to the different results should be noted. First, researchers have studied the relationship between type of communication and self-disclosure in different ways. Some have assigned participants to one of two communication conditions (online versus face-to-face) and looked for differences in self-disclosure (Mallen et al., 2003; Tidwell & Walther, 2002). Others examined differences in perceived self-disclosure between those who self-reported using online communication regularly, compared to those who said they used it less

frequently (Cho, 2007; Skinner & Latchford, 2006). Second, different forms of computer-mediated communication (CMC) were used in these studies, including synchronous (instant messaging) and asynchronous (e-mail and support group webpage) methods. Third, these studies differed in their measurements of self-disclosure as well; some employed self-reports and some used judges to rate the degree and quality of self-disclosure, often by rules of linguistics.

An abbreviation is initially introduced by putting it in parentheses after the term to which it refers. In subsequent mentions of the concept, only the abbreviation is used. Although APA guidelines suggest that it is preferable not to introduce an abbreviation for a term that is subsequently used less than three times, this manuscript does not follow that guideline.

Another facet of self-disclosure is the phenomenon of reciprocity. This states that if people perceive that their discussion partners are self-disclosing to them, they will in-turn self-disclose more to their partners (Barak & Gluck-Ofri, 2007). The extant literature indicates that reciprocity does occur online (Barak & Gluck-Ofri, 2007) and describes the factors that impact reciprocity online (Rollman, Krug, & Parente, 2000; Rollman & Parente, 2001). However, to our knowledge, no studies exist that have investigated whether people perceive their partners as self-disclosing more in an online situation or a face-to-face situation. This would be necessary to determine if reciprocity occurs to a greater degree online than face-to-face.

In this paragraph, after introducing the topic of reciprocity, the authors discuss a gap in the literature that provides justification for their own study.

Purpose and Hypotheses

The goal of the present research is to gain more clarity regarding the relationship between type of communication and self-disclosure. Specifically, the current study extends previous research in the area by (a) employing an experimental rather than retrospective design and (b) comparing whether the perception of partner self-disclosure is greater online or face-to-face situation. First, we hypothesized that because online communication increases anonymity (Chiou, 2006), participants in the online group will report higher levels of personal self-disclosure than those in the face-to-face group. Second, based on the concept of reci-

The authors state explicitly the goal of their research.

Within this sentence, notice how the authors identify elements in a series by lowercase letters in parentheses.

In the hypotheses, the authors identify specify variables and how they expect them to influence each other.

procity (Barak & Gluck-Ofri, 2007), we hypothesized that those participating in online discussions would perceive that their conversation partners disclose more to them than those participating in face-to-face discussions.

The heading of the Method is centered and is in boldface type.

Method

This Level 2 heading is flush left and boldface.

Participants

Numbers less than ten are typically expressed using words (with some exceptions). More common exceptions include consistent use of numbers for time, age, scores, points on a scale, and for numbers that indicate a position in a series (such as Table 2).

Note the appropriate placement of an apostrophe to indicate plural possessive.

Abbreviations for statistics (mean and standard deviation) are italicized.

Participants were recruited through an undergraduate psychology department-sponsored research activity. Initially, 60 participants completed the study, but two participants were not included in the final analyses due to incomplete data. The remaining participants included 58 (25 men, 33 women) undergraduate students attending a small liberal arts college in the Midwest, and the majority of the sample was Caucasian (97%). The participants' ages ranged from 18 to 28 (M = 20.10, SD = 1.78). Two conditions existed: the online communication group and the face-to-face communication group. The participants in the online group consisted of 14 men and 15 women, whose ages ranged from 18 to 28 (M = 20.38, SD = 2.19). The participants in the face-to-face group consisted of 11 men and 18 women, and their ages ranged from 18 to 22 (M = 19.83, SD = 1.23).

This Participants section contains basic, required demographic information about number of participants, age, gender, and ethnicity.

This Level 2 heading is flush left and boldface with capital letters at the beginning of key words.

Instruments and Apparatus

Always use words to express a number that begins a sentence.

The researchers employed an adapted version of the Revised Self-Disclosure Scale (RSDS; Wheeless, 1978) to determine participants' level of self-disclosure. Nineteen items from the original scale were reworded to be more applicable to the interaction in this particular experiment. Nine items were used to measure the amount and quality of each participant's disclosure in this situation (personal self-disclosure). Sample items include "In this experience, I often disclosed intimate personal things about myself without hesitation" and "In this experience, I did not often talk about myself."

In this and the following paragraph, notice the detailed information provided about the scale (source, number of items that measured each construct, sample items, the type of answer options, and the numerical and verbal anchors for the answer options).

The remaining 10 items measured the amount and quality of disclosure from the partner in this situation (perceived partner self-disclosure). Sample items included "In this experience, my partner talked about his/herself for fairly long periods at a time" and "In this experience, my partner did not seem honest in his/her self-disclosures." Participants were asked to indicate their agreement with the items on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Numbers representing points on a scale are expressed in numerals, an exception to the rule about using words to express numbers less than 10.

Verbal anchor points for a scale are italicized.

The participants used five of Aron, Melinat, Aron, Vallone, and Bator's (1997) Closeness-Generating Questions, which were designed to encourage self-disclosure. One example question is, "If you have to move from where you consider home, where would you go, and what would you miss the most about home?". Lastly, participants responded to an eight-question demographic survey on which they reported their age, gender, year in school, and the extent to which they felt they knew their partner before this experiment.

Typically the period goes inside the quotation marks when the material occurs at the end of a sentence, but in this case the material is a question, even though the sentence itself is not.

In addition, the participants in the online condition used computers in the following manner. The researchers placed 15 laptops in two rooms (A and B) on two different floors. Each computer had a number 1 through 15. Each computer also had a mock instant messaging (IM) account already on the screen. The individual IM accounts on each screen allowed the participant to communicate with only one other account, which was already up on the screen of the corresponding computer in another room on a different floor. Therefore, participants communicated online with the person in the other room sitting at the computer with the same number. For instance, the participant seated at Computer 1 in Room A communicated online only with the person seated at Computer 1 in Room B. Each participant was assigned a gender-neutral pseudonym that appeared at the top of each IM account (e.g.,

This is example of the use of a numeral to express a number less than 10 that designates a place in a series.

Capitalize words that indicate placement within a series.

Sam024689753, Taylor035798642, and Jess035798642). In addition, all participants were asked not to reveal their real names to their partners.

Procedure

In this opening paragraph of the Procedure, the authors describe the experimental design and identify the independent and dependent variables.

The independent variable was type of communication (online versus face-to-face) and participants were assigned to one of these two conditions as they arrived at the study. We randomly assigned partners only in the face-to-face condition. The dependent measures were personal self-disclosure and perceived partner self-disclosure.

Online condition. Participants entered the room and picked a computer by seating themselves. Consequently, pairs were created through convenience sampling. Each pair then was given five questions to discuss, and each topic was designed to encourage self-disclosure (Aron et al., 1997). The researchers asked participants not to reveal their names to each other and to stop the conversation and notify the researchers if they suspected that they knew their partner. This, however, did not occur. The researchers then informed the participants to keep conversing until instructed to do otherwise. After 15 min, the researchers stopped the conversations and the participants filled out the survey packet, which included an adapted version of the RSDS (Wheeless, 1978) and a demographic survey. Participants took approximately 3 min to complete these surveys.

Min is the standard APA style abbreviation for minutes. The abbreviation is not followed by a period.

Numbers referring to time are also always expressed in numerals, another exception to the less than 10 rule.

This description of the face-to-face condition includes information about informed consent and debriefing.

Face-to-face condition. All participants entered the same room and received an informed consent. The researchers randomly assigned pairs by having participants pick numbers out of a container and pair up with the person with the same number. Participants were asked if they knew their partners (more than just in passing) before this interaction, and if they did, they would have been reassigned. However, this did not hap-

pen. Pairs then were given the same choices of topics as the online condition and the same time limit. After 15 min, the researchers stopped the conversations and handed out the survey packets, which contained all the same instruments as the packets for the online group. The participants in both the online and face-to-face groups were given debriefing statements after they handed in their survey packets.

Results

For the entire sample, mean response scores for personal self-disclosure on the adapted version of the RSDS (Wheeless, 1978) ranged from 3.56 to 6.56 (M = 5.09, SD = 0.68) on a scale from 1 to 7. The Cronbach's αα for the personal self-disclosure items was .64. An independent t test was conducted to explore the impact of communication group (online or face-to-face) on levels of personal self-disclosure. Mean personal self-disclosure responses for the online group (M = 5.30, SD = 0.66) were significantly higher than the face-to-face group (M = 4.88, SD = 0.65), $t(56) = 2.45$, $p = .02$. The partial eta squared statistic was .10, indicating a large effect.

The opening paragraph is the analysis of the first dependent variable. Cronbach's alpha is a measure of internal consistency, which means that it measures how closely all the items on a scale relate to each other.

This sentence describes the results of one type of inferential statistical test, a t test. This type of t test is used to determine whether the difference between two sample groups is likely to occur in the population or whether the difference is attributable to random fluctuation (chance). The authors state that the difference was significant, meaning that the difference is likely to be attributable to the independent variable (communication group) rather than to chance.

For perceived partner self-disclosure, entire sample mean response scores on a scale from 1 to 7 ranged from 1.90 to 6.10 (M = 4.80, SD = 0.69). The Cronbach's αα for perceived partner self-disclosure items was .71. An independent t test was conducted to explore the impact of communication group (online or face-to-face) on levels of perceived partner self-disclosure. Mean perceived partner self-disclosure responses for the online group (M = 5.02, SD = 0.57) were significantly higher than the face-to-face group (M = 4.58, SD = 0.74), $t(56) = 2.49$, $p = .02$. The partial eta squared statistic was .10, indicating a large effect.

Discussion

Type of Communication and Self-Disclosure

The purpose of the study is restated.

The authors explicitly state whether the hypothesis about the predicted results was supported.

Current findings are placed in the context of existing literature.

This research study sought to examine the relationship between online or face-to-face communication and self-disclosure. As predicted, the participants in the online communication group reported higher levels of personal self-disclosure and perceived partner self-disclosure than those in the face-to-face group. These results are in line with Tidwell and Walther's (2002) findings, but contradict Mallen et al.'s (2003) results, which indicated that those in face-to-face pairs self-disclosed more than those in online pairs. These differences may reflect measurement issues. Mallen et al. (2003) measured self-disclosure with one item that focused on the amount of self-disclosure. Specifically, they asked participants to rate their own self-disclosure from 1 (*no self-disclosure*) to 6 (*extreme self-disclosure*), whereas the present study's measure contained nine items that were also meant to assess one's perception of both the quality and amount of self-disclosure.

A possible explanation is offered for why results differ from those of a prior investigation.

Information in this paragraph expands on possible reasons for personal self-disclosure results in the present research.

Results from the current study suggest that online communication may increase people's personal self-disclosure in general, helping them along in the early stages of relationship building. Several previous researchers have provided possible explanations for the present results. A common explanation is the anonymity that an online environment provides, which allows people to feel safer self-disclosing (Chiou, 2006). Tidwell and Walther (2002) proposed another explanation for greater disclosure in an online setting. They noted that many of the ways people get to know others (e.g., reading and interpreting nonverbal cues) are not possible in online communication. Therefore, people communicating online may actually be limited to using self-disclosure as a means to get to know one another. Because this form of communication is fairly commonplace

in present times, people may now expect self-disclosure by themselves and others in online communication because no other means of getting to know each other is possible. If this norm of self-disclosure does in fact exist online, it may explain why the online group in this study reported higher personal self-disclosure.

Finally, results indicated that people perceive their communication partners as disclosing more in an online situation than in a face-to-face situation. This suggests that the phenomenon of reciprocity may occur to a greater degree online than face-to-face. Therefore, these findings may serve as another explanation of why people disclose more online in general. The online participants may have felt that their partners were self-disclosing more than the face-to-face participants felt their partners were self-disclosing. In turn, this may have then influenced the online group to self-disclose more to their partners than the face-to-face group felt necessary to disclose to theirs.

This paragraph focuses on participants' perceptions of their partners' disclosure. Again, potential explanations are offered, expanding readers' understanding of the results rather than just iterating the findings.

Practical Applications and Future Directions

Due to the prevalence of online communication in the world today, the results of this study can be applied to practical situations. This study can contribute to the debate concerning the effectiveness of online counseling (Mallen & Vogel, 2005; Murphy & Mitchell, 1998; Rochlen, Zack, & Speyer, 2004; Young, 2005). Because online communication elicited more self-disclosure, online communication may be an effective venue for forming therapeutic relationships. Online therapy may appeal to and benefit clients for several other reasons, which are discussed extensively in other research articles; therefore, we provide only a brief overview of the benefits here. The anonymity of online communication may make clients feel more open when disclosing to counselors (Chiou, 2006). Furthermore, because the Internet can hide the client's and thera-

In this section, the authors highlight the importance of their study by indicating how results can be applied. In the first paragraph, the authors discuss clinical applications; in the second paragraph, they discuss academic applications. Such organization enhances readers' understanding.

pist's age, race, other physical features, and clothing style or quality, the harmful assumptions and judgments about others that people often make in person will not exist. This may allow for less biased communication from the client and genuine therapeutic guidance (Rochlen et al., 2004). Despite the possible benefits of online therapy, research on its effectiveness is still needed. Therefore, counselors should practice online counseling cautiously by taking extra ethical precautions, such as ensuring confidentiality, formulating an emergency protocol, and obtaining informed consent for treatment (Casper, 2004).

Furthermore, the present results may also be useful in academic settings. Because online communication elicited more self-disclosure, teachers may consider using it to form closer relationships with their students so they can better meet their students' needs. Using online communication may make students feel more comfortable asking teachers or other students' questions because of the anonymity it can provide. Similarly, online communication may be used in this way for students to assist each other with academic assignments. Naturally, the present study's results suggest that future research examine whether online communication may be used to increase disclosure and strengthen new business relationships between colleagues as well as personal relationships (familial, romantic, and platonic).

This paragraph addresses limitations of the present research and possible ways to overcome them in future investigations.

Given that online communication will likely continue to grow rapidly, research about the impact of online communication on self-disclosure and relationships is necessary. Due to the small and racially homogenous sample size, future studies should employ a larger and more ethnically diverse sample. Because this study took place on a small campus of less than 1000 students, the anonymity of online communication may have played a role in producing more self-disclosure in the online

group. This may have occurred because participants in the face-to-face group may have guarded their disclosures more than those in the online group if they thought they were likely to see their partners on campus later. This phenomenon may not occur in a larger sample from a bigger university or from a noncollege sample.

Additionally, future researchers should consider other important moderating variables to better understand the relationship between type of communication (online versus face-to-face) and self-disclosure. In particular, it would be helpful to consider the impact of certain personal characteristics, such as age, personality, race, culture, socioeconomic status, intelligence, and writing ability. Furthermore, the present study did not consider the effects of large amounts of self-disclosure on relationships; for example, future studies could examine how and in which situations excessive self-disclosure can harm a relationship. Finally, it would be beneficial to examine how online versus face-to-face communication impacts self-disclosure for particular types of relationships, such as student–teacher, client–therapist, romantic, and familial.

The concluding paragraph also addresses future research, highlighting specific variables that researchers may investigate.

- Every reference included in the article is listed in the References section.
- References are listed in alphabetical order by the last name of the first author.
- Citations use a "hanging" indenta tion.
- There is only a single space after the period that follows each reference element (e.g., year, title,).
- If there is more than one author, an ampersand (preceded by a comma) is used before the last author's surname.

For books and book chapters, include city and state (or city and country, if not in the United States).

This citation is an example of a reference to an entire book. For a book, the title is italicized.

- If an author's middle initial is prov ided in the article, the middle initial is included in the citation (with a space after the period between ini tials).

This citation is an example of a reference to a journal article, the most common type of source in a typical article.

- Note the order of reference elements, the use of capitalization in the arti cle compared to the journal title, and the use of italics for the journal name and volume number (but not for the article title or page numbers).
- There is a period after the page num bers, but not after the doi (digital object identifier).

This citation is for an online newsletter. As is the case for a doi, make sure not to put a period after a URL because it could be confused as part of the URL rather than as punctuation.

If a journal article does not have an assigned doi, provide the URL of the journal's home page.

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This citation illustrates the correct use of capitalization after a colon.

Alphabetize entries with the same first author according to the first difference between the two citations (ignoring "&"), not necessarily by the year of publication.

This article title illustrates correct use of a hyphen; all "self" compounds should be hyphenated.

Tidwell, L. C., & Walther, J. B. (2002). Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. *Human Communication Research, 28,* 317–348. doi:10.1111/j.1468-2958.2002.tb00811.x

Valkenburg, P. M., & Peter, J. (2007). Preadolescents' and adolescents' online communication and their closeness to friends. *Developmental Psychology, 43,* 267–277. doi:10.1037/0012-1649.43.2.267

This article title illustrates correct usage of apostrophes for plural possessives.

Wheeless, L. R. (1978). A follow-up study of the relationships among trust, disclosure, and interpersonal solidarity. *Human Communication Research, 4,* 143–157. doi:10.1111/j.1468-2958.1978.tb00604.x

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Appendix B

Constructing Grammatical Sentences

Proper sentence structure	Explanation	Correct example	Incorrect usage (see bolding)
Construct complete sentences and avoid sentence fragments.	A sentence expresses a complete thought and typically contains a subject and a verb. A fragment does not express a complete thought.	Because employers may consider being young as a plus (Finkelstein & Burke, 1998), older applicants may have difficulty obtaining an interview.	**Because employers may consider being young as a plus (Finkelstein & Burke, 1998).**
Use parallel construction.	Use a similar grammatical form to express each item in a series.	Limitations of this online research included convenience sampling, potential for socially desirable responding, and lack of control over the experimental environment.	Limitations of this online research included convenience sampling, **participants who may have responded in a socially desirable manner,** and the fact that the researcher did not control the experimental environment.
Make sure the subject agrees with the verb. (Remember, the word "data" is pural.)	The verb should be consistent with the subject in number (singular or plural) and person (1st, 2nd, or 3rd).	High scores on the ageism scale indicate more negative attitudes about older individuals.	High **scores** on the ageism scale **indicates** more negative attitudes about older individuals.
Make sure a pronoun agrees with the noun to which it refers.	A pronoun should be consistent in number (singular or plural) and person (1st, 2nd, or 3rd) with the noun that it replaces.	When individuals feel stereotyped, they may fall victim to self-fulfilling prophecies (Hilton & Von Hippel, 1996).	When **an individual** feels stereo typed, **they** may fall victim to self-fulfilling prophecies (Hilton & Von Hippel, 1996).
Make sure pronouns have a clear referent.	There should be no doubt about the noun to which a pronoun refers.	If older job applicants are viewed as resistant to change, employers may be less likely to hire them particularly when the pool of job applicants is large. This stereotyping of older applicants could lead to problems of discrimination.	If older job applicants are viewed as resistant to change, employers may be less likely to hire them particularly when the pool of job applicants is large. **This** could lead to problems of discrimination.
Use similar words appropriately.	Correctly distinguish between words that sound or look alike (e.g., "then" and "than, " "their" and "there").	Participants perceived that younger workers performed more efficiently than did older workers (Finkelstein & Burke, 1998).	Participants perceived that younger workers performed more efficiently **then** did older workers (Finkelstein & Burke, 1998).
Use apostrophes appropriately.	Apostrophes indicate possession or contraction, never whether a word is plural, and their placement differs for singular and plural nouns.	Kwong See and Heller (2004) explained how shifting standards for what is good across age groups may affect participants' responses.	Kwong See and Heller (2004) explained how shifting standards for what is good across age groups may affect participant**'s** responses.
Use a comma before a conjunction that separates two independent clauses.	Use a comma before a "coordinating conjunction" when the conjunction is used to connect two independent clauses. Coordinating conjunctions include For, And, Nor, But, Or, Yet, and So (FANBOYS).	Martens et al. (2004) reported that people do not want to be reminded of their own mortality, and older adults only serve as a reminder of the reality of aging and dying.	Martens et al. (2004) reported that people do not want to be reminded of their own **mortality and** older adults only serve as a reminder of the reality of aging and dying.

Proper sentence structure	Explanation	Correct example	Incorrect usage
Use a comma after introductory phrases, clauses, or words before the main independent clause.	If a sentence begins with a phrase or clause that does not express a complete thought, put a comma at the end of that phrase or clause.	Because of the increasing number of older workers, ageism in employment has become a topical issue (William & Nussbaum, 2001).	Because of the increasing number of older workers ageism in employment has become a topical issue (William & Nussbaum, 2001).
Do not use a comma between clauses when the dependent clause follows the main clause.	If a sentence includes an independent clause followed by a dependent clause, do not put a comma between the two clauses.	Ageism in employment has become a topical issue because of the increasing number of older workers (William & Nussbaum, 2001).	Ageism in employment has become a topical **issue, because** of the increasing number of older workers (William & Nussbaum, 2001).
Use a comma after each item in a series of three or more items.	If a sentence includes a series of items, put a comma between them.	Laczko and Philipson (1991) found that older workers exhibited high energy, flexibility, and a willingness to learn.	Laczko and Philipson (1991) found that older workers exhibited high energy, **flexibility and** a willingness to learn.
Avoid comma splices.	When only a comma connects two independent clauses, it is called a comma splice. Avoid this error by using a semicolon or a period.	We hypothesized that participants would perceive older workers as more resistant to change than younger workers. We derived this hypothesis from Reio and Sanders-Reio's (1999) findings that older adults were set in their ways.	We hypothesized that participants would perceive older workers as more resistant to change than younger **workers, we** derived this hypothesis from Reio and Sanders-Reio's (1999) findings that older adults were set in their ways.
Do not use a comma between a subject and a predicate (the part of a sentence including the verb).	There is no comma used between these two primary sentence components.	Another factor that may influence the reporting of discrimination is the accountability of employees.	Another factor that may influence the reporting of **discrimination, is** the accountability of employees.
Do not use a comma between two parts of a compound subject.	A subject may include more than one noun. If it does, do not put a comma between them.	Media and advertisements may reinforce ageist attitudes.	**Media, and** advertisements may reinforce ageist attitudes.
Do not use a comma between two parts of a compound predicate.	A predicate may contain more than one verb or verb phrase. If it does, do not put a comma between them.	Older employees can contribute considerably to a company and should be valued for their achievements.	Older employees can contribute considerably to a **company, and** should be valued for their achievements.
Use semicolons correctly.	The most common use of a semicolon is to separate two independent clauses not connected with a conjunction.	Lawmakers enacted the Age Discrimination Act to protect older workers from discrimination; legislators designed the Act to provide guidance to employers.	Lawmakers enacted the Age Discrimination Act to protect older workers from discrimination; **providing** guidance to employers.
Use colons correctly.	The most common use of a colon is to separate a grammatically complete (independent) clause from a final phrase that extends it.	Fraboni, Saltstone, and Hughes (1990) indicated that their ageism scale included three primary factors: antilocution, avoidance, and discrimination.	The three primary factors of the ageism scale **were:** antilocution, avoidance, and discrimination (Fraboni, Saltstone, & Hughes, 1990).

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