

# MODULE 21

## Communicating Research Findings

### LEARNING OBJECTIVES

- Identify and briefly describe the basic components of an APA-format paper.
- Be familiar with the basic word processing skills necessary to create an APA-style paper.

## WRITING CLEARLY

The APA style guidelines are intended to facilitate clear paper writing. First, the APA recommends an orderly and organized presentation of ideas. Toward this end you should prepare an outline of the paper before you begin writing. Second, the APA guidelines stress smoothness of expression, or clear and logical communication. To meet this goal, provide transitions from paragraph to paragraph and from section to section, do not change topics suddenly, and make sure you have not omitted something that is necessary to understand the material being presented. Third, the APA recommends striving for economy of expression, avoiding wordiness and redundancy. Following are some examples of wordiness:

<i>Wordy</i>	<i>Better</i>
at the present time	now
based on the fact that	because
the present study	this study

In the following examples from the APA manual, the italicized words are redundant and can be omitted:

*Six different* groups saw  
*a total of* 45 participants  
 in *close* proximity  
*just* exactly  
 has been *previously* found

The APA manual provides several strategies to improve writing style and avoid potential problems, including: writing from an outline; putting aside the first draft, rereading the initial draft after a delay; and asking a colleague or peer to critique the draft for you.

## AVOIDING GRAMMATICAL PROBLEMS

Among other things, clarity and smoothness depend on grammatical correctness. Be sure to check for subject and verb agreement. If the subject is singular, then the verb in the sentence must be singular; if the subject is plural, then the verb should be plural.

*Incorrect:* Participant apathy as well as performance on the task decrease with practice.

*Correct:* Participant apathy as well as performance on the task decreases with practice.

A pronoun must agree with its antecedent. Pronouns replace nouns (antecedents). If the antecedent is singular, then the pronoun must be singular; if the antecedent is plural, then the pronoun should be plural.

*Incorrect:* The participant first entered their four-digit code.

*Correct:* The participants first entered their four-digit code.

*Or:* The participant first entered his or her four-digit code.

In addition, pronouns must agree in gender (i.e., masculine, feminine, or neuter) with the nouns they replace. This rule also applies to relative pronouns, a pronoun that links subordinate clauses to nouns. The relative pronoun *who* should be used for human beings, whereas *that* or *which* should be used for nonhuman animals and for things.

*Incorrect:* The subjects that volunteered were asked to complete a survey.

*Correct:* The subjects who volunteered were asked to complete a survey.

Another common problem in student papers is the misuse of homophones. Homophones are words that sound the same or are pronounced the same but are spelled differently and have different meanings. For example, *to*, *too*, and *two* are homophones as are *rite*, *write*, and *right* and *their*, *there*, and *they're*. Make sure you understand the proper use of each of these homophones.

Two other errors frequently made by students that resemble homophone errors are confusing *then* and *than* and *effect* and *affect*. The word *then* is an adverb meaning “at that time”; the word *than* is a conjunction meaning “in comparison with.” The following examples illustrate correct usage:

*Then:* I was at work then.

I want to go to the gym first and then go to the store.

*Than:* She is a better dancer than I.

I would rather go to the game than study for my exam.

The word *effect* can be a noun or a verb. As a noun it means “what is produced by a cause”; as a verb it means “to bring about or accomplish.”

*Effect* (noun): The amount of practice had a significant effect on reaction time.

*Effect* (verb): I effected a change in the grading policy.

The word *affect* can also be a noun or a verb. As a noun it refers to emotion; as a verb it means “to act on or to move.”

*Affect* (noun): The participants in the placebo group maintained a flat affect.

*Affect* (verb): The amount of practice affected reaction time.

Other common problems include distinguishing between *that* and *which* and between *while* and *since*. *That* and *which* are relative pronouns used to introduce an element that is subordinate to the main clause of the sentence. *That* clauses are restrictive; that is, they are essential to the meaning of the sentence.

*Example:* The animals that performed well in the first experiment were used in the second experiment.

In other words, only those animals that performed well were used in the second experiment. *Which* clauses are nonrestrictive and merely add further information.

*Example:* The animals, which performed well in the first experiment, were not proficient in the second experiment.

In other words, the second experiment was more difficult for all of the animals.

*While* and *since* are subordinate conjunctions that also introduce an element that is subordinate to the main clause of the sentence. Although some style authorities accept the use of *while* and *since* when they do not refer strictly to time, the APA manual calls for the use of *while* and *since* primarily when referring to time. *While* should be used to refer to simultaneous events; *since* should be used to refer to a subsequent event.

*While*: The participants performed well while listening to music.

*Since*: Since this original study, many others have been published.

When the writer is not referring to temporal events, the APA manual suggests using *although*, *whereas*, *and*, or *but* rather than *while* and *because* rather than *since*.

Beware of misusing nouns of foreign origin such as *data*, which is a Latin plural noun (the singular is *datum*).

*Incorrect*: The data is presented in Table 1.

*Correct*: The data are presented in Table 1.

Other nouns of foreign origin with plural forms that are frequently misused include the following:

<i>Singular</i>	<i>Plural</i>
phenomenon	phenomena
stimulus	stimuli
analysis	analyses
hypothesis	hypotheses

Finally, the APA prefers the use of active voice rather than passive voice because verbs are vigorous, direct communicators. Although the passive voice is acceptable in other forms of writing, in APA-style writing we are focusing on the actor. The following examples illustrate the use of active versus passive voice.

*Nonpreferred*: The data were analyzed using a two-way randomized ANOVA.

*Preferred*: We analyzed the data using a two-way randomized ANOVA.

## REPORTING NUMBERS

You will most likely be reporting many numbers in your research paper, from the number of participants used to the statistics that you calculated. How should they be reported—as numbers or in words? The general rule for APA papers is to use words when expressing numbers below 10 that do not represent precise measurements and to use numerals for all numbers 10 and higher. This general rule, however, has some exceptions.

- When starting a sentence with a number, use words.  
*Example*: Sixty students participated in the study.
- When reporting a percentage, use numerals followed by a percent sign.  
*Example*: The participants in the imagery practice condition improved by 40%, whereas those in the nonimagery practice condition improved by only 8%.

- When describing ages, use numerals.  
*Example:* The 10-year-olds performed better than the 8-year-olds.
- When describing sample size, use numerals.  
*Example:* There were 9 females and 9 males in each condition.
- When reporting statistics, mathematical formulas, functions, or decimal quantities use numerals.  
*Example:* The mean score for the females was 6.
- When referring to times or dates use numerals.  
*Example:* Subjects had 2 hours to work on the task.
- When numbers above or at 10 and below 10 are being compared in the same sentence, use numerals.  
*Example:* Participants worked on either 5 or 10 logic problems.

One final consideration with respect to reporting numbers is how to report statistics. As noted, they are reported as numbers. However, each statistical term is represented by an italicized abbreviation. The abbreviations for some of the more commonly used descriptive statistics are given here:

<i>M</i>	Mean
<i>SD</i>	Standard deviation
<i>df</i>	Degrees of freedom
<i>N</i>	Total number of participants

When we report the results of a statistical significance test, APA style is to report the abbreviation for the test with the degrees of freedom in parentheses, the calculated value of the test statistic, and the probability level.

*Example:* The participants in the imagery rehearsal condition remembered more words ( $M = 7.9$ ) than the participants in the rote rehearsal condition ( $M = 4.5$ ),  $t(18) = 4.86, p < .01$  (one-tailed).

Table 21.1 provides examples of the correct APA format for reporting the results from several statistical significance tests.

**TABLE 21.1**  
Statistical Abbreviations and Examples of Correct APA Format  
for Reporting Test Results

Statistical Abbreviation	Statistical Test	Example of Correct APA Reporting Format
<i>r</i>	Pearson's product-moment correlation coefficient	$r(20) = .89, p < .01$
<i>t</i>	<i>t</i> test	$t(18) = 3.95, p < .001$
$\chi^2$	$\chi^2$ test	$\chi^2(1) = 4.13, p < .05$
<i>F</i>	ANOVA	$F(2, 24) = 5.92, p < .01$

## CITING AND REFERENCING

Another important element of an APA-style paper is citing and referencing properly. The most important general rule to keep in mind is that any information obtained from another source, whether quoted or simply reported, must be cited and referenced. The author's name and the publication date of the work are cited in the body of the paper. All sources cited in the paper must then appear in the references list, which in turn should contain entries only for those works cited in the text of the paper. This practice enables readers to identify the source of ideas and then to locate the published sources.

### Citation Style: One Author

APA journals use the author-date method of citation. Accordingly, the surname of the author and the date of publication are inserted in the text at the appropriate point.

Jones (1999) found that ...

A recent study of rehearsal type (Jones, 1999) suggests ...

According to a recent study (Jones, 1999), imagery rehearsal ...

Participants who used rote rehearsal remembered fewer words than those who used imagery rehearsal (Jones, 1999).

When the name of the author appears as part of the text, cite the year of publication in parentheses. When the name of the author is not part of the narrative, both the author and the date appear in parentheses and are separated by a comma. This parenthetical citation may fall either within a sentence or at its end. Within a paragraph there is no need to include the year of publication in subsequent citations of the same study as long as the study cannot be confused with others cited.

### Citation Style: Multiple Authors

When a work has two authors, cite both authors every time the reference occurs. When a work has three to five authors, cite all authors the first time the reference occurs. After that, cite only the first author's surname followed by the abbreviation "et al." (and others).

*First citation:* Burns, Menendez, Block, and Follows (2001) found ...

*Subsequent citation within the same paragraph:* Burns et al. found ...

*Subsequent first citation per paragraph thereafter:* Burns et al. (2001) found ...

When a paper has six or more authors, cite only the surname of the first author followed by "et al." and the year of publication for the first and subsequent citations. When the paper appears in the references, however, include the names of all authors. Note that when two or more authors are cited in parentheses, the word "and" is replaced by an ampersand (&).

### Reference Style

APA reference style differs for journal articles, books, edited books, dissertations, magazines, newspaper articles, and information from the Web. When in doubt about referencing format, it is best to consult the *APA Publication Manual* (2009). References are typed in alphabetical order by

the first author's last name. Each reference has several sections that are separated by periods, for example, author name(s), publication date, article title, and journal. The title of a journal (or book) and the volume number of the journal are italicized. The first line of each reference begins at the left margin, and all subsequent lines are indented—known as a hanging indent. Like the rest of the manuscript, the references are double-spaced. The following are the correct formats for some of the more commonly used types of references. If you are referencing a source that is not covered here, consult the *Publication Manual*.

#### *Journal Article*

Karau, S. J., & Williams, K. D. (1993). Social loafing: A meta-analytic review and theoretical integration. *Journal of Personality and Social Psychology*, 65, 681–706.

#### *Book: One Author, First Edition*

Hunt, M. (1993). *The story of psychology*. New York: Doubleday.

#### *Book: Multiple Authors, Second or Later Edition*

Bordens, K. S., & Abbott, B. B. (1999). *Research design and methods: A process approach* (4th ed.). Mountain View, CA: Mayfield.

#### *Edited Book*

Sternberg, R. J., & Barnes, M. L. (Eds.). (1988). *The psychology of love*. New Haven, CT: Yale University Press.

#### *Chapter or Article in an Edited Book*

Massaro, D. (1992). Broadening the domain of the fuzzy logical model of perception. In H. L. Pick, Jr., P. van den Broek, & D. C. Knill (Eds.), *Cognition: Conceptual and methodological issues* (pp. 51–84). Washington, DC: American Psychological Association.

#### *Magazine*

King, P. (1991, March 18). Bawl players. *Sports Illustrated*, 14–17.

*Diagnostic and Statistical Manual of Mental Disorders*

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

*Paper Presented at a Meeting*

Roediger, H. L., III. (1991, August). *Remembering, knowing, and reconstructing the past*. Paper presented at the annual meeting of the American Psychological Association, San Francisco.

*Poster Presented at a Meeting*

Griggs, R. A., Jackson, S. L., Christopher, A. N., & Marek, P. (1999, January). *Introductory psychology textbooks: An objective analysis and update*. Poster session presented at the annual meeting of the National Institute on the Teaching of Psychology, St. Pete Beach, FL.

*Internet Article Based on a Print Source*

Jacobson, J. W., Mulick, J. A., & Schwartz, A. A. (1995). A history of facilitated communication: Science, pseudoscience, and antiscience. *American Psychologist*, 50, 750–765. doi: 10.1037/0003-066X.50.9.750

*Article in an Internet-Only Journal*

Fredrickson, B. L. (2000, March 7). Cultivating positive emotions to optimize health and well-being. *Prevention & Treatment*, 3, Article 0001a. Retrieved from <http://journals.apa.org/prevention/volume3/pre0030001a.html>

## TYPING AND WORD PROCESSING

In APA style the entire manuscript is double-spaced. This double-spacing includes the title page, headings, footnotes, quotations, and references. Single or one-and-a-half spacing may be used in tables and figures. Use a 12-point font size in a serif style such as Times New Roman. Margins should be at least 1 inch at the top, bottom, left, and right of every page. Justify the left margin, but you should leave the right margin uneven, or ragged. Do not divide words at the end of a line, and do not use a hyphen to break words at the ends of

lines. Use one space after commas, colons, semicolons, periods in citations, and all periods in the reference section. The APA prefers two spaces after periods at the end of sentences. Begin numbering the manuscript on the title page and number all pages thereafter. The running head (the information at the top of each page) and page numbers should be about ½ inch from the top of the page. Paragraphs should be indented five to seven spaces.

## ORGANIZING THE PAPER

An APA-style manuscript has a specific organization. The proper order is title page, abstract, introduction, method, results, discussion, and references, and any footnotes. Finally, tables, figures, and appendices appear at the very end of the manuscript. In the following sections we discuss the basic content for each of these parts of the manuscript. Refer to the sample paper in Module 22 as you read through each of the following sections.

### Title Page

The title page in an APA-style manuscript contains more information than simply the title of the paper. Refer to the title page in Module 22. At the top of the page is the running head—an abbreviated title—that is preceded by the phrase “Running head”; however, this phrase only appears on the title page. The running head itself is typed in all capital letters. In the sample paper the running head is “WILLINGNESS TO DATE.” The running head is left-justified and appears about ½ inch from the top of the page. Thus it is actually printed in the top margin of the page. It should be a maximum of 50 characters, counting letters, punctuation, and spaces between words. Right-justified on the same line as the running head, is the page number, beginning with the title page as page 1. The running head and page number appear on every page of the manuscript (remember, although the running head appears on every page of the paper, it is preceded by the phrase “Running head” only on the title page). If you are using a word processing program, use the header/footer function to insert the running head and page number. Do not try to manually type the running head on each page. APA style requires the running head so that those reviewing the manuscript have an easier time keeping the paper together and the pages in the correct order. In addition, if the paper is published in a journal, the running head will appear at the top of either odd- or even-numbered pages of the article. Thus the running head should convey in brief what the paper is about.

The title is centered below the running head and page number in the top half of the page. A title should be no more than 12 words and should clearly and simply summarize the main idea of the paper. Notice that the title of the sample paper, “The Effects of Salary on Willingness to Date,” states the effects of an independent variable on a dependent variable. Below the title of the paper is the author’s name, and below that is his or her institutional affiliation. Lastly, author notes appear on the title page. Author notes include the heading “Author Note” followed by the departmental affiliation of each author and the sources of financial support. It can also provide such background information about the study as that it was based on the author’s master’s thesis or dissertation. The author note also provides acknowledgments to colleagues who may have helped with the study. Further, the author note tells the reader whom to contact for further information concerning the article.

### Abstract

Page 2 of the manuscript is the abstract. See the abstract in Module 22. The word “Abstract” is centered at the top of the page, the abstract itself is written as a block-style paragraph (no paragraph indent), and the running head and page number are in top margin of the page. The abstract is a brief comprehensive summary of the contents of the manuscript. It should be between 150 and 250 words. Although the abstract appears at the beginning of the manuscript, it is usually easier to write it after you have written the entire paper because it is a very brief description of the entire paper. When writing the abstract, try to describe each section of the paper (introduction, Method, Results, and Discussion) in one or two concise sentences. Describe the problem under investigation and the purpose of the study; the participants and general methodology; the findings with statistical significance levels, and/or effects sizes, and confidence intervals; and the conclusions and implications or applications of the study. If your manuscript is published, the abstract will appear in collections of abstracts such as those in the *Psychological Abstracts* described in Module 3.

### Introduction

The introduction begins on page 3. It is not labeled “Introduction”; instead, the title of the manuscript, exactly as it appears on the title page, is centered at the top of the page. The introduction has three basic components. The first part introduces the problem under study. The second part contains relevant previous research to provide an appropriate history and cites works that are pertinent to the issue but not works of marginal or peripheral significance. When summarizing earlier works, emphasize pertinent findings, relevant methodological issues, and major conclusions. Do not include nonessential details. The third part of the introduction states the purpose and rationale for the study. You should explain your approach to solving the problem, define the variables, and state your hypotheses along with the rationale for each hypothesis.

### Method

The Method section begins wherever the introduction ends; it does not begin on a new page. The heading “**Method**” in boldfaced font is centered wherever the Method section begins. This section describes exactly how the study was conducted, in sufficient detail that it can be replicated by anyone who has read the Method section. This section is generally divided into subsections. Although the subsections vary across papers, the most common are “participants” (or “subjects”) and “procedure,” although it is also possible to have a separate materials or apparatus section as in the sample paper in Module 22. The participants subsection should include a description of the participants and how they were obtained. Major demographic characteristics such as gender, age, and ethnicity should be described when appropriate, and the total number of participants should be indicated. A materials subsection if used usually describes the testing materials used, such as a particular test or inventory or a type of problem that participants were asked to solve. An apparatus subsection if used describes specific equipment employed. The procedure subsection summarizes each step in the execution of the research, including the groups used in the study, instructions given to the participants, the experimental manipulation employed, any counterbalancing or randomization used, and specific control

features utilized in the design. If the design is particularly complex, you may want to consider having a separate design subsection preceding the procedure.

### Results

The Results section begins right after the Method section, with the heading “**Results**” in boldfaced print centered before the section begins. This section summarizes the data collected and the type of statistic(s) used to analyze the data. It should include a description of the results only, not an explanation of the results. In addition to using the APA format (as explained earlier in the module), it is also common to use tables and figures when presenting the results. Tables usually provide exact values and can be used to display complex data and analyses in an easy-to-read format. Figures provide a visual impression and can be used to illustrate complex relationships, but they are generally not as precise as tables. Remember that tables and figures are used to supplement the text. When using them, you must refer to them in the text, telling the reader what to look for. Although tables and figures are referred to in the Results section of the paper (and will be included here if the manuscript is published), the actual tables and figures appear at the end of the manuscript, following the references and footnotes.

### Discussion

The Discussion section begins immediately after the Results section with the heading “**Discussion**” centered at the beginning of the section. The Discussion section allows you to evaluate and interpret the results. Typically this section begins with a restatement of the predictions of the study. You then discuss whether the predictions were supported. Next comes a discussion of the relationship between the results and past research and theories. Lastly, include any criticisms of the study (such as possible confounds) and implications for future research. If the Discussion is relatively brief, it can be combined with the Results section as a Results and Discussion section or Results and Conclusions section.

### References

Use the correct format for references (as described earlier in the module). The references begin on a new page after the end of the discussion. Center the word “References” (no boldfaced print here) at the top of the page. Remember to double-space the references, use a hanging indent, and include the running head and page number in the top margin of each page. Also remember that any works cited in the text must appear in the references but that only works cited in the text should be included.

### Appendices

Appendices are used to provide information that might be distracting if presented in the text. Some examples of material that might be included in an appendix are a computer program specifically designed for the research study, an unpublished test, a mathematical proof, and a survey instrument.

### Tables and Figures

Although tables and figures are typically used and referred to in the Results section to supplement the text, they appear at the end of the manuscript. Tables always precede figures at the end of the manuscript, no matter what order they were referred to in the text. Each table appears on a separate page.

**TABLE 21.2**  
Sample Table

	Science		Humanities	
	Helping first	Mood first	Helping first	Mood first
Males	22.22	23.00	45.40	61.11
Females	14.67	9.50	50.22	52.09

There are no specific rules for formatting tables, other than that they should not appear cramped, that horizontal lines should be used to define areas of the table, and that vertical lines may not be used. The columns and rows of the table should be labeled clearly. The running head and page number continue to be used on the pages with tables. In addition, each table should be numbered and have a brief explanatory title. Because the sample paper in Module 22 has no tables, the example in Table 21.2 illustrates the basic table format.

Figures are always placed after the tables at the end of the manuscript. The running head and page number appear on the figure pages also. If there is more than one figure in the manuscript, each figure appears on a separate page. The figure caption appears at the bottom of the page and can be single-, one-and-a-half-, or double-spaced. It is preceded by the identifier in italics “*Figure 1.*” or “*Figure 2.*” etc. A figure can consist of a graph, chart, photograph, map, or drawing. Several figures appear in Modules 15, 18, 19, and 20. You can use these or the figure that appears in the sample paper as guides. In graphs the levels of the independent variable are plotted on the *x*-axis, and the values of the dependent variable are plotted on the *y*-axis. If a study has more than one independent variable, the levels of the second and successive independent variables are labeled within the figure.

### The Use of Headings

APA-style papers use one to five levels of headings. Examples of the types of headings follow:

- Level 1            **Centered, Boldface, Uppercase and Lowercase Heading**  
The heading is centered and boldface. The first letter of each word is capitalized. The text begins indented on a new line.
- Level 2            **Flush Left, Boldface, Uppercase and Lowercase Heading**  
The heading is typed in boldface, flush on the left margin. The first letter of each word is capitalized, and the text begins indented on a new line.
- Level 3            **Indented, boldface, lowercase paragraph heading ending with a period.** The heading is indented, typed in boldface, and has a period at the end. The first letter of the first word is capitalized, and the text begins on the same line.

- Level 4      *Indented, boldface, italicized, lowercase paragraph heading ending with a period.* The heading is indented, typed in boldface and italics, and has a period at the end. The first letter of the first word is capitalized, and the text begins on the same line.
- Level 5      *Indented, italicized, lowercase paragraph heading ending with a period.* The heading is indented, typed in italics, and has a period at the end. The first letter of the first word is capitalized, and the text begins on the same line.

Most papers will use Level 1-3 headings. It might be necessary to use Level 4 and 5 headings in more complex papers.

Level 1 headings are used for major sections such as the Method, Results, and Discussion. The heading is centered, and the first letter of each word is capitalized. (Please note that the APA does not consider the abstract, title of the paper in the introduction, or the references headings. So although they are centered at the top of their respective sections, they are not boldface.) Level 2 headings are used to divide the major sections into subsections. In the sample paper Level 2 headings divide the Method section into subsections. These headings are typed in boldface, flush on the left margin, and the first letter of each word is capitalized. Level 3 headings may be used to organize material within a subsection. Consequently the procedure subsection might be further subdivided into categories of instructions to participants, or the materials subsection might be further divided into categories of tests. A Level 3 heading begins on a new line, indented, and typed in boldface. Only the first letter in the first word is capitalized. The heading ends with a period, and the text begins on the same line.

## APA-FORMATting CHECKLIST

The checklist in Table 21.3 itemizes some of the most common errors found in student papers. Before finalizing a research paper, reread the manuscript and review this checklist for potential errors.

## CONFERENCE PRESENTATIONS

Psychologists conducting research frequently attend research conferences at which they present their findings. Their presentations typically take one of two forms: an oral presentation or a poster presentation. Brief descriptions of each of these presenting methods follow.

### Oral Presentations

Most oral presentations have one thing in common: you are limited in the amount of time you have to present. Typically you have 10 to 15 minutes to present your research and answer questions. Thus the first dilemma is how to condense your entire paper to a 10- to 15-minute presentation. According to the *Publication Manual*, the material you deliver verbally should differ in the level of detail from your written work. It is appropriate to omit many of the details of the scientific procedures because someone listening to your

**TABLE 21.3**  
**APA-Formatting Checklist**

#### General Formatting and Typing

- There are at least 1-inch margins on all four sides of each page of the manuscript.
- The font is the correct size (12 point on a word processor) and the correct style (a serif font such as Times New Roman).
- The manuscript is double-spaced throughout, including title page, references, and appendices. Tables and figures can be single, one-and-a-half-, or double-spaced.
- The page number appears on the same line with the running head with the running head left-justified and the page number right-justified.
- The running head and page number are typed at the top of each page 1/2 inch from the top of the page (in the top margin).
- There is only one space after commas, colons, semicolons, periods in citations, and all periods in the reference section. Two spaces are preferred after periods at the ends of sentences.
- Arabic numerals are used correctly to express numbers that are 10 or greater; numbers that immediately precede a unit of measurement; numbers that represent fractions and percentages; numbers that represent times, dates, ages, participants, samples, populations, scores, or points on a scale; and numbers less than 10 when those numbers are compared to a number greater than 10.
- Words are used correctly to express numbers less than 10 and numbers at the beginning of a title, sentence, or heading.

#### Title Page

- The entire title page is double-spaced.
- The running head is aligned with the left margin and is less than 50 characters and spaces long and appears in the top margin 1/2 inch from the top of the page. It is preceded by the phrase “Running head:” on the title page only. The running head itself is in all capital letters but not the phrase “Running head:”.
- The page number appears on the same line as the running head and is right-justified.
- The title of the paper is centered in the top 1/3 of the page with the author’s names and affiliations centered below it.
- The author note appears on the title page at the bottom of the page with the header “Author Note” centered above it.

#### Abstract

- “Abstract” is centered at the top of the page—not in boldface.
- The first line of the abstract is even with the left margin (block style, not indented).
- The abstract is between 150 and 250 words.

#### Body of the Manuscript

- The title of the paper appears centered at the top of page 3 and is not in boldface.
- There are no one-sentence paragraphs.
- The word “while” is used primarily to indicate events that take place simultaneously (alternatives: “although,” “whereas,” and “but”).
- Abbreviated terms are written out completely the first time they are used and then always abbreviated thereafter.
- The word “and” is used in citations outside of parentheses.
- The ampersand (&) is used in citations within parentheses.
- Each and every citation used in the manuscript has a corresponding entry in the references section.
- The phrase “et al.” is used only when there are three or more authors.
- In the Results section all test statistics ( $F$ ,  $t$ ,  $\chi^2$ ,  $p$ ) are italicized.
- The section headings Method, Results, and Discussion are in boldface.

#### References Section

- “References” is centered at the top of the first page—not in boldface.
- The first line of each reference is flush left, and subsequent lines are indented (a hanging indent).
- All entries are typed in alphabetical order.
- Authors’ names are separated by commas.
- Authors’ last names appear with first and (if provided) middle initials (do not type out first or middle names).
- The name of the journal and the volume number are italicized.
- Each and every entry is cited in the body of the manuscript.

presentation cannot process at the same level of detail as someone reading a written paper. Decide on a limited number of significant ideas you want the audience to process. In addition, use clear, simple language free of jargon to state what you studied, how you went about the research, what you discovered, and the implications of your results. It is appropriate to be redundant in order to emphasize important ideas. Also consider using transparencies, slides, or PowerPoint slides as part of your presentation. It is also recommended that you write your presentation out and practice delivering it out loud to learn it and to determine its length. You should also consider presenting your paper to a critical audience before delivering it at a conference. When you actually deliver the paper, do not read it. Instead, try to speak directly to the audience and refer when necessary to an outline of key points. In addition, make sure to leave time for questions. Finally, have copies of your paper ready for distribution (APA, 2001a).

### Poster Presentations

Poster presentations differ from oral paper presentations in that they provide the opportunity for the presenter and the audience to talk with one another. Typically posters are presented in an exhibit area with other posters, which are often on a similar topic and are being presented at the same time. In this manner those interested in the topic can visit the exhibit area, wander about, view the posters, and speak with the authors. Each presenter has a bulletin board, usually about 3.5 feet high by 3 feet wide, on which to display a poster. Bring your own thumbtacks. In constructing the poster, use a few simple guidelines. As with paper presentations minimize jargon and try to use clear and simple language to describe what you studied, how you went about the research, what you discovered, and what the implications of your results are. Pictures, tables, and figures work very well in poster presentations. Make sure you use an appropriate font size when preparing the poster; viewers should be able to read it easily from a distance of 3 feet. As with oral paper presentations have copies of your paper ready for distribution.

#### CRITICAL THINKING CHECK 21.1

1. Explain what the running head is and where it appears in the manuscript.
2. Identify and briefly explain what the subsections in a Method section should be.
3. Explain what information should and should not appear in a Results section.

### SUMMARY

After reading this module, you should have an understanding of APA's writing standards. We presented basic APA formatting and writing guidelines. We discussed how to write clearly, avoid grammatical problems, report numbers, and properly cite and reference the works of others. In addition, we described the organization of an APA-style manuscript, with frequent