

# Guidelines for Writing An APA Style Lab Report

Research articles in psychology follow a specific format as set forth by the American Psychological Association (**APA Style**). The following sections describe the major components of this format. You will be responsible for following all of the stylistic rules set forth in this appendix when you write your lab reports. If you desire further information about any of these rules, please refer to the *APA Publication Manual* (5th edition).

## I. Margins, Spacing, and Font

- Margins are 1 inch all around.
- Everything in the paper is double-spaced.
- A manuscript page header, which includes the first 2 or 3 words of the title followed by five spaces and then a page number, appears in the upper right hand corner of every page.
- Font is 12 point (or equivalent), and is Times New Roman

## II. Title Page

- The title page is the first page of your lab report.
- Running head
  - The running head is a short form of the paper's title that must make sense.
  - The running head goes at the top of the page, at the left margin, and is typed in all capital letters.
  - Type "Running head:" followed by the abbreviated version of the title.
  - The running head can contain no more than 50 characters.
  - e.g. Running head: GENDER AND AGGRESSION
- Title
  - The title should be concise and specific (usually not more than 12-15 words).
  - The title should be centered, and all major words should be capitalized.
  - Avoid using phrases such as "An experiment on", "A study of", or "The effect of."
- Author's name
  - Your name goes on the line below the title, and is centered as well.
  - On the line below your name, list your affiliation (e.g. Lafayette College)
- The title, author's name, and affiliation should also be centered on the page vertically.

## III. Abstract

- The abstract is the second page of your lab report.
- It is a very concise summary of the whole report that is normally written after the paper is complete.
- The abstract should indicate the purpose of the study and summarize the main findings.
- You should try to have something about each section (Introduction, Method, Results, and Discussion) in your abstract.
- The first line of this page should say, "Abstract" and should be centered.
- This abstract should be no longer than 120 words.
- The abstract is not indented.

- All numbers reported in the abstract (even those less than 10) should appear in numeral form.

#### **IV. Introduction**

- The introduction starts on a new page (the third page of your paper), and the title of your paper should appear at the top of the first page of the introduction.
- Introduce the topic with a description of the problem or issue being investigated.
- Develop the background by summarizing relevant prior research.
  - It is normally a good idea to dedicate a paragraph to each of the relevant articles you have read.
  - You should include pertinent information about the previous studies (this may include hypotheses, methodology, findings and conclusions).

##### Regarding In-Text Citations:

- Refer to articles by their authors and the date of the study, not the title of the study. For example:
  - Smith and Jones (1978) discovered that...
  - Several studies have found that anxiety negatively affects test performance (Brown, 2000; Smith & Jones, 1978).
    - Note that references are listed in alphabetical order and are linked by a semi-colon.
  - When the authors are referred to in a sentence, “and” is used, but when the authors names appear in parentheses at the end of a sentence “&” is used.
- If an article has more than three authors, after the first time you reference their names in the text (e.g. Smith, Jones & Brown, 2003), you may refer to the research as Smith et al., 2003.
- If you refer to a study more than once in a paragraph, you can omit the date. However, if you refer to the study in a different paragraph, you must include the date again.
- If you use a direct quotation, you must include the page number(s).
- Provide a rationale for why you conducted this study.
- Give a brief overview of your study and present hypotheses about the expected results of the study.
  - Explain the rationale for your hypotheses, relating them back to the previous research.
- See APA Manual pp. 15-17 for further information.

#### **V. Method**

- The method section follows immediately after the introduction (on the same page).
- The main heading for this section, “Method”, should be centered on the line following the introduction.
- The purpose of the method section is to:
  - \* Tell the reader how you collected your data.
  - \* Give the reader enough information to assess the validity and reliability of your results.
  - \* Give the reader enough information to replicate your study.
- Subsections of the method section are:
  - \* Participants (or Subjects)

- \* Materials (or Apparatus)
- \* Procedure
- The participants/subjects subsection should contain information about:
  - \* Who participated? (age, sex, other important demographics)
  - \* How many participated?
  - \* How were participants/subjects selected, and why did they participate?
  - \* The heading for this subsection should be left justified, and italicized. If your research involves humans, the heading should be “*Participants*,” if you used animals, it should be “*Subjects*.”
- The materials / apparatus subsection should contain:
  - \* A description of all apparatus and materials in enough detail to allow the reader to replicate the study.
  - \* Detailed descriptions of custom materials and apparatus.
  - \* The heading for this subsection should be left justified, and italicized. If your research uses only paper and pencil materials, such as questionnaires, the heading should be “*Materials*,” if your research uses physical objects, such as cell phones or fish tanks, it should be “*Apparatus*.”
- The procedure subsection should:
  - \* Summarize the research methodology and research design.
  - \* Describe the setting of the study.
  - \* Describe control procedures such as randomization or counterbalancing.
  - \* Describe the instructions given to the participants.
  - \* Describe the specific experimental manipulations.
  - \* The heading for this subsection, “*Procedures*”, should be left justified, and italicized.
- See APA Manual pp. 17-20 for further information.

## VI. Results

- The results section follows immediately after the method section (on the same page), and the heading (“Results”) is centered.
- This section summarizes the data and the appropriate statistical tests.
- Begin with your main findings and then describe the other relevant results.
- Present the results in a straightforward manner.
- Do not discuss the implications of your results in the results section.
- When you use any tables or figures, refer to them in the text of the results section: e.g., “see Table 1” or “as shown in Figure 1.”
- Round numbers to the nearest hundredth (two decimal points).
- Examples of how to report statistics using APA format:
  - Means (*M*) and Standard Deviations (*SD*):
    - $M = 3.67, SD = .64$
  - Statistical Tests
    - $t(25) = 29.43, p < .05$
    - $F(2, 11) = 54.88, p < .05$
    - Note:  $p$  is the probability that you received your results by chance alone. In most cases, if  $p < .05$ , your results are considered statistically significant.

- Describe the pattern of results, and include the statistics in parentheses, e.g. “The average score in Group 1 ( $M = 3.24$ ,  $SD = .75$ ) was higher than the average score in Group 2 ( $M = 2.34$ ,  $SD = .34$ ), and this difference was found to be statistically significant ( $p < .05$ ).
  - Avoid sentences like “The mean of Group 1 was 3.67 and the standard deviation was .64.”
- See APA Manual pp. 20-26 for further information.

## VII. Discussion

- The discussion section follows immediately after the results section (on the same page), and the heading (“Discussion”) is centered.
- First, summarize the results and state whether or not they support your hypotheses.
- Then relate the results to previous research, discussing whether they are similar or dissimilar to previous findings.
- Discuss any weaknesses in the design or procedures and how this may have affected your results.
- Discuss implications of the findings and any potential directions for future research.
- End this discussion by commenting on the significance of your research.
- See APA Manual pp. 26-27 for further information.

## VIII. References

- The reference section starts on a new page.
- All citations in the text must appear in the reference section.
- All entries in the reference section must appear in the text.
- List the works in alphabetical order by the first author's last name.
- Each entry uses a hanging indent, meaning that the first line of the entry is at the normal margin, but the subsequent lines are indented.
- Examples of Journal Article Entries:
  - Hancock, D. R. (2001). Effects of test anxiety and evaluative threat on students' achievement and motivation. *The Journal of Educational Research*, 94, 284-290.
  - Nussbaum, J. F., & Bettini, L. M. (1994). Shared stories of the grandparent-grandchild relationship. *The International Journal of Aging and Human Development*, 39, 67-80.
  - Schutz, P. A., Davis, H. A., & Schwanenflugel, P. J. (2002). Organization of concepts relevant to emotions and their regulation during test taking. *The Journal of Experimental Education*, 70(4), 316-342.
    - Include the author' last name(s), but only the initials of their first and middle name.
    - The date of the article goes in parentheses, and is followed by a period.
    - Note that for the title of the article, only the first letter of the title is capitalized.
    - However, the title of the journal has all major words capitalized and is italicized.
    - Directly following the title of the journal is the volume number (italicized), the issue number, if known (not italicized), and the page numbers (not italicized).
- Examples of Book Entries:

American Psychological Association. (2001). *Publication manual of the American Psychological Association* (5th ed.). Washington, DC: Author.

Freedman, D., Pisani, R., Purves, R., & Adhikari, A. (1991). *Statistics* (2nd ed.). New York: Norton.

Hartman, G. H. (Ed.). (1994). *Holocaust remembrance: The shapes of memory*. Cambridge, MA: Blackwell.

Nader, R. (1965). *Unsafe at any speed: The designed-in danger of the American automobile*. New York: Grossman.

- Note that only the first word, and proper nouns in the title of the book are capitalized.
- The title of the book is italicized (except the edition number)
- If you are referencing an edited book, (Ed.) follows the name of the editor.

- Examples of Web Site Entries:

Cody, D. (2000). Queen Victoria. The Victorian Web. Retrieved January 19, 2002, from <http://landow.stg.brown.edu/victorian/victor6.html>

Expenditures for health care plans by employers and employees. (1998, December 7). Washington, DC: Bureau of Labor Statistics. Retrieved February 17, 2002 from <http://stats.bls.gov/>

- First, if it is known, include the author or editor of the individual source.
- Next, include the posting or revision date, if available.
- Then, include the title of the source
- Then include the name of the project, database or Web site
- Finally include your retrieval statement, which includes the date that you accessed the website, and the actual website URL.

- Your instructor may give you a handout (with examples) about basic APA style for references.
- See APA Manual pp. 28, 215-281, and 299 for further information.

## IX. Appendices

- Each appendix appears on its own page, starting after the reference page.
- Appendices may contain examples of materials used in the study, such as questionnaires.
- If your paper has only one appendix, label it “Appendix”, and center this label. If you are including more than one appendix, the heading should identify the appendix with a capital letter, e.g. “Appendix A”, and should be centered.
- In the text, refer to appendices by their letters (e.g. “see Appendix B”).

## X. Tables

- Each table appears on its own page, starting after the appendices. If no appendices are included, the tables begin after the reference page.
- Tables contain data in a format that can be typeset (e.g., means or percentages).
- Number all tables with Arabic numerals in the order in which they are mentioned in the text.
- The first line of the page should identify the table, (e.g. “Table 2”) and should be left justified.

- The next line of the page should be the title of the table, also left justified.
- The table title should have all important words capitalized and should be in *italics*.
- The table title should describe what is being presented accurately. For example “*Means and Standard Deviations for Number of Lines Crossed as a Function of Type of Light*” is better than “*Means and Standard Deviations*”.
- The first word of column headings should be capitalized, and the data in each column should be centered below the heading. Align data in a column by the decimal point.
- There should be a horizontal line after the title, after the column headings, and at the end of the title. However, there should be no vertical lines, or grid lines.
- Everything in the table should be double-spaced.
- See pp. 147-176 and pp. 301-302 of the APA Manual for everything you need to know about tables.

## **XI. Figure Caption Page**

- The figure caption page contains the captions for all of the figures, and the heading (“Figure Captions”) is centered.
- There is only one figure caption page, and it appears on a new page after the last table. (Multiple figure captions may appear on the same page)
- First, identify the figure in italics, e.g. “*Figure 1*”.
- The caption follows on the same line as the identification, but is not italicized. Only the first word is capitalized.
- Like Table titles, the figure caption should be detailed, but concise.
- Note: The captions for tables go right on the tables.
- See APA Manual pp. 199-200 and 302 for further information.

## **XII. Figures**

- Figures consist of graphs, pictures, or drawings.
- Number all figures with Arabic numerals in the order in which they are mentioned in the text.
- In the text, refer to figures by their numbers.
- Figures should be in black and white, with no background pattern or color.
- Axis lines and legends should be clearly labeled, but you do not put a title on the figure, as that is what the figure caption page is for.
- See APA Manual pp. 176-201 and 302 for everything you need to know about figures.

## **XIII. Sample Paper**

- See the following sample paper for more information.
- You may also see APA Manual pp. 306-320 for another sample APA style paper.

### **\*\*\*\* HOW TO CITE NUMBERS \*\*\*\***

- As a general rule, numbers less than 10 are written out in words (e.g. five), but numbers 10 and greater are written out in numerals (e.g. 35).

- However, when numbers smaller than 10 are compared to numbers larger than 10, numerals are used for both (e.g. 6 of the 30 participants were male).
- When describing units of measurement, time, dates, ages, population size, scores on a scale, and sums of money, always use numerals (e.g. 7 mg, 2 weeks, April 9, 1999, 4-year-olds, 1 million citizens.)
- When you are reporting statistics and percentages, always use numerals.
- But, when a number begins a sentence, title, or heading, always write out the word.