

Running head: KEY WORDS FROM TITLE

Title of Manuscript

Your Name

Rutgers University

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Abstract

An abstract is a brief, comprehensive summary of the contents of an article; it allows readers to survey the contents of an article quickly, and, like a title, it enables abstracting and information services to index and retrieve articles. The abstract of a report of an empirical study should describe in 150 words or less: 1) the problem under investigation, in one sentence if possible; 2) the participants, specifying pertinent characteristics, such as number, type, age, sex, and species; 3) the experimental methods, including the apparatus, data-gathering procedures, and complete test names or generic names and the dosage of any drugs; 4) the findings of the investigation; and 5) the conclusions and the implications or applications. Begin the abstract on a new page, and identify the abstract page with the page header and number 2 typed in the upper right-hand corner of the page. Type the word Abstract in uppercase and lowercase letters, centered, at the top of the page. Type the abstract itself as a single paragraph in block format (i.e., without paragraph indentation).

(Note: No indent)

Title of Manuscript

The main body of the paper opens with an introduction that presents the specific problem under investigation and describes the research strategy. It should contain a review of the literature, the questions asked, the reasons for asking them, and your hypothesis(es). Find at least one basic principle for organizing the studies you have read. At the very least, you can report them chronologically.

Think of the introduction as funnel-shaped: you start broadly outlining the area of study, then guide the reader to your specific study by describing the relevant prior research. By the time the reader reaches your hypothesis, s/he should be fully prepared for it.

In the first paragraph, state the problem you are investigating and your reasons for doing so. In succeeding paragraphs (about one per study), describe previous relevant research. Give the reader as much information as needed to understand your purpose or hypothesis. References cited in the text are enclosed in parenthesis, the author's surname and year of publication included. The following are examples: (Jones, 1984); (Jones & Smith, 1984); (Jones, Adams, & Smith, 1984). Direct quotes require page numbers (Jones, 1984, p. 46). If the author's name appears in the text, only the year of publication is enclosed in parenthesis. For example, Jones (1984) found... After the first citation of a source, subsequent citations of more than two authors appear as follows: Jones et al. (1984) found...

The last part of your introduction should answer the following questions: what do you plan to manipulate and why? What results do you expect and why? State your hypothesis(es) in both general and specific terms. Some mention should be made of the methods you will use to test your hypothesis.

The introduction is one of the most important sections of your paper. It introduces to the readers your general area of research by familiarizing them with the previously conducted relevant research, elucidating the problem with which you are concerned, the questions you hope to answer, and the hypothesis you intend to investigate. A good introduction makes a better paper, and will guide your writing of the later sections.

Be sure to take note of the format here. The title of the paper should appear on the first page in exactly the same form as it appeared on the title page. There is a one-inch border around each page. Every page has a number and a running head, including the title page.

Method

Participants (or Subjects)

This section should contain a brief but complete description of the participants (if human) or subjects (if non-human). For non-human subjects, include a) species, strain, and supplier; b) age, sex, and number per species; c) previous experience, i.e., are they experimentally naïve; d) diet, housing, and deprivation conditions; and e) if subjects do not complete the experiment, give the number and reasons why.

When the participants are humans, report major demographic characteristics such as number, gender, age, and ethnicity, and where appropriate, characteristics such as socioeconomic status, disability status, and sexual orientation. Also, include information on participant recruitment and any inducements that may have been given to encourage participation. If some participants do not complete the experiment, give the number and reasons why.

Materials or Apparatus

This section should include a brief description of the apparatus or materials used in the experiment. Complex equipment may need to be diagrammed. If specialized equipment is used,

include the manufacturing firm's name and the model number. Describe completely all components including dimensions, colors, etc. Standard equipment, such as stopwatches, can usually be mentioned without detail.

Questionnaires should be described in sufficient detail so that the reader could reconstruct the same materials, including the response options and their meaning.

Procedure

This section should be carefully described so that the reader could replicate your experiment. It should be a detailed description of each step in the execution of the experiment. Give the time spent at each phase of the experiment (i.e., number of test sessions, number of reinforced trials, etc.). Include a description of how groups were formed (i.e., random assignment, matched groups, yoked, etc.). Describe all control procedures, such as counterbalancing. If human participants are used, include a brief description of the instructions and how they were administered.

Results

This section should present the results of the research without including interpretation of those results. It should summarize the data you collected, and you should attempt to point out the highlights of the data. Briefly state the main idea of your results and your statistical treatment of them. Statistical formulas are not included. Individual or raw scores should not be included. Use figures and tables to supplement the text; do not expect them to do the entire communication job. Refer the reader to the tables and figures with sufficient explanation to make them readily intelligible (see Table 1 for *Ms* and *SDs*).

When quantitative data are included, the method of obtaining the data should always be given (e.g., rate of responding was obtained by dividing the number of responses by the session

time). When presenting quantitative data, include terms that help the reader understand the relationship you are attempting to describe. For example, you may say “the average rate of responding was faster during fixed ratio responding ($M = 25$ responses per min.)” The above statement helps the reader much more than just saying, “the mean rate of responding during the fixed ratio was 25 responses per min. and during the fixed interval was 10 responses per min.” The addition of the relational term “faster” in the first example calls attention to the importance of the differences between the means.

Tables and figures should be introduced and described in the text. Refer to figures by their numbers. For example, “as shown in Figure 3, the relationships are significant.”

To report a statistical test in the text, give the name, degrees of freedom, values, and probability level. Assume that your reader has a basic understanding of statistics. Use the following form:

As predicted, the first grade girls report a significantly greater liking for school than do the first grade boys, $t(22) = 2.62, p < .01$.

The analysis of variance indicated a significant retention interval effect, $F(1, 34) = 123.07, p < .001$.

Clearly, the results section of your report represents the essence of the research, and it is essential that you convey to the reader exactly what you found. Be clear and specific.

Discussion

The purpose of the discussion section is to evaluate the results obtained by giving the meaning of the data with respect to the purpose of the research. You should begin with a statement that summarizes the results obtained. An interpretation of the results should follow, guided by the following questions: What have I contributed here? How has my study helped to

resolve the original problem? What conclusions and theoretical implications can I draw from my study? These questions are the core of your study, and readers have the right to clear, unambiguous, and direct answers.

Several areas of information should be in your discussion. The basic logical meaning of your results should be discussed. What did you contribute, learn, confirm, or reject about behavior? Compare your findings with the previous research that you presented in your introduction. If your results contradict previous findings, discuss possible reasons why this may have occurred. Attempt to integrate your findings with the existing literature.

Evaluations of the experiment should be both positive and negative. What are the limitations of your study? What was less than adequate? What might you have done to improve the research design? Don't be afraid to criticize yourself or previous researchers. What was truly good about your study – e.g., well-controlled variables, ingenious design or apparatus, etc.?

Recommendations for further research are included at the end. What new research does a consideration of your study suggest? Also include both practical and theoretical implications of your findings. Your report should integrate your research with the larger framework of psychological theory.

References

- Bretherton, I., Fritz, J., Zahn-Waxler, C., & Ridgeway, D. (1986). Learning to talk about emotions: A functionalist perspective. *Child Development, 57*(2), 529-548.
- Hetherington, E. M., & Parke, R. D. (1975). *Child psychology*. New York: McGraw-Hill.
- Kohlberg, L. A. (1974). A cognitive-developmental analysis of children's sex role concept and attitudes. In E. Maccoby (Ed.), *The development of sex differences* (pp. 30-79). Stanford, CA: Stanford University Press.
- Maccoby, E. E., & Jacklin, C. N., (1974). *The psychology of sex differences*. Stanford, CA: Stanford University Press.
- VandenBos, G., Knapp, S., & Doe, J. (2001). Role of reference elements in the selection of resources by psychology undergraduates. *Journal of Bibliographic Research, 5*, 117-123.
Retrieved October 13, 2001, from <http://jbr.org/articles.html>

(This is an illustration of an appropriate reference page. Notice that the list is in alphabetical order by the last name of the first author. This page comes at the end of the body of your report, before any tables and/or figures, and starts on a new page. Include the running head and a page number in the upper right-hand corner.)

Table 1

Mean Responses in FR 20 vs FR 1 min. as a Function of Session

Schedule	FR 20	FR 1
Session 1	49	50
Session 2	83	80

(This is an illustration of a table. Follow the form carefully; be sure to include the running head and the page number.)

Figure Caption

Figure 1. Dependent variable as a function of independent variable.

Figure 2. Dependent variable as a function of independent variable.

(Hanging indents should be used here as well.)