

Running head: THIS IS AN ABBREVIATED TITLE

Sample Research Paper

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### Abstract

This paper was designed to be a sample research report to illustrate APA-style. It is formatted entirely in APA-style, including margins, spacing, and writing style. In each section you will see 1) specific formatting details, 2) the main contents of each section, and 3) writing and formatting tips. For example, in this abstract, notice the header, that only the letter A is capitalized, it starts at exactly one inch from the top margin, and there is no extra line space between the header and the body of the abstract. The first line of the abstract is not indented. The abstract is a self-contained summary of the study, and should contain 1) overview of the topic; 2) general methods; 3) the main findings (but no statistics); and 4) the conclusions reached in the paper. It should be approximately 100-150 words. This abstract is exactly 145 words.

### Sample Research Paper

This is the introduction section of the paper. Notice the header is the title of the paper, and that like the abstract, there are no extra line breaks after the header, and it starts at the one inch margin. If you do not know how to set the margins of your paper, you must find out how to do that. It is very likely that your instructor or an information technology assistant on campus could help you. It is your responsibility to learn how to set those margins. The first paragraph is generally a general introductory paragraph about the topic of your study. You can cite research in it, but it should be general and not yet discuss a specific research study.

Each paragraph of the paper is indented ½ inch (not 5 spaces). Remember these main tips for writing style. Review research studies in the past tense. For example, if you are writing about a study on temperament that was written by Kagan in 1994, you would need to refer to what was actually done, and not what he “says” or “suggests.” Instead, you might state, Kagan (1994) conducted a study on temperament. Notice that the author’s first names and initials are not included, and neither is the title of his work, the journal in which it was published, or his affiliation (the University he works at).

If you wanted to cite Kagan’s study, but do not want to include his name in the text, you could do so. For example, you can discuss the research on temperament that found a relationship between eye-color and shyness (Kagan, 1994). If Kagan did the work with others, then you must cite all the authors the first time (Kagan, Snidman, & Cassidy, 1994). After the first time you cite it, you can use the words “et al.” (Kagan et al., 1994).

In the introduction you should review the research and theories that you are using to support your research hypothesis. Each study should be discussed in enough depth that the reader has a general idea what research was done, what the study found, and what the conclusions are.

Furthermore, you should be able to discuss what the strengths and limitations of the research are. Finally, each study you review should be clearly linked to each other, and/or to your study. This takes some practice, so do not worry if you are required to turn in a couple drafts. Just while typing this, I have had to correct a number of times that I used contractions. For example, I have typed “don’t” instead of do not. Contractions are prohibited in APA-style.

After you have reviewed the studies and have described the theories that support your study, it is time to conclude the section with your hypothesis. This final paragraph should draw together the research you have summarized into a logical conclusion, and then end with the specific prediction about what the relation between your variables would be. Remember that hypotheses are always written in a positive manner, where you predict that there will be a relation between your variables (in a correlational study). If you have groups, as in an experiment or with nominal groups, you will usually predict that one group average on the dependent measure will be higher than the other group. For example, you will usually write something like the next sentence. It is hypothesized that the emotional words will be remembered more than the neutral words. You might also say, the hypothesis is that GPA and number of hours slept will be positively correlated.

## Method

### *Participants*

In the method section, you almost always have three subsections, including this one the participants. It always comes first in the list. Notice the formatting of this section. The header is centered, and there are no extra line breaks after the introduction section, or before the participants subsection. The subheading participants is italicized and is at the left margin. The section begins on the next line, with no extra line breaks. In this section you describe who was in

your study, including how many total participants ( $N= 36$ ), how many males ( $n= 13$ ) and how many females ( $n= 23$ ), and their average age ( $M = 13.5$  years,  $SD = 2.35$ ). Notice these abbreviations are italicized. The capital N indicates the overall sample size, the small n is the sub-sample size, M is the abbreviation for mean, and SD is the abbreviation for standard deviation.

In this section, you also list important information about the participants. If you collected information on the types of music they listen to, or other demographic information, this is the place to report that information. This subsection is devoted to telling everything you know about your sample. This also includes where they were recruited, and how their informed consent was obtained.

### *Measures*

The next subsection is the place that you detail the measures that you used in your study. This tells the operational definitions of (most of) your variables. You can break it into other lower-level sections.

*Temperament.* Participants completed the Test I Just Made Up (O'Hara, 2006), a 64-item questionnaire assessing activity level in adults. It has been found to be reliable with this age group (O'Hara, 2003), and to be a valid measure of temperament (O'Hara & Kline, 2004). I am making all this up, but you will usually want to include information about the measure, and any information you have on reliability and validity that you have read. Also notice that the subheading for this level (within a subheading) is indented, there is a period after it, and the text begins on the same line.

*Eye color.* Eye-color was assessed through a self-report questionnaire. It had one question, "what is your eye-color." Participants were instructed to write their answer on the line.

### *Procedure*

In this subsection, you detail the steps that were taken in the study. Do not go into too much detail, but be clear on what the participants did in what order, and what type of interaction was engaged in. This is important to reveal so that the reader can evaluate the study and be made aware of potential confounds such as history, testing, fatigue, demand characteristics, etc.

### *Results*

In this section, you present the data. Never, ever include tables of raw data. Instead, you present the data in graphs, descriptive statistics, and inferential statistics. Furthermore, you do not discuss what the findings mean. That means that for short studies like the ones done in class, this section might only be one or two paragraphs. If you have tables or figures (graphs), they do not actually go in this section. Instead, they are on a separate page attached to the paper as an appendix.

Please note the formatting of this section, with no extra spaces between the sections and the header. The section nearly always begins with statistics that describe your groups, or the descriptive statistics of your primary variables. For example, you might start this section with the following statement. Data were explored, and it was found that the group who viewed the amusing video remembered an average of 13 items ( $SD = 4.3$ ), and the group who viewed the boring video remembered an average of 9 items ( $SD = 3.2$ ). Or you might report the following. GPA ( $M = 2.45$ ,  $SD = .46$ ) and number of hours of sleep ( $M = 7.14$ ,  $SD = 2.43$ ) were examined in the analysis.

After you present the descriptive data, you will need to report the results of your hypothesis test. This does not have to be in a new paragraph like this is. The descriptive statistics might be combined with the inferential statistics in the same paragraph. However, they should

each get their own sentence, at the very least. Hypothesis tests are reported using inferential statistics.

If you did a correlation (your data are two continuous variables), you will report the Pearson Correlation, for which the symbol is  $r$ . The following is an example of a report of a correlational analysis. Student GPA was significantly negatively correlated with the number of hours of sleep,  $r(34) = -0.36, p = .043$ . This last portion indicates that the correlation was -0.36. The number in the parentheses after the  $r$  is the degrees of freedom. It is computed for this statistic as  $(N - 2)$ . Therefore, this statistic indicates that the correlation was computed using the data from 36 participants. The number after the  $p$  is the significance value. This is the probability that the null hypothesis is true. Because this is stated as  $p = .043$ , that indicates that there is less than a 5% probability that the results are due to chance, which means that the results are significant. You do not have to write that in the paper. It is understood by two things. It was stated that they were *significantly negatively correlated*, and the  $p$  that is reported.

If you examined the difference between two groups on some outcome (dependent) variable, you will need to report the  $t$  or the  $F$  statistic. It would read something like the following: The groups were not significantly different from one another,  $F(1, 36) = 2.45, p = 0.13$ . The  $F$  statistic is 2.45, the degrees of freedom are (1, 36), which indicates there were two groups (Number of groups-1 for the first number), and 38 participants ( $N - \#$  of groups for the second number). The result is not significant, as indicated by the  $p = 0.12$ , which indicates that there was a 12% probability that the null hypothesis was true.

### Discussion

One way to think about the discussion is that it ties the results back into the introduction, referring back to the articles presented in the introduction earlier. Also, it is the place where the

author discusses what the results mean (the conclusions), and presents alternative explanations for the results. For example, if the results indicate that the group means were significantly different, and the researcher knows that one group had more participants in it, or that something happened in the study (a confound) to make the results less reliable, it is their obligation to report that here. Also, the researcher usually highlights other possible confounds that are relevant to the general design or types of measures used (e.g. problems with reactivity, observational measures, etc.)

Begin the discussion section with a statement about whether or not the hypotheses of your study were supported. Re-state the primary findings, or lack of findings, but do not report the statistics again. Describe the results in terms of what you expected to find, and whether or not your original expectations were supported by the data. Tie the results back into your introduction by illustrating how they fit (or do not fit) with the studies and the theories you presented before. You will need to cite those studies again here, but try not to repeat yourself too much.

After you present the findings and explained what they mean, discuss the limitations. This might be to describe things that happened during the study that might make you doubt those findings (or that may have made the findings not be significant). It also includes limitations having to do with the sample (e.g. sample size, balance of gender, representativeness, etc.), or that have to do with the measures that were used (e.g. problems with the survey, issues of reliability and validity, questions that were not asked so they cannot be controlled for), or with the design itself (e.g. correlational design, experimental design, self-report measures). Finally, end the discussion with the general conclusions, and what they mean to the current state of the theory, what gaps still exist (what is still not well understood). State what future research should be done to fill those gaps, and what future research should be done to extend the research.



## References

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Table 1

Means and standard deviations of memory scores for emotional words and neutral words.

	Mean	Standard deviation
Emotional words	3.42	.89
Neutral words	2.35	.92

$$F(1, 36) = 3.56, p = 0.032$$

Figure 1

Frequency distribution of emotional vs. neutral words