# Abstract

• An informative abstract is a standalone paragraph of 100-250 words, which summarizes the research work in terms of

• Problem: note the key topic or problem of your document.

• Method: state your main approach to solving the problem.

• Results: provide one or two important results.

• Conclusion: Note your main conclusion.

**Notice:**  
• They do NOT include citations, equations, abbreviations, background or discussions of future research.

• Abstracts are placed at the top of a document, i.e., under the title or on the page following the title page. However, they should be written last.

# Introduction

how?

* The results they found (no need to report stats, just the general finding) iv. What this finding tells us about the topic
* What are the possible outcomes of your study? How will they answer your question? (predicted results and what they will mean)

# Method

**1. Design**

a. What did you manipulate (i.e. what was the independent variable)?

* Give the IV a brief name that you can use throughout the paper to refer to it, and then describe how it was operationally defined in this study
* ii. How did you manipulate it (between or within subjects)?
* iii. How many levels were there? How were those levels defined?

b. Repeat section A for all independent variables in your design

c. What did you measure (i.e. what was the dependent variable)?

* Give the DV a brief name that you can use throughout the paper to refer to it, and then describe how it was operationally defined in this study

d. Were there any other variables that you measured (either to include as statistical controls or as possible mediators or moderators)?

* If so, name them and indicate how they were operationally defined

► Big Picture: What variables would a researcher need to manipulate and/or measure to replicate your study?

* What features did you control, and how?

# Results

What did you find? **–**a section which describes the data that was collected and the results of any statistical tests that were performed.  It may also be prefaced by a description of the analysis procedure that was used. If there were multiple experiments, then each experiment may require a separate Results section.

**1. What specific question are you trying to answer? (state it clearly)**

a. Describe the relevant variables for this question by reporting the means and standard deviations (continuous variables), or frequencies (categorical variables)

b. What test did you use to compare the variables? (state it clearly)

c. Report the results of the test in APA format, including

i. The test statistic (z, t, X 2 , r, whatever it is for your test)

ii. The degrees of freedom

iii. The p-value

d. If you have a figure or table related to these results, mention it

i. “These results are displayed in Figure 1.”

ii. “These results are shown in Table 1.”

e. Focus explicitly on reporting what you specifically measured and what you specifically tested (i.e. describe in terms of what you observed, not the constructs you intended to measure)

i. For example: say “Participants more accurately identified artists’ styles when those artists were studied in an interleaved schedule than when they were studied in a blocked schedule”

ii. Don’t say: “Participants learned better in the interleaved condition.”

f. Do NOT interpret the results in this section – save that for the discussion

i. Avoid phrases like “This means that…” or “This shows that…”

**2. Repeat section 1 for each separate test you run on your data**

**3. Each figure you include should…**

a. Be on its own page at the end of the manuscript (after the References)

b. Have a figure caption that describes the contents of the figure

i. E.g. “Figure 1. Mean accuracy in the blocked and interleaved conditions.”

c. Have clearly labeled axes

i. Axis labels should correspond to your variable names and include labels for the levels of those variables, as appropriate

d. Not have a title (that’s what the figure caption is for)

e. Not have a heading (figures don’t get a heading in APA style)

**4. Everything that applies to figures also applies to tables**

# Discussion

What is the significance of your results? **–**the final major section of text in the paper.  The Discussion commonly features a summary of the results that were obtained in the study, describes how those results address the topic under investigation and/or the issues that the research was designed to address, and may expand upon the implications of those findings.  Limitations and directions for future research are also commonly addressed.

**1. Summarize your results in plain English**

a. Repeat the results section in simpler terms and without referring to stats

b. Be sure to summarize ALL of your results (don’t skip any)

c. Interpret what these findings mean beyond “scoring higher” or “being correlated”

* This is where you can refer to your constructs and make claims about what can be inferred from the results (“This suggests that…”)

d. State whether or not your hypothesis was supported

* Do not use the word “proved”!

**2. Discuss the practical and theoretical implications of your finding**

a. What does this mean for understanding the topic on a theoretical level? (How does it help us understand the topic better?)

b. What does this mean for applying the findings to real life situations/problems?

**3. Discuss the limitations of the study**

a. What things make you cautious about interpreting the relationship between variables as causal or reliable? Why?

b. What things make you cautious about generalizing your findings to other studies, populations, or real life situations? Why?

**4. Suggest directions for future research**

a. Directly address the limitations you’ve just raised by suggesting ways to address them in future studies

b. Are there any new questions that are raised by your results? If so, how could we address those in further research?