

TITLE.

AUTHOR NAME

AFFILIATION The affiliation should be the lab, department, and institution where the work was conducted.

KEYWORDS

ABSTRACT: The abstract should briefly state the problem or purpose of the research, indicate the theoretical or experimental plan used, and summarize principal findings or major conclusions. Abstract length is one paragraph of approximately 250 words.

INTRODUCTION

The central goal of this section is to provide context for the research subsequently described. This should be done in each of three ways. First, a significant problem either in society or the scientific/research community should be explained. Second, the research question should be contextualized within other relevant findings. Third, any technical "jargon" necessary to understanding the question being asked should be defined. (Note: These three need not always appear in the same order.) By doing these three things, the reader can become familiar with the research problem at hand, how the researcher is attempting to address it, and how this research aligns with research already done on the topic.

METHODS

The methods section should have a clear and precise description of how the experiment was conducted as well as the reasons why particular techniques and procedures were chosen. It should be concise and written in the past tense. It should include which materials were used for the study, how the materials were prepared, a description of the experimental procedure, how the measurements were collected, what calculations were performed, and what statistical tests were used to analyze the results. There should be no confusion regarding the protocol to ensure that the experiment is reproducible. The methods section may be split into different subsections, including but not limited to:

Participants/Organisms:

This section should include (if possible) the source of, descriptions of, and handling of animals, plants, cell lines, etc. If the experiment involved human subjects, descriptive data regarding the demographics of the sample size: sex, age, size, ethnicity, etc., should be summarized. The criteria used in selecting the subjects should also be explicitly stated. Also, if animal and human subjects were involved, the relevant IRB (Institutional Review Board) documentation should be mentioned.

Experimental Design:

This section should detail the experimental conditions, controls, treatments, and form of the data (e.g., qualitative vs. quantitative).

Measurements/Calculations:

This section should describe instruments used to collect data. Also, it may be necessary to discuss the reasoning behind measuring some variables, especially those used as proxies. A list of sample calculations may follow.

Data Analysis:

This section should state which statistical tests and p-values were used and why. It should also describe how the data will be presented.

Note: Authors should present their methods section in the most coherent structure given their research project as this structure is not definitive.

RESULTS

A successful results section will succinctly and precisely convey the results of the research in a cohesive, organized structure. The

data should be presented in a logical manner that supports the conclusions. Explanations should be used effectively to provide flow and direction within the results section. For example, hypotheses that led to the execution of the further experiments within the study should be stated to frame the experimental logic of the research project.

DISCUSSION

The goal of the discussion section is to frame the results of the research in broader, more general terms than the results section. In doing so, an overview of the trends and hypotheses supported by the data should emerge. It is also important to state the assumptions and rationale behind the experimental design and how the results should be interpreted given that context. Furthermore, the discussion should address the validity of the results in the context of experimental and analytical limitations or error.

CONCLUSION

An effective conclusion should both respond to the question or problem identified in the introduction and summarize the findings before discussing their broader significance. For example, a conclusion might consider the impact that the findings will have on future research in the field. A conclusion may also suggest further experiments that could be conducted in order to better understand the subject area.

FIGURES

Each figure must have a caption that includes the figure number and a brief description, preferably one or two sentences. The caption should follow the format "Figure 1. Figure caption." All figures must be mentioned in the text consecutively and numbered with Arabic numerals. The caption should be understandable without reference to the text. Whenever possible, place the key to symbols within the graphic pro, not in the caption. To insert the figure into the template, be sure it is already sized appropriately to minimize pixelation and paste before the figure caption.

AUTHOR INFORMATION

Funding Sources

Any funds used to support the research of the manuscript should be placed here.

Notes

Any additional relevant notes should be placed here.

REFERENCES

For reference style please consult The Aggie Transcript's citation guide.

*Template adapted from the American Chemical Society.
