

Suggested academic paper outline

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This is an outline I use for my papers. There are no clear right's and wrongs. This format emphasizes what is interesting and important about the work you've done.

Introduction

- Clearly articulate the specific problem you are addressing with this article in the first sentence
- Say why the problem is so important that people should care about you solving it (1 par). Note – this involves saying what, if the reader finishes the article, is likely to change about science for the better. Saying “this is the first time X” or “X has not been done before” should not appear in the paper because 1) there are lots of things that have not been done – that doesn't make doing them valuable. 2) we want the paper to stand the test of time after replications
- Say how this article solves or at least contributes to solving the problem (1 par)
- Explain any details that are so important they should be discussed before the methods (1-2 pars)
- State your hypotheses. (1 par)

Methods

- Participants
- Procedures – in enough detail that someone can reproduce the experiment as you've done it.
- Analytic techniques – say how you will test EACH hypothesis specifically. The techniques should be described in enough depth that someone can reproduce them. If you are doing lots of tests, there should be a discussion of type I error control.

Results

- Summarize the demographics. If it's a clinical trial have a CONSORT diagram.
- Report any pre-primary-results checks (e.g., manipulation checks) you need to make people trust the rest of the results
- Primary results - These should clearly parallel your hypotheses with sections for each hypothesis and associated tests. Every test should have an effect size.
- Sensitivity analyses – Tests that help explain or qualify the primary results, e.g., looking for site differences in a multi-site study. These can sometimes be shunted to supplementary material.

Discussion

- Summarize the point of the paper (1 sentence).
- Summarize the primary results (1 paragraph)
- Say how you interpret the results in light of your hypotheses and the prevailing literature. Note – for brain imaging papers this should not include a list of regions and what each one does. Rather, concentrate on systems-level explanations and general features that explain the nature of the results. What we really want to know about is how your theory is either confirmed or changed based on the results.
- Limitations
- Overall summary of the impact you hope this paper will have.
- 1 or two sentences about follow-up papers that might be interesting are appropriate.