Article Reading Practice

Undergraduate Research Methods in Psychology

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1 Purpose

Research articles tend to be unfortunately dense and difficult to read - this is simply a fact of formalized science, as we have to include a lot of detail to be thorough and replicable. Thankfully, most research articles follow a predictable and practical format, and we can use some tricks to track down some of the most important information. The benefit of this is that you can start to understand articles better, even when they are not necessarily on a topic familiar to you.

For example, last semester I read Neal et al. (2008), as it was related to a student's research proposal. I am very unfamiliar with epilepsy, pediatrics, and the keto diet. But - because I understand methods, statistics, and article structure, I can still comprehend what they did and why. Using the strategies described in this document, the class activity, and the knowledge you get from this course - you will be able to similarly navigate unfamiliar research!

This document and subsequent activity will give you some tips for better understanding articles structures' and where you can find certain bits of information. However, I'd encourage you to practice reading research often outside of class to get better at quickly navigating through papers!

2 Disclaimers and Nuance

Many articles may have slight variations from what I describe here - this is often due to individual periodicals (journals) having set standards for how an article should be structured. However, most of the advice here should still readily apply.

Also, this reference information is most useful for **original, empirical journal articles.** Some literature reviews, meta-analyses, and books will look fairly different.

3 Reading Research

3.1 The Usual Sections (in Empirical Articles)

- **Abstract:** The publicly available summary of the entire paper. This will quickly review the methods and findings of the work, and is a good place to start when scanning articles for relevance to a certain topic.
- **Introduction:** The literature review and scaffolding towards the present research question. This is where the authors make the case as to *why* this research is needed or relevant. This is also where they give context for the theory and hypothesis. The authors usually state their study hypothesis at the end of this section.

- **Methods:** Contains all relevant information about procedures and measures for the present/current study. This will include sampling method and size, demographics of sample, planned data analysis procedures (i.e., statistics), measures, etc.
- **Results:** Often the results of statistical analyses. This is where you will find things like your p-values for statistical tests, effect sizes, and most of the numbers relevant to the study.
- **Discussion:** Connecting the results to the practical implications of the findings and the existing literature review. The important part is here is that the authors describe in plain, non-statistical terms what the results of the study indicate, and whether their hypothesis is supported. They also tend to make suggestions for future research and discuss the limitations of the present study.
- **References:** An alphabetical list of all the cited resources throughout the paper, usually in APA 7 style.

3.2 What are you Looking For?

These are some of the core questions *I* ask when I read an article. You may find this process useful or prefer a different method. I also usually follow this order when I read:

- What conclusions does the author(s) make? What implications does this have and what limitations do they note (Abstract and Discussion)
- What is the current state of the literature, and what "gap" was the author trying to address? What was the core hypothesis of the study? (Introduction)
- Given the nature of the hypothesis, were the methods reasonable and ethical? Did they use ideal measures to capture the construct? What measurements were collected, and how was the planned analysis appropriate to this scenario? (Methods)
- Did they report relevant results to support the research? Were the statistics properly calculated and interpreted? (Results)
- Connect the results and discussion, were those final conclusions in line with what was reported in the results? (Between Discussion and Results)
- Consider the whole article with the theory-hypothesis-data framework: what is the theory? What is the hypothesis? What is the data concluding?

3.3 General Tips and Tricks

- Don't get weighed down with the "theory stuff"… yet. When you first read an article, you should try to get a sense of *how* they did things, and then on the second pass, discover *why*. The introduction section is important, but often a little too dense for early scientists.

- Don’t get scared by big statistics words! Most statistical models have surprisingly clear results, once you know what numbers to look for. If you ever need help, feel free to ask me - always happy to try to explain.
- Google can be your friend (with a grain of salt). There is no shame in Google-ing something you haven’t heard of before, and it can really clear things up. But, read your results carefully and make sure to understand the explanation before running with it.
- Take notes when you read! Highlight, write in the margins, underline, circle words, etc. That way, when you come back later, the key information is a little bit more clear.

4 Assignment

As with the previous ungraded class assignment, please follow the instructions on Blackboard, under the relevant weekly activity. Most students will likely benefit from also having this document open as you work on that, so that you can (hopefully) benefit from the suggestions here.

5 References

Neal, E. G., Chaffe, H., Schwartz, R. H., Lawson, M. S., Edwards, N., Fitzsimmons, G., Whitney, A., & Cross, J. H. (2008). The ketogenic diet for the treatment of childhood epilepsy: A randomised controlled trial. *The Lancet Neurology*, *7*(6), 500–506. https://doi.org/10.1016/S1474-4422(08)70092-9