

Research Project Guidelines

Overview: The goal of the research project is to get you to think deeply about a cognitive issue of interest to you; and to conduct a cognitive experiment from start to finish. To achieve these goals, you will need to (1) **explore the cognitive literature** (using journals*, textbooks, and the web) in order to discover what topics interest you; (2) **propose a cognitive question**, stating why that question is interesting and worthy of investigating; (3) **develop an experimental design** for testing your question that manipulates at least one independent variable; (4) **develop the methods** you will use to test your question; (5) **analyze the results** of your experiment using both descriptive and inferential statistics; and finally (6) **present your experiment to the world** in two formats, as a poster (generally designed for presentation at a conference) and as an APA formatted paper (generally designed for submission to a peer-reviewed journal).

Your experiment can be taken from *CogLab* or can be based on a task you develop yourself (e.g., a paper-and-pencil test or one presented via PowerPoint). If you use an experiment from *CogLab* then you will need to include a *novel* manipulation--that is, you will need to manipulate something not already examined in the *CogLab* experiment. Regardless of which method you choose, **all projects must be approved by me before any data is collected!**

Once you've decided on a question, you'll need to submit a **Research Proposal Form** (on the course webpage) to me by **Oct. 14th**; this will allow me to approve your project and give you feedback (expect revisions!). Posters will be presented at a mini-conference open to all faculty and students, on **Wednesday, Dec. 7th**. Papers (e-copies, sent to me/tothj) are due **Monday, Dec. 12th** by 5pm.

Data Collection: Data will be collected from your classmates in Cognitive Psychology on a *quid pro quo* basis (i.e., they'll be in yours if you agree to be in theirs). I will also try to arrange to have other (e.g., Intro) students participate as well (but I do not guarantee this). You should be able to collect most of your data during the designated Data Collection Day at your usual lab time (see syllabus); however, you should also be prepared to collect some of your data outside of class if necessary.

Wherever you conduct your experiment, I ask you to take it seriously by acting professionally and ethically. I also encourage you to reduce extraneous variability by organizing your materials, developing clear instructions, and minimizing distractions. You will, after all, be presenting this data to faculty and students from the department.

The Poster and Paper: The difference between posters and papers is really just in terms of their level of detail. Posters give the highlights of a project in a relatively "relaxed" fashion, allowing readers to quickly extract key points and a main take-home message. Papers, in contrast, describe the nitty-gritty of research--for example, the Introduction should justify why the experiment was conducted, the Methods section should allow other researchers to faithfully reproduce your experiment, and the Discussion should note the limitations of the project as well as directions for future research. There are no minimum or maximum page limits for the paper, although good papers generally range from 10-16 pages (double-spaced in 12 pt. font, including references and tables/figures). **Your paper should conform to strict APA format.** Guidelines on how to create effective posters and APA papers are posted on the class webpage.

Final Note: This is a complex, multi-step project. However, it can also be very rewarding if done with enthusiasm and care. The best way to do a good project is to be proactive, developing your question, design, and methods early. Once those steps are completed, the rest (running, analyzing, & writing) is pretty straightforward. Remember that both the TA and I are here to help. So have fun with it!

***Good Cognitive Journals:** *Psychological Science*; *Current Directions in Psychological Science*; *Psychonomic Bulletin & Review*; *Memory and Cognition*; *Trends in Cognitive Sciences*; *Cognition and Consciousness*; *Journal of Experimental Psychology: LMC or General*.