

# Research Proposal Paper

*The process of research is incremental. Researchers read existing literature on a topic, come up with a question based on their interpretation of that literature, and extend the research through novel studies. In this assignment, you will choose an existing research study and propose a theoretically motivated follow-up study to it.*

## Recommended process:

- Identify a single study that you find interesting. It can be a study discussed in class or the reading, or one you have found on your own. (I recommend *avoiding* neuroimaging or psychopathology treatment studies.)
- Find the **original article** and read it until you understand it well. You should be able to identify the methodological details, including the experimental design, independent and dependent variables (You might need to read the paper multiple times to do this). Don't worry if you don't understand the statistical analyses as long as you understand the gist of the findings. If a paper has multiple experiments, focus on *one* of them.
- Generate a list of follow-up questions about the study. Consider these questions (among others):
  - What factors caused the results to occur?
  - Is there another explanation for this pattern of data?
  - Are there other factors that might be influencing this outcome?
  - Does this apply to everyone? What groups might it especially apply to or not apply to?
- Read other articles related to your topic and form a hypothesis from one of your follow-up questions.
- Next, propose a methodological change to the original study that would test your new hypothesis.
- **Really important point:** The study you propose to test your hypothesis must be motivated by prior research. It is NOT sufficient to say, "I wonder what would happen if..." Instead, use prior studies to generate hypotheses, "prior research (Author & Author, 2014) would suggest that \_\_\_\_\_ would happen if..." You can start with an "I wonder" question, but will need to find a study to support your hypothesis.

## **Components & Deadlines:**

### **1. Outline (Submit on Monday 2/27 at the start of class):**

*Briefly* describe the study that you are using as the basis for your own study. Include a *concise* summary of the methods, results, and conclusions. See example outline on next page.

### **2. Final Paper (Submit on Monday 3/6 at the start of class):**

The final paper should include a description of the original study (methods, results, and conclusions), the theoretical basis for your extension, the methods of your extension, the pattern of results you predict, and an explanation of how this would add to the field. See grading rubric below.

Details: Many papers will likely be 2-4 pages, double-spaced. Use 1-inch margins and 12-pt Times New Roman for the font. You may cite the textbook or other readings from class, but need to reference to *at least* two external peer-reviewed sources (one that is the article you're basing your study on, and one that provides the theoretical foundation for your extension). Be sure to avoid slang and sounding overly casual. Assume your reader is a smart person who does not know this literature – define terms accordingly.

## Example Outline

- Original article: McCabe & Castel (2008)
  - Method: Participants read a scientific description accompanied by no picture, a bar chart, or a brain image. Participants were asked to rate the scientific reasoning of the article.
  - Results: Participants evaluated the scientific reasoning of the description more positively when it was accompanied by a brain than in the other conditions.
  - Conclusion: People are susceptible to cognitive biases when evaluating information. Images of brain scans lend credibility to explanations of cognitive phenomena.
- Follow-up question: would students who have taken a neuroscience course be less susceptible to the effect than neuroscience novices?
  - Theoretical foundation: people with experience in law and auditing are less susceptible to cognitive biases than novices when reasoning about topics in their area of expertise (Smith & Kida, 1991), so we might expect that neuroscience students would be less influenced by meaningless images that accompany the descriptions.
- Methods:
  - Same as McCabe & Castel (2008) but include two groups – neuroscience students and neuroscience novices.
- Prediction: Neuroscience students would be less susceptible to the cognitive illusion than novices.
- Conclusion: If the results support the hypothesis, it would further suggest that heuristic processing might be moderated by experience with a topic.

*Note: Your sources must be from academic, peer-reviewed journals. Do not cite media coverage of stories, websites (such as webmd, psychology today, wikipedia etc) or lecture material. If you aren't sure whether a source is an academic, peer-reviewed journal, just ask!*

### Writing tidbits:

- Direct quotes should only be used when the exact wording is important (which is rare in psychology writing). Strive to summarize in your own words instead.
- Avoid the word “prove.” Data support hypotheses or fail to support hypotheses.
- **Use clear structure and transitions:** Make sure every paragraph works toward making the point you want to make, and every sentence contributes to the paragraph. There should be logical transitions between sections.
- **Omit needless words:** Scientific writing should be as short as possible without being incomplete. This assignment does not have a strict page limit. The paper should be long enough to concisely make the points you need to make and no longer.
- **Let your ideas do the talking:** Write clearly and simply. Don't try to sound fancy.
- **Be sure to cite your sources.**

### Getting guidance

If you want feedback on your idea before you submit your outline (or after), please **feel free to schedule a meeting with me** to talk about it. E-mail your idea ahead of time so I have time to think about it. You can also email questions about finding articles, formatting, and anything else that is unclear.

**Paper Wrapper**

Part of becoming a better writer is learning to reflect on your writing process. To that end, please include one extra page on your paper where you answer three questions about your paper:

- 1) Who read a draft of your paper?
- 2) What did they say?
- 3) What did you do in response to their comments?

**Grading Rubric**

<b>Criteria</b> (Full credit requires meeting all of the following criteria)	<b>Points Possible</b>
<b>Outline</b>	The student submitted the outline. /5
<b>Prior study</b>	The theoretical motivations of the authors are explained so it is clear why the study was conducted /10
	The methods of the study are clear and include the variables, design, and participants /10
	The results and implications of the study are clearly explained ( <i>i.e.</i> , what did the researchers find and what does it mean?) /10
<b>Theoretical motivation for follow-up</b>	The hypothesis is explicitly stated and related to the prior work /10
	Previous research is used to support the rationale for the hypothesis /10
<b>Proposed methods and expected results</b>	The experimental procedures are thoroughly explained. This includes a complete description of the procedure, design, operationalization of variables, tasks, groups, and materials. The method should include enough detail so that someone has all the information necessary to conduct the study. /15
<b>Conclusions</b>	It is clear how the proposed extension would add to the existing literature. Where applicable, include comments on potential confounds, limitations, or future directions. /10
<b>Paper Wrapper</b>	Paper wrapper is included on the last page and shows the author has reflected on the questions. /5
<b>Writing</b>	The paper is well written, free of grammatical and spelling errors. The language is clear, concise, and the <i>style and tone is appropriate to scientific writing</i> . The structure is logical, citations are properly included, and formatting is appropriate. /15

TOTAL:

/100