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 a research study that already exists and propose a theoretically motivated follow-up study to it.

Recommended process:

- Start by identifying a single study that you find particularly interesting. It can be a study discussed in class or the reading, or one you have found on your own. I recommend *against* using neuroimaging studies or psychopathology treatment studies.
- Find the original article and read it thoroughly until you understand it well. You should be able to identify all the methodological details, including the independent and dependent variables and experimental design. You will need to read the paper multiple times to reach this point. 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 in it, it may be easier to focus on just one of them.
- Generate a list of follow-up questions you can ask of the study. Consider these questions (among others):
    - What factors caused these 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 (see section on how to find relevant articles)
- Next, propose a methodological change to the original study that would test your 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, the use prior studies to generate hypotheses, "prior research (Author & Author, 2014) would suggest that _____ would happen if..."

Components & Deadlines:

1. Outline (Submit by 5pm on Wednesday 2/24 via Moodle):

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. Please be brief and use bullet-points. See example outline on next page.

2. Final Paper (Submit by 5pm on Monday 3/7 via Moodle):

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.

Particulars: Many papers will likely be 3-4 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 make reference to *at least* two external sources from peer-reviewed journals as well (one that is the article you're basing your study on, and one that provides the theoretical foundation for your extension). It is fine to write in the first person if you need to, but 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)
  - Methods: 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.

Locating journal articles

- **If you are trying to find relevant articles**:
  - Read the appropriate section in the textbook. Find studies that pertain to your topic, look them up in the back of the textbook, and search for the original articles online
  - Go to http://apps.carleton.edu/campus/library/ Click “databases” “P” and “PsycInfo.” Type relevant phrases or keywords in to search for articles.
- **If you know the article you want** (through googling or finding it in a reference list) and are just trying to find a PDF of it:
  - Go to: http://apps.carleton.edu/campus/library/, click over to the "journal" tab, and type in the name of the journal you are looking up. If the library has access to the journal, it will give you links for how to access it.
- See the lectures slides on Moodle from Jan 8 for more details.

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!

Getting guidance

If you want feedback on your idea before you submit your outline (or after), please **feel free to schedule a meeting** to talk about it (one of my favorite things about being a psychology researcher is coming up with experiments). Please email 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.

Grading Rubric

Criteria (Full credit requires meeting all of the following criteria)		**Points Possible**
Outline	The student submitted the outline.	5
Prior study	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.e.*, what did the researchers find and what does it mean?)	10
Theoretical motivation for follow-up	The hypothesis is explicitly stated and related to the prior work	10
	Previous research is used to support the rationale for the hypothesis	10
Proposed methods and expected results	The experimental procedures are thoroughly explained. This includes a complete description of the procedure, design, operationalization of variables, tasks, groups, and materials. The methods should include enough detail so that someone has all the information necessary to conduct the study.	15
Conclusions	It is clear how the proposed extension would add to the existing literature. Where applicable, include comments on potential confounds, limitations, or future directions.	15
Writing The paper is well written, free of grammatical and spelling errors. The language is clear, concise, and the *style and tone is appropriate to scientific writing*. The structure is logical, citations are properly included in APA format, and formatting is appropriate. **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 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 should not be longer. • **Let your ideas do the talking**: Write clearly and simply. Don't try to sound fancy. • **Follow the APA guidelines for citing sources (from Paper 1)**		15
TOTAL:		100