Stage 1: Proposing a Research Study: Hypothesis and Design

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Introduction

In this stage, you will 1) find a research topic, 2) search the relevant literature to refine your topic and develop a hypothesis, 3) design an experiment to test this hypothesis, and 4) present your hypothesis and study design to the class in a PowerPoint presentation.

Finding a Topic

Before you begin conducting your research study, you need begin to decide exactly WHAT you will study. At this point, you do not need to be specific -- just get a general idea.

Seed articles. Research project teams will focus on common interests in a topic explored in one of several seed articles. These seed articles describe a study or series of studies designed to test a hypothesis related to a corresponding topic area. The seed article is going to be the basis (or inspiration) for the study that you design. Your goal this semester is to design a study that addresses a question or hypotheses that can be generated from the seed article. This means that you should focus on the theory or hypothesis of the seed article and attempt to test that hypothesis or a related one in a novel experiment. Read those articles to determine a topic or research question that you find interesting and would like to pursue for the project. Once you have been placed into a group, your group can begin the task of refining your general topic to a hypothesis of interest and experimental design.

Researching the Literature

This stage is designed to help familiarize you with the existing social psychological research that is relevant to your topic of interest. Journal articles are the primary avenues through which researchers publish their work, so these tend to be a good source of information about the types of questions that have been asked and the types of research that have been conducted.

Related articles. In addition to the seed article, each group member must find at least one related article. A related article is essentially another paper describing a study or series of studies that are conceptually related to the seed article (or the idea that you extracted from the seed article). For example, you may search the literature for a related article that represents a conceptual replication of the seed article. As another example, you might search for a related article that challenges the findings of the seed article. There are many different options for a viable related article. The point is to give you and your group a broader perspective on the types of investigations that have been conducted on the research topic described in the seed article. The related article must be a social psychological study. If you have any doubt about this, check with the instructor.

A primary strategy for finding related articles on your topic is to use electronic databases such as PsycINFO. These databases include titles, abstracts, and sometimes full-text articles. You can search for articles on you topic by typing in authors, titles, keywords, publication years, etc. Your search will probably yield many articles, so you will have to skim the summaries (abstracts) to see which are most interesting to you. After you identify the articles that are relevant, determine the journals they are in and see if the Tufts University library owns them, or has an electronic subscription. If so, find the article and read it -- if it fits with what you are doing, I suggest making a photocopy to refer to from time to time. Each group member must find a different related article.

If you have any trouble at any stage of this process outside of class, the reference librarians will be able to help you use the databases.

Developing a Hypothesis

You began your research project by exploring some of the psychological literature that addressed your area of interest. Now, you need to become clearer about what your interest is by developing a specific research question. The research question you chose to attempt to answer in your study will form the basis of your experimental hypothesis. In a hypothesis, you restate your research question so that it makes a causal statement about the relationship between the conceptual variables in your research question. We've discussed some examples of theories and hypotheses in class. Now your group needs to find those that are relevant to the current research question. This stage and the previous stage are iterative processes, meaning that as you read articles from the literature you continue to develop and refine your research hypothesis; each article can contribute in different ways.
Proposing a Design and Methodology

The design and methodology for your study should be informed by the seed and related articles you have read, your group’s knowledge of research design and methodology, and some of the practical constraints of conducting experimental research on campus with limited resources. You’ll want to consider issues such as experimental and mundane realism, internal and external validity, ethics, demand characteristics, potential confounds, assignment to conditions, etc. Perhaps most importantly, you need to consider practicality. You must propose a design and methodology that you think you can execute effectively.

Guidelines for your Psychology 36 Project

1. The hypotheses for your proposed experiment must be derived from the theory and hypotheses explored in your literature review. This includes the seed articles and/or related articles. Ideas for the methodology or stimulus materials may come from any sources, but can also be a product of your own creative thinking about situations and contexts unique to our campus.

2. Your study must have at minimum a 2 x 2 between-subjects design and at least one dependent variables of interest. You can create a study with a more complicated design. However, the size of your design has implications for the number of participants that you must find. A more complicated design may present more trouble than necessary.

3. Your study should test a hypothesis that posits an interaction between your independent variables in terms of their impact on your dependent variable. This means that the influence of one independent variable cannot be fully explained without consideration of the other independent variable(s).

4. At least one of the mandatory independent variables must be manipulated experimentally. The second variable can be quasi-experimental (gender, race, etc.) as long as there is sufficient theoretical rationale for exploring that variable. For example, you cannot explore gender differences without a theoretically-based reason why you might expect gender differences. The dependent variables must be measured on a continuous scale (appropriate for parametric data analyses). If you cannot devise a way to find a continuous measure, please see the instructor or the TA.

5. The project must be practically realistic (one you can actually complete) and ethically appropriate. You will be collecting and analyzing data from actual participants that you recruit, either online or in person. We can provide a little support in terms of the supplies for the study (e.g., recruitment, compensation, photocopying). In the next stage of the group project, you will be required to write a proposal to request IRB approval for your experiment.

Assignments (Project Stage 1)