

## POP 77034 Experimental Methods for Social Scientists

Hilary Term 2024

### Experimental Design Assignments Guidelines

The final assignment for the module is the submission of a research proposal that involves and experimental design. You will submit different components of the proposal in stages in February.

Your proposal should contribute to and be informed by the existing literature and attempt to advance it. There is no point in designing an experiment that is already done to answer the same question. It is therefore crucial to conduct a good review of the existing literature and identify what kind of innovation(s) would advance our knowledge.

The design that you propose should be **practical and realistic** -- you should think of a design and sampling, recruitment, and manipulation strategies that enable you to test your hypothesis with minimal resources (and time). The term minimal depends on the research topic and your existing resources: E.g. maybe you work with or are connected to organizations who could help with recruitment and implementation... Perhaps you are connected to MPs in a country and will be able to run experiments with political elites... Or you would be able to recruit participants with minimal resources (assume that you could have up to **€5,000** to spend on various costs, including recruitment costs). In terms of time, assume that you have to implement the experiment and collect the data **within a year**.

It is expected that you discuss the limitations with the time and resources, which can also justify some of the design and data choices that you made. Of course, it is important that whatever design and data that you choose should be appropriate to test your hypotheses.

ALL SUBMITTED ASSIGNMENTS SHOULD HAVE THE COVER PAGE:

**Title page** that includes your full name, name of module, the title of your project, and the final word count (excluding the abstract, list of references and if any, appendices.)

As per the [Student Handbook](#), the title page should also include the following declaration:

"I have read and I understand the plagiarism provisions in the General Regulations of the University Calendar for the current year, found at <http://www.tcd.ie/calendar>.

I have also completed the Online Tutorial on avoiding plagiarism 'Ready Steady Write', located at <http://tcd-ie.libguides.com/plagiarism/ready-steady-write>."

### **Experimental design, part 1. Due by 5 February 2024, 12 p, via Blackboard**

400-800 words, excluding bibliography/list of references. This assignment should include the following components:

- 1) Research question (2-3 paragraphs): The research question, background (context, reason for proposing the study), the dependent and independent (manipulated) variables, contribution of your study to the relevant literature. *Why are you conducting this study? What do we want to learn from this? How will findings be significant or relevant for the academic literature, public policy, etc.?*
- 2) Population of interest (1-2 paragraphs): Discuss the population and unit of interest in the study, their significance and/or relevance (within the context of the research question)? *Why carry out this study among this population and not some other?*
- 3) Measurement strategy (1-2 paragraphs): A short discussion of how you intend to measure your outcome (dependent) variable and justification (as much as possible) for your measurement strategy.
- 4) Ethical considerations (1-2 paragraphs): Discuss the ethical implications of your study. *What are the potential risks or harms to the participants? If there are significant risks or harms, what will be your risk mitigation strategy? How will you protect the anonymity of your participants?*

### **Experimental design, part 2. Due by 19 February 2024, 12 p, via Blackboard**

400-800 words, excluding bibliography/list of references.

Start by briefly introducing your research question. Then, the following components should be discussed:

- 1) Treatment/manipulation (2-3 paragraphs): Explain your manipulation strategy in detail. Discuss why you opted for this manipulation (ideally, with reference to previous works in the literature). *How will you make sure that the manipulations have the intended effect? Is it possible that the manipulations will have unintended effects (e.g. manipulate other things at the same time) and if so, how do you intend to minimize these? What are the internal reliability considerations that you have?*
- 2) Sampling and randomization (1-2 paragraphs): Discuss how you intend to sample from the target population of interest. *How many units will be sampled and what is the justification for this (power analysis, costs considerations)? How will you recruit your participants? Do you need any resources for sampling and data collection? If so, what are these? How will you ensure that the manipulation will be randomly assigned? Will you do any randomization checks, and if so, how?*
- 3) Implementation (1-3 paragraphs): Other details and issues relevant for the implementation of the sampling, manipulation, and data collection phases of the experiment.

**Final experimental design. Due by 1 March 2024, 12pm via Blackboard**

2500-3000 words, excluding bibliography/list of references.

**1. An abstract** that conveys the research question, its background and the gap in the literature that your study intends to fill, the key hypothesis of the study, and brief explanation of what your experiment manipulates to test the hypothesis. The abstract should not exceed **150 words**.

**2. An introduction** (2-4 paragraphs) in which you present the **research question**. Explain clearly why this question should be studied and discuss the scientific and practical **relevance** of such a study. Your research question should aim to fill a gap in the literature, challenge existing findings or provide a replication of existing findings based on a new experimental design or a new measurement or sampling strategy. The key independent (manipulated) and outcome variables should be clear in this section, and if possible, conclude this section by providing an overview of your experimental design as well.

**3. A discussion of the relevant literature** (2-4 paragraphs) where you discuss the strengths and limitations of existing studies that attempt to answer your research question or similar questions. It is expected that you refer to at least 8 academic publications. The main point in this section should be to identify the gaps in the existing literature that justifies or provides the motivation for your research question and your experimental design.

*Some tips to focus on in the literature reviews:* How has the existing research so tackled this question (or similar questions)? What are their main findings, in a nutshell? Focus on where there is consensus and where there is divergence in the literature on the topic. Alternatively, think about what the potential problems with existing studies or points that need improvement are (e.g. maybe the question hasn't been studied in an experimental design, maybe the designs need improvement, or need to be tested across different samples, etc...). *What has been answered so far and what remains to be done?* Again, this section **should clearly identify** the gap in knowledge in terms of the conclusions that were drawn from previous studies.

The literature discussed needs to be up to date. Also make sure not to miss the influential works in the literature!

**4. A discussion of your theoretical argument** (2-4 paragraphs) which seeks to decrease the knowledge gap highlighted in the literature review. *What is your key argument, proposed mechanism, and the justification for those (also based on the literature)?* The theory section should include **at least one hypothesis** that is clearly labelled and that confirms with the expectations from empirically testable hypotheses. The link between the theoretical argument and the hypothesis is important. The discussion in this section should clearly inform the hypothesis to be tested.

**5. Detailed explanation and justification of your experimental design.** This section should include the following elements:

- Discussion of your experimental design choice. Often, there is more than one possible experimental design and alternative strategies for sampling and recruitment. A strong proposal ideally discusses why you choose the specific design and evaluates the advantages as well as the disadvantages of your chosen design. This could be practicality and implementation (including resources and costs) considerations, an innovative aspect that you plan to introduce, ethical considerations, etc.

- Population of interest (see above)

- Implementation of the experiment: Sampling, recruitment, randomization (see above)

- Treatment/manipulation, including checks for manipulation, possible spillover effects, placebo tests (see above)
- Measurement of the outcome variable (see above)
- Ethical considerations (see above)
- Practicality and feasibility. Discussion of the resources required, including costs of sampling, recruitment, and other possible costs (money, time).

6. Finally, you should end with a **conclusion** section (2-3 paragraphs) that clearly discusses the potential limitations of the study, external validity issues, and how these may be overcome. You should also discuss the academic and practical implications of your potential results.

7. List of references. Recommended citation style is Harvard, but you can use any citation and reference style of your choice as long as it is consistent across the document.

### **Academic dishonesty**

Academic dishonesty, including, but not limited to, cheating on an exam or assignment, plagiarizing, representing someone else's work as your own, submitting work previously used without the informing and taking the consent of the instructor, fabricating of information or citations, etc. will not be tolerated. Plagiarism will lead to automatic failure and the matter will be reported to the student's tutor and the dean of the faculty; severe penalties are likely to ensue, including possible exclusion from the exam or even the College, in accordance with College policy.

- Please read pp. 45-47 of the [College Calendar](#) for University's plagiarism policy. The College Policy on Plagiarism can be [found here](#).
- General guidelines for students on avoiding plagiarism could be found in the [Library's online tutorial](#).
- The Library also has a [web page](#) with extensive resources about academic integrity and best practices about citations and referencing.
- Please note that you should **not** submit a proposal that overlaps with material submitted to another module.
- Please do **not** use generative AI such as ChatGPT to write (or re-write) any sections of your submissions.