POIR 610: Introduction to Research Design

Professor Nick Weller
Course location and time: VKC 153, Wednesday, 2-5pm
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Office: VKC 232C
Office Hours: Tuesday, 1pm to 3pm; Wednesday, 10:30 to 11:30am

Course Description

This is a course on research design. The course will cover how to design compelling research, with a focus on causal inference. We will cover the design of true experiments and contrast them to many other different approaches to research. Discussing threats to the internal validity of true experiments will allow us to focus on the same threats to internal validity in observational studies. We will cover extensively the design of observational research where the researcher controls neither the assignment of cases into groups nor the administration of the treatment being studied. We will examine both quantitative and qualitative approaches to social science research. Our examples will be drawn from throughout the social sciences (psychology, political science, economics, education research, etc). The reading load for the class is extensive. The goal each week is to provide an overview of the methodological issue being addressed and also some examples of the issue.

Please bring questions or issues raised in other classes to this class and we will discuss them here, too. The discussion of research methods should not be confined to just this class. The issues we will discuss in this class permeate all of your other classes and we will endeavor to merge the material in this class with the material in your other classes.

This is NOT a statistics or econometrics class. We will discuss those to some extent, but it will not be our focus. Likewise, this class provides only the introduction to many of the key approaches to experimental and observational research. To gain greater ability with such tools will require taking additional coursework and investing time outside of class, as well.

Required Books


I will also post additional course readings on the Course’s BlackBoard Web Page or distribute them via email. You should always check Blackboard a few days before class to see if there are new readings in the folder for that week.

Course Format
The course will be a mixture of lecture and discussion. We will often start with lecture overview and then we will move into a discussion of the material after that. Depending on the topic the exact balance of discussion and lecture will vary. I will expect all of you to participate actively through multiple mechanisms – asking questions, presenting readings, discussing your research
projects, etc. Even when days are primarily about lecture I want participation – ask questions if you don’t understand; challenge the reading; explore the topics by asking questions. Not only will you each individually do better if you participate actively, but the class will benefit as well.

**Laptop Policy**
To encourage student participation I request that you minimize laptop usage during class. This class will be more fun and useful if everyone actively participates. Please ensure that you print the required readings before class if you want to have them with you. I will make the slides from any lectures available either before or after class so you should NOT attempt to take verbatim notes.

**Students with Disabilities**
Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. The phone number for DSP is 213-740-0776. If you need assistance with the process, please contact me at the phone number or e-mail address above.

**Statement on Academic Integrity**

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one’s own academic work from misuse by others as well as to avoid using another’s work as one’s own. All students are expected to understand and abide by these principles. *Scampus*, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: [http://www.usc.edu/dept/publications/SCAMPUS/gov/](http://www.usc.edu/dept/publications/SCAMPUS/gov/). Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: [http://www.usc.edu/student-affairs/SJACS/](http://www.usc.edu/student-affairs/SJACS/).

**Assignments**

*Homework Assignments-40%*
We will have a variety of homework assignments. Homework will be assigned in class and will be due at the beginning of class the following week. Late homework will not be accepted. If you do not turn in an assignment on time, you will receive a zero on that homework.

*Class Participation – 30%*
Everyone in the class will be responsible for participation. Each student must do at least one presentation during the semester. During the presentation your task will be to put the readings into the context of the class and that weeks’ topic (i.e. synthesize) and then to provide a discussion of the material. The discussion can include critique, related questions.

You should attempt to first understand what the author is attempting to do on its own terms, and then evaluate how well the author did it. To put it another way, the focus in this class will not be
to discuss authors’ theories (although we can/will do that), but rather to take their theory for granted and evaluate the quality of the research.

Final Paper-30% -- Take one of the empirical readings from your other classes (or that you find on your own). Provide a brief description of the author’s main argument and theory. Then discuss the author’s research design. You should address at least the following topics: constructs, measures, data collection, and research design. Your paper should highlight the strengths and weaknesses of the author’s work. After providing a critique of the paper/book you should discuss how you could improve on the research. More information will be provided about the paper.
Schedule of Topics

Week 1: The Scientific Method
1. Trochim and Donnelly, Chapter 1
2. King, Keohane and Verba, Chapter 1

Week 2: Methods of Observation and Inference
1. King, Keohane and Verba, Chapter 2
   b. Snyder, “Is Evidence Historical?” in Curd and Cover.

Week 3: Sampling
1. Trochim and Donnelly, Chapters 2 and 3
2. King Keohane and Verba, Chapter 4

Homework #1 due Week 5. Analyze the data provided on World Governance Indicators ([http://info.worldbank.org/governance/wgi/index.asp](http://info.worldbank.org/governance/wgi/index.asp)) and assess either validity or reliability. You should download the data from the above webpage. I will provide more information in Week 3/4 of the course.
Week 4: Measurement

1. Trochim and Donnelly, Chapters 5.

Week 5: Causality and Causal Effects

1. Trochim and Donnelly, Chapter 3.
2. Shadish, Cook and Campbell. Chapter 1, “Experiments and Generalized Causal Inference”
3. King Keohane and Verba, Chapter 3

Week 6: Design, Validity, and Disconfirmation

1. Trochim and Donnelly, Chapter 7
2. Shadish, Cook and Campbell. Chapters 2, 3 and 11

Week 7: Experimental Design

1. Shadish, Cook and Campbell Chapter 8 and 10
2. Morton and Williams Chapters 3, 4 and 7

Homework #2: Experimental design paper (due Week 9). Pick a question that interests you in social science. Describe the basic theory and hypothesis. Be specific about the different groups
and the treatment, and explain how you manipulate the treatment. Provide a clear description of the treatment and how it matches the theory/hypothesis from which you started.

**Week 8: More Experiments**


**Week 9: Observational Research, I**

2. Shadish et al. chapter 5 & 6
5. Sekhon, Jas and Rocio Titunik. 2012. “When Natural Experiments are Neither Natural nor Experiments.”

**Week 10: Observational Research II: Regression Discontinuity and Matching**

1. Shadish et al. Chapter 7
   b. SKIM: Caughey and Sekhon discussion of Lee
http://sekhon.berkeley.edu/papers/CaugheySekhonRD.pdf
6. Morgan and Winship, Chapter 7

Week 11: Instrumental Variables and Observational Research, III


Homework #3 (due Week 13): Take an existing theory from a social science. Identify a testable hypothesis from the theory. Design an observational study to test this hypothesis. You need to define your constructs and measures. Explain to me how your design allows me to reach an inference about the causal effect of the treatment/explanatory variable.

Week 12: Observational research with small(er)-N
1. King, Keohane and Verba, Chapter 6
4. Bennett, Chapter 10 on Process Tracing in RSI
5. Collier, Brady and Seawright, Chapter 9 in RSI

**Week 13: More on Observational research with small(er)-N**
1. Trochim and Donnelly, Chapters 6, 8.
2. King, Keohane, and Verba, Chapter 6.

**Week 14: Difficult Research Topics**
1. Druckman and Kam. “Students at Participants.” in *Handbook of Experimental Political Science*.
3. WEIRD subjects, Henrich, Joseph.
5. “Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination”

**Week 15: Causal Mechanisms and other stuff**
Mechanisms.” *Sociological Methods and Research.*
5. Deaton, Angus. “Instruments, Randomization and Learning about Development.” *Journal of
Economic Literature.* 48: 424-455
http://www.youtube.com/watch?v=fuvXWnTl6_s

**Final Papers due:**
Template for Weekly Presentations

Students will introduce topics each week. This entails critically summarizing the readings and leading the subsequent discussion. The opening presentations, no more than 10 minutes in length, are meant to develop seminar communication skills and to encourage participation by all members.

The presentations should NOT summarize the authors’ main points. You may use a table like below to summarize very briefly what each author says, but you need to focus on synthesizing what the different authors say and how the applied research of a given author relates to important methodological issues.

<table>
<thead>
<tr>
<th>Author Name</th>
<th>Dependent Variable</th>
<th>Independent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mancur Olson, <em>Logic of Collective Action.</em></td>
<td>Variation in the formation of interest groups - some individuals with common interests form special interest groups, some don’t.</td>
<td>Number of individuals Proportion of benefits going to each group member Use of selective (private) incentives to induce membership</td>
</tr>
</tbody>
</table>

Example:

*Note:* DO NOT make the summaries longer than this and please consider putting multiple summaries on the same page

- Begin your presentation by introducing the topic. The heading in the syllabus is a good clue but try to go beyond it, indicating, for example, *why* the topic is important. For example, why is it relevant to discuss the measurement of different constructs and how does that fit with the rest of the course?
- Close your presentation with a set of discussion questions aimed at getting the discussion going. A visual can help here too. You might develop a set of questions on hotly debated topics. What are the different arguments among the readings? Where do they agree/disagree? Do you find either argument compelling? How would you attempt to resolve the debate?