POL S 499: CAPPP Undergraduate Fellows

Fall 2019, Tues. 10:30-11:20 THO 215
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CAPPP Program Description

The CAPPP Research Fellowship is designed to teach political science majors how to conduct original social science research. This Fall we will learn what it means to engage in social science reasoning; to identify and critique existing social science research; and to apply social science approaches to analyze information about politics. Our primary goals this quarter are 1) to develop an interesting and feasible research question, 2) to identify relevant data sources and 3) to develop an initial research design that will allow you to examine that question using scientific criteria. Meanwhile, we will also learn how to analyze these data using statistical research methods.

Required Material

Lisa Baglione. 2015. *Writing a Research Paper in Political Science: A Practical Guide to Inquiry, Structure, and Methods*, 3rd Ed. CQ Press. **[LB]**

Christopher Howard. 2017. *Thinking Like a Political Scientist: A Practical Guide to Research Methods*. University of Chicago Press **[CH]**

Note: The texts are available through CQ, University of Chicago Press and other online retailers for prices ranging from $10-$30 each. Please talk to Bree or Becca if you have trouble locating or purchasing any of these texts.

Grading

Fall and Winter quarter grades register as independent study credits and are based on weekly assignments and quarter milestones that advance important components of your research project. Spring quarter grades count toward the POL S major and are evaluated on the basis of your final research project.

Learning Statistics in R

Throughout the quarter, we will learn to use a statistical software program called R. We will learn the basics in weekly lab sessions with Bree beginning on October 3. There will be weekly assignments designed to teach you the skills that you'll need in order to analyze and interpret your own data in Winter quarter. You should feel free to work together on these exercises.

Fall Quarter Agenda

At the end of the quarter (during finals week), you will turn in a final paper that includes 1) a research question that Bree and I have approved; 2) a falsifiable hypothesis; 3) alternative rival hypothesis; 4) a review of the literature related to your question; 5) a preliminary research design (e.g., how you will test your hypothesis), and 6) identification of you data sources and/or a data collection plan. Everything that we do during Fall quarter is meant to advance these goals and help you to successfully complete this research design paper.

Important deadlines
Oct 8- Preliminary research topic
Oct 15 – Research question & article summaries
Oct 22 – Revised summaries & hypotheses, Swirl R practice exercise
Oct 28 – Alternative hypotheses
Nov 5 – Data sources & measurement
Nov 14 – R exercise
Nov 21 – R exercise
Nov 26– R exercise
Nov 26 - Research design paper draft
Dec 5 – R exercise
December 10 – Final research design paper (see below for template)

COURSE SCHEDULE

Week 1: 10/1 - Introduction: Scientific Reasoning & Alternative Approaches

What is the difference between truth, prediction, explanation and observation?

--LB, Chapters 1-2
Exercise 1: Research Topics (due 10/8) & Swirl R practice exercise (due 10/17)
10/3 Lab with Bree: Introduction to R and Swirl

Week 2: 10/8 - What Makes a Good Scientific Theory?

Why do we use empirical reasoning? What makes a good research question?

--CH, Chapter 1
--L&B, Chapter 3
--Gilens, Martin and Benjamin Page. 2014. "Testing Theories of American Politics: Elites, Interest Groups and Average Citizens," *Perspectives on Politics* 12: 564-581 – ***pp. 564-70***

[Formulating research questions, reviewing the literature, falsification & conjecture]

Exercise 2: Literature Reviews (due 10/15)
10/10 Lab with Bree and Emily Keller: Library Search Tools

Week 3: 10/15 - Hypothesis Testing

What makes a study scientific? How do social scientists advance knowledge?

--CH, Chapter 1, continued from 10/9
--LB, chapter 5
--Gilens, Martin and Benjamin Page. 2014. "Testing Theories of American Politics: Elites, Interest Groups and Average Citizens," *Perspectives on Politics* 12: 564-581 – ***pp. 570 - 77***

[Formulating hypotheses and alternative explanations]

Exercise 3: Revised literature reviews & falsifiable hypotheses (due 10/22)
10/17 Lab with Bree: Identifying data sources

Week 4: 10/22 - Research Design: Concepts, Measurement & Data Sources

How can relationships between variables be quantified?

--CH, Chapter 2
--LB Chapter 7
--Milgram, Stanley. 1961. "Behavioral Study of Obedience," *Journal of Abnormal and Social Psychology*," 67: 371-378.
--McKinney, Allyson. "Welfare, Punishment, and Participation: Assessing Welfare Punitiveness and Voting Behavior." Submitted for CAPPP Thesis, June 3, 2019.

Exercise 4: Measurement & Data Sources (due 10/29)
10/24 Lab with Bree: Creating and loading data in R

Week 5: 10/29 - Analyzing Cause & Effect

What are the typical problems in trying to make a causal inference? What are the necessary conditions for making a cause-effect relationship? Why are some statistical studies misleading?

--CH, Chapter 3
--Horgan, John. "Your Analysis is Faulty: How to Lie With Drug Statistics," *The New Republic*, April 2, 2002.
--Atlas, Jeani. "In the Jailhouse, Not the Statehouse: Racialized Felon Disenfranchisement and Black Descriptive Representation." Submitted for CAPPP Thesis, June 3, 2019

Exercise 5: Causal claims & alternative rival hypotheses (due 11/5)
10/31 Lab with Bree: Introduction to dplyr and the tidyverse in R

Week 6: 11/5 – Describing Data

What are useful ways of describing variation?

--JRM, Chapter 7 (pp. 169-179)
--Hood, M.V. & Grant W. Neely. 2000. "Packin' in the Hood? Examining Assumptions from Concealed Handgun Research," *Social Science Quarterly,* 81: 523-537

Exercise 6: Visualization of data in R
11/7 Lab with Bree: Introduction to ggplot and graphing in R

Week 7: 11/12 – Analyzing Patterns in Data: Statistical Inference

How can we determine the strength and statistical significance of empirical relationships?

--CH, Chapter 7 (pp. 179-187)
--Beckett, Katherine, Kris Nyrop & Lori Pfingst. 2006. "Race, Drugs & Policing: Understanding Disparities in Drug Delivery Arrests." *Criminology,* 44: 105-137.
--Hannah Fry, "What Statistics Can and Can't Tell Us About Ourselves, *The New Yorker*, September 2, 2019.

[Hypothesis Testing, Statistical Significance & Confidence Intervals]

Exercise 7: Descriptive Statistics and Assessing Relationships in R
11/14 Lab with Bree– Describing variables and tests between two means in R

*Week 8: 11/19 – Analyzing Relationships Between Two Variables

How can we summarize relationships between two variables?

--CH, Chapter 7 (pp. 179-187), continued from 11/13
--Fletcher, Alex. "The Effect of Prosecutorial Control of Exculpatory Evidence on Plea Bargaining." Submitted for CAPPP Thesis, June 3, 2019.

Exercise 8: Analyzing Tables of Data in R
11/21 lab with Bree: Bivariate Relationships in R

*11/19 class will be rescheduled – time/place TBD

Week 9: 11/26 – Regression Analysis - *Paper Drafts Due Today!*

How can complex variation be explained? What are the limits to multivariate models?

--CH, Chapter 7 (pp. 187-197)
--Daniel N Posner. 2004. "The Political Salience of Cultural Difference: Why Chewas and Tumbakas Are Allies in Zambia & Adversaries in Malawi," *American Political Science Review,* 98: 529-545.
--Randles, Rohnin. "Montesquieu to Scalia: Cross-National Separation of Powers in Constitutions and Free Expression." Submitted for CAPPP Thesis, June 3, 2019.

Exercise 9: Bivariate & Multivariate Regression
****xx/xx Lab with Bree: Regression Analysis in R – Scheduling TBD***

Week 10: 12/3 – Wrap-Up & Discussion of Research In-Progress

Final Research Designs due Tues, December 10

Research Design paper Template - Reused with permission from Professor John Wilkerson

The Gilens & Page (2014) article is a pretty good example but good research papers can have different formats. All of them share certain features however. Here we discuss two different things – what a good research paper conveys, versus how it is structured.

What a good research paper conveys

Briefly, a good research paper makes for good reading. It draws in the reader by presenting the question in an interesting and compelling way, clearly leads them toward a destination, and leaves them satisfied in terms of feeling as if they got what was promised. 'Less good' research papers fail on one or more of these counts.

How a good research paper is structured

Title: Don't waste this opportunity to attract interest in your research!

Abstract: Summarizes the key points of the paper, including motivation, research question, data and methods, findings, and implications – in 150 words or less! Because the abstract summarizes the paper, plan on polishing the abstract after the paper has been fully developed.

Introduction: This is basically a richer version of the abstract, so it should be roughly twice as long. Start with a motivating example. Follow with a thesis statement (In this paper….). Then describe the logical steps you will take to testing your thesis. Think of it as a road map to the rest of the paper. You want to be as transparent as possible in terms of how you intend to make your argument.

Main body

Background: Imagine a busy reader who is ready to toss your paper aside. You need to persuade that person to keep reading. Why is your subject important? Presenting your research (narrow though it may be) in the broadest terms possible. Next, you need to explain how it fits with what's already out there. Why is it an original – and important - contribution to what has come before? Here's where you talk about prior research, but with the sole goal of showing where your research fits and how it makes a contribution. In other words, do not blather on about prior research merely to demonstrate that you did a bunch of work. You should probably end up referencing about 20% of the articles you actually read.

Theory and hypotheses*:* Having read the background, the reader is interested and ready for more details. This is where you get explicit about your argument/thesis and its implications (hypotheses).

***Variables and Data**:* Having laid out a set of expectations, you next need to describe how you will test them. Think Replication. You want the reader to have enough information in this and the findings section that they could do what you've done. This includes specifying your dependent and independent variables, the indicators of those variables you will be using, and where you got them or how you constructed them. A table can be a good way to summarize this information.

Findings: This is where you describe your methodology for testing your hypotheses and present the results of your analysis – this is obviously not required for the fall paper.

Conclusions: *Someone should be able to grasp your entire project by only reading the conclusion. You embarked on a research project with a set of expectations. You tested them. You found. So where do things stand now, and what might you or someone else do next?*

***Bibliography**:* Make sure you know how to cite sources properly. The Political Science writing lab has great on-line resources.