

Term Information

Effective Term Spring 2021

General Information

Course Bulletin Listing/Subject Area Political Science
Fiscal Unit/Academic Org Political Science - D0755
College/Academic Group Arts and Sciences
Level/Career Graduate
Course Number/Catalog 7095.02
Course Title Prospectus and Professional Development
Transcript Abbreviation Prospect & Pro Dev
Course Description Advanced course to prepare graduate students to write dissertation prospectus.
Semester Credit Hours/Units Fixed: 3

Offering Information

Length Of Course 14 Week, 12 Week, 8 Week, 7 Week, 6 Week, 4 Week
Flexibly Scheduled Course Never
Does any section of this course have a distance education component? No
Grading Basis Letter Grade
Repeatable No
Course Components Seminar
Grade Roster Component Seminar
Credit Available by Exam No
Admission Condition Course No
Off Campus Never
Campus of Offering Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites
Exclusions
Electronically Enforced Yes

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code 45.1001
Subsidy Level Doctoral Course
Intended Rank Masters, Doctoral

Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors

Course Details

Course goals or learning objectives/outcomes

- Students will understand strengths and weaknesses of various research design strategies

Content Topic List

- Structures of causality
 - Conceptualization and measurement
 - Estimating causal effects in laboratory research
 - Real experiments
 - Challenges of descriptive inference
 - Observational research designs
 - Characteristic issues in utilizing observational, qualitative research design
 - "Time" as a problem and a centerpiece of theory
 - "Space" as a problem
 - Understanding the data gathering process
- No

Sought Concurrence

Attachments

- 7095.02 syllabus.pdf: POLITSC 7095.02 syllabus
(Syllabus. Owner: Smith, Charles William)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Smith, Charles William	07/17/2020 03:03 PM	Submitted for Approval
Approved	Caldeira, Gregory Anthony	07/17/2020 03:25 PM	Unit Approval
Approved	Haddad, Deborah Moore	07/17/2020 04:33 PM	College Approval
Pending Approval	Jenkins, Mary Ellen Bigler Hanlin, Deborah Kay Oldroyd, Shelby Quinn Vankeerbergen, Bernadette Chantal	07/17/2020 04:33 PM	ASCCAO Approval

Political Science 7095.02. Prospectus and Professional Development

Prof. Marcus J. Kurtz

SPRING 2021

Mondays 2 - 4:45 pm

2174 Derby Hall

Course Description

Political Science 7095.02 is an advanced class in preparation for writing your dissertation prospectus. It is a class that is aimed at graduate students in the third year. This does not foreclose enrollment by fourth-year students who have not defended a dissertation prospectus. Our discussions will presuppose some level of comfort with basic methodological concepts and techniques. The focus in this class is on concrete approaches to constructing research designs of many different types—it is as much a class designed to provide you with a sense of where to look for design strategies for your own projects rather than a cookbook of ‘best practices.’

The class is founded on a few central assumptions. First, that the end goals of social-scientific research are not uniform. That is, while many of us engage in “causal analysis,” we do not necessarily have exactly the same underlying understanding of causation. There is nothing wrong with this, but it forces us to be aware of the specific causal structure of our arguments when we design research to test them. Second, this course makes no assumption that any particular notion of causality is “correct” or “incorrect,” or more importantly, that any particular strategy of inference is in any global sense “better” or “best practice.” The course hews firmly to the proposition that research design must be question and theory driven. You will find no gold standards here.

We will in this course examine a wide variety of design strategies, with an emphasis on what assumptions they imply in order to make observed results interpretable as causal claims, and a further emphasis on the characteristic strengths and weaknesses that alternative approaches have. We will also look at a series of design strategies that seek to accommodate the fact that the real world rarely gives us the sort of data that we would like to have. Our measures are frequently error-laden, our concepts are ill-formed or ill-considered, our theories imply relationships that are difficult to model (e.g., non-linear and non-additive; hysteretic, asymmetrical), or for which the best data are simply not available (as a consequence of, *inter alia*, temporal and cross-sectional selection processes, noisy or biased measures, or aggregation). Similarly, we often have limited information with which to judge the appropriate functional form for our model specifications in observational data, and our experimental strategies may rely on questionable ‘as if’ randomization in the real world, or serious problems of external *and* internal validity in the laboratory. Or our estimated ‘average treatment effects’ may mask serious and crucial heterogeneity. Our history-spanning qualitative analyses may be bedeviled by degrees of freedom problems, curve fitting, and/or unknowable scope. We will consider all of these problems – and many more – and the techniques that have emerged to cope with them. If you take from this that social scientific research exists in a world of second-best, whatever its type, this is correct. The point of research design is to the best that we can do with the real constraints we are given.

To be more specific, the course begins with an evaluation of the types of causal claims that social science theories regularly make. From this we will examine the problem of conceptualization and measurement, and the consequences of errors in either or both—even for otherwise perfectly specified and tested theories. We will then move on to questions of descriptive inference—which is occasionally a principal goal, and often one that requires special care to generate valid data on difficult topics (e.g., where measures available are at the wrong level of aggregation or the topic itself produces incentives making available data inaccurate). After this we will examine the strengths and weaknesses of laboratory and field experimental research designs—with an eye to what we must assume to interpret them, and what sorts of uses we can put the data to. We then move on to more familiar observational data strategies (both quantitative and qualitative), and the strengths and weaknesses that they entail. Most notably, we examine the strong assumptions required to give observational studies a causal (as opposed to correlational) interpretation, and the efforts to overcome some of challenges posed by these assumptions. We will also look at techniques designed to use observational data to assess treatment effects in ways similar to experimental approaches (e.g., via matching, regression discontinuity designs, and natural experiments), and the problems that this entails. We will then move on to the implications of time and space for the construction and testing of theory. Notably, these pose both challenges and opportunities that must be addressed and/or seized, respectively. Spatial dynamics may induce biases through non-independence of cases, but they also produce opportunities to test theories of cross-unit diffusion. Temporal dynamics (nonstationarity, serial correlation, and questions of fixed versus random effects) may imperil statistical findings, but some forms also make possible the investigation of long-run equilibrium relationships, sequential causal structures, or various forms of path-dependence and/or hysteresis. Finally, we focus on a question that must be addressed in any research design: what do we understand the relevant data generating processes to be—as these give rise to special problems coming from non-random selection, the rarity of outcomes, outcomes founded on conditions of necessity and/or sufficiency (but not additive or linear causation), or where the meaning of statistical results (probabilities and hypothesis tests) is difficult to clarify. In each class session, the effort will be to combine methodological readings with substantive research that grapples (or fails to grapple) with the relevant issues at hand. By the end of the semester, you will be expected to produce a dissertation prospectus that you can defend in short order.

Students with Disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-

292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Prerequisites

Participants in the course will have completed their PhD qualifying exams and be prepared to write a dissertation prospectus.

One caveat: this is not an elementary “how to” class in research design and prospectus writing. It is assumed that you know how to handle datasets and perform statistical or other analyses, or can learn what you need as you proceed (with help from me, the PRISM fellows, and your fellow graduate students). We will not, however, spend class time on questions of how to code a selection model, create a weight matrix for a spatial diffusion analysis, run different types of hypothesis tests, etc. These are the sorts of topics that I’m very happy to discuss outside of class, but we have too much to cover at the theoretical/design level to deal with much of this in class.

Course Requirements

There is one course requirement —beyond vigorous classroom participation— for this course:

1. A first-draft dissertation prospectus. 15 percent of the grade. The idea here is to develop (1) an empirical puzzle, (2) ground it in existing knowledge on the topic in question, using the theoretical or methodological deficiencies there to build a case for (3) an alternative theoretical approach. You should lay out your puzzle, the conceptual and measurement strategy for key independent and dependent variables (or treatments and outcomes if you prefer that idiom), and at least the beginnings of a working

hypothesis.

2. The Midterm. 25 percent of the grade The assignment will involve answering one or two research design questions (as a take-home exercise to be completed within a period of about two weeks). These questions would be basically akin to the sort of question you would get in the middle section of a methods general exam or perhaps on a field-specific general exam that has a methods component. The idea will be to demonstrate what methodological choices you would make in regards to conceptualization, measurement, and analysis given a particular set of data and research goals. It will generally involve some actual data analysis. You will be able to use whatever software you prefer for data analysis, but of course all code, scripts, .do files, etc. required to replicate your findings will be turned in.
3. The Final Project: A Prospectus. 45 percent of the grade. The final project for the course is a full-scale dissertation prospectus. This should build on the partial prospectus developed above. Hopefully this will be aiming toward your actual dissertation prospectus (or at least a good first stab at it!). The idea would be that this document would serve two functions – (1) to lay the foundation for applications for funding to carry out your research (whether this involve fieldwork funding, NSF funding for experimentation or surveys or data acquisitions, inter alia), and (2) put you well on the way to a defensible dissertation prospectus – and thus to ABD status and getting into the really fun part of graduate school – doing your own research and writing! Please note that the written prospectus and its presentation (15 percent) are components of the grade for this final project.

The prospectus will be presented in class and subject to class feedback—

on the final two scheduled class sessions. And a final version that incorporates responses to this feedback will be due TBD (via the Carmen drop box; it can be uploaded at any time before this deadline).

Details on the essential components of a full-scale prospectus (as understood for this course) will be distributed well before the deadline for the midterm/final assignments.

Grading The partial prospectus counts 15 percent of the course grade, the midterm constitutes 25 percent of the course grade, the prospectus presentation counts 15 percent, and the final prospectus counts for 45 percent.

Grading Scale

93–100: A 90–92.9: A- 87–89.9: B+ 83–86.9: B 80–82.9: B- 77–79.9: C+ 73–76.9: C 70–72.9: C- 67–69.9: D+ 60–66.9: D Below 60: E

Class Readings

The overwhelming majority of the readings for this course are available full-text online from our library. There is one book you may want to purchase—it is a useful reference and we will read selections from it:

Dunning, Thad. 2012. *Natural Experiments in the Social Sciences: A Design-Based Approach*. New York: Cambridge University Press.

The remaining readings (largely articles and selections from books) will be made available on the Carmen website for this course, or can be easily downloaded from the library.

Please Note

The syllabus and class requirements are subject to change. These changes will be outlined in class and via email to the class list (via Carmen).

Academic Honesty

“It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct at <http://studentlife.osu.edu/csc/>.”

Schedule of Readings and Class Topics

January 11, 2021: Introduction

January 18, 2021: Overview of the many structures of causality, and their implications for inference

Causality is a complex concept in Political Science, and yet ‘*causal inference*’ is often treated in a relatively straightforward fashion. I don’t mean that the actual techniques to estimate a causal effect are easy to design and implement. Rather, I mean that it is often assumed that underlying the effort a inference is the commonplace Neyman/Rubin/Holland model of causation—the counterfactual definition of a cause. It turns out, however, quite a few different models of causation are actually employed in Political Science scholarship, and these have important implications for research design choices. Thus, a key *a priori* question for any research design is to understand what sort of notion of causation is implicit in the theoretical structure that you have created. At a minimum, these

could be (1) standard counterfactual approaches; (2) related causes-of-effects models; (3) a variety of temporal models—path dependencies, hysteresis, or sequencing; (4) evolutionary causation (natural selection); (5) asymmetrical causation; (6) necessity and/or sufficiency; or (7) a variety of combinations of the above.

Readings:

1. Rubin, Donald. 1974. “Estimating Causal Effects of Treatments in Randomized and Non-randomized Studies” *Journal of Education Psychology* Vol. 66:5, pp. 688–701.
2. Holland, Paul W. 1986. “Statistics and Causal Inference” *Journal of the American Statistical Association* Vol. 81:396 (December), pp. 945–960.
3. Stanley Lieberman and Freda B. Lynn. 2002. “Barking up the Wrong Branch: Scientific Alternatives to the Current Model of Sociological Science” *Annual Review of Sociology* Vol. 28, pp. 1–19.
4. Abbott, Andrew. 1988. “Transcending General Linear Reality” *Sociological Theory* Vol. 6:2 (Autumn), pp. 169–186.
5. Pierson, Paul. 2000. “Increasing Returns, Path Dependence, and the Study of Politics” *American Political Science Review* Vol. 94:2 (June), pp. 251–267.
6. Mahoney, James. 2008. “Toward a unified theory of causality” *Comparative Political Studies*, Vol. 41, pp. 412–436.
7. Christopher Uggen and Irving Piliavin. 1998. “Asymmetrical Causation and Criminal Desistance” *The Journal of Criminal Law and Criminology*, Vol. 88:4 (Summer), pp. 1399–1422.
8. Dixit, Avinash. 1992. Investment and Hysteresis. *Journal of Economic Perspectives* 6:1, pp. 107–132.
9. Bowles, Samuel. 2012. “Warriors, Levelers, and the Role of Conflict in Human Social Evolution.” *Science* American Association for the Advancement of Science. May 18.

January 25, 2021: Conceptualization and Measurement; noise, bias, and incomplete coverage of conceptual domains; how to mitigate the problem

One of the most common difficulties in social science research is confounding measures with the concepts that they seek to operationalize. But before any measurement can be undertaken, the relevant concept (as defined by the theoretical purpose at hand) must be clearly specified—for it is only in relation to a conceptual underpinning that measure can reasonably be evaluated. This begs two questions: (1) how do you know if you have a well-defined concept—for purely stipulative approaches to conceptualization are unlikely to be helpful?, and (2) what happens to subsequent analysis if the measures of that concept are imperfect in some way? For instance, they might be ‘noisy,’ biased, or cover only part of the underlying conceptual terrain.

Readings:

1. Goertz, Gary. 2006. *Social Science Concepts*. Princeton, NJ: Princeton University Press, pp. 25-127.

2. Giovanni Sartori, "Concept Misformation in Comparative Politics" *American Political Science Review* Vol. 64:4 (1970), pp. 1033-53.
3. David Collier and Stephen Levitsky, "Democracy with Adjectives: Conceptual Innovation in Comparative Work" *World Politics* Vol. 49:3, pp. 430-451.
4. Gilbert, Leah and Payam Mohseni. 2011. "Beyond Authoritarianism: The Conceptualization of Hybrid Regimes" *Studies in Comparative International Development* Vol. 46, pp. 270-97.
5. Abbott, Andrew. 1997. "Seven Types of Ambiguity" *Theory and Society*. Vol. 26:2/3 (April-June), pp. 357-391.
6. Treier, Shawn and Simon Jackman. 2008. "Democracy as a Latent Variable" *American Journal of Political Science* Vol. 52:1 (January), pp. 201-217.
7. Meier, Kenneth J. and Laurence J. O'Toole, Jr. 2011. "Subjective Organizational Performance and Measurement Error: Common Source Bias and Spurious Relationships" *Journal of Public Administration Research and Theory* Vol. 23, pp. 429-56.
8. Hanushek, Eric and Dennis Kimko. 2000. "Schooling, Labor-Force Quality, and the Growth of Nations" *The American Economic Review* Vol. 90:5 (December), pp. 1184-1208.

For an example of a conceptualization based critique:

9. Strange, Susan. 1982. "Cave! Hic Dragones: A critique of Regime Analysis" *International Organization* Vol. 36:2, pp. 479-96.

February 1, 2021: Estimating Causal Effects in Laboratory Experimental Research. Internal and External Validity, the Laboratory Setting, the Relevance of the "Average Treatment Effect"

Standard treatments of the difference between experimental and observational research designs suggest that the former are almost always superior in terms of internal validity (establishing a causal effect), but are difficult to generalize beyond the specific experimental setting. In this section we consider a variety of factors that make such a claim less obvious. These include the role of theory in assessing the match between the conceptual treatment to be assessed and the actual treatment that is assigned in an experiment—this is analogous to the linkage between conceptualization and measurement.

External validity of lab experiments

1. Sears, David O. 1986. "College Sophomores in the Laboratory: Influences of a Narrow Data Base on Social Psychology's View of Human Nature" *Journal of Personality and Social Psychology* Vol. 51:3, pp. 515-530.
2. Peterson, Robert. 2001. "On the Use of College Students in Social Science Research: Insights from a Second-Order Meta-analysis" *Journal of Consumer Research* Vol. 28:3 (December), pp. 450-461.
3. Druckman, James and Cindy D. Kam. 2009. "Students as Experimental Participants: A Defense of the "Narrow Data Base." Unpublished working paper. Available at: <http://ssrn.com/abstract==1498843>.

Internal, construct, and external validity, and how they are related

4. MacMillan, James H. 2007. "Randomized Field Trials and Internal Validity: Not So Fast My Friend" *Practical Assessment, Research & Evaluation* Vol. 12:15 (December).
5. McQuarrie, Edward F. 2004. "Integration of construct and external validity by means of proximal similarity: Implications for laboratory experiments in marketing" *Journal of Business Research* Vol. 57:2 (February), pp. 142–153.
6. Schram, Arthur. 2005. "Artificiality: The tension between internal and external validity in economic experiments" *Journal of Economic Methodology* Vol. 12:2 (June), pp. 225-237.
7. Robinson, Amanda Lea. 2016. "Nationalism and Ethnic-Based Trust: Evidence From an African Border Region" *Comparative Political Studies* Vol. 49:14, pp. 1819–1854.

What is the quantity of interest?

8. Imai, Kosuke, Gary King, and Elizabeth Stuart. 2008. "Misunderstandings between experimentalists and observationalists about causal inference." *Journal of the Royal Statistical Society Series A* 171(2), pp. 481-502.

Uncertainty and the assessment of inferences

9. Keele, Luke, Corrine McConnaughy, and Ismail White. 2012. "Strengthening the Experimenter's Toolbox: Statistical Estimation of Internal Validity" *American Journal of Political Science* Vol. 56:2 (April), pp. 484-499.
10. White, Ismail. 2007. "When Race Matters and When It Doesn't: Racial Group Differences in Response to Racial Cues" *American Political Science Review* Vol. 101:2 (May), pp. 339-54.

February 8, 2021: Real Experiments, Natural Experiments, Quasi-Experiments, and How You Handle the Data from Them

Considerable concern has emerged that, at least for many purposes of interest to Political Scientists, laboratory-style experiments sacrifice too much in terms of external validity and the match between the theoretical interests of scholars and the treatments that can in practical terms be applied. Alternative approaches involve utilizing experiments in the 'real world' (not lab-in-the-field) as well as exploiting differences that approximate experimental random assignment (natural experiments) or treatment without randomization (quasi-experiments).

Real world experiments

1. Gosnell, Harold. 1926. "An Experiment in the Stimulation of Voting" *American Political Science Review* Vol. 20:4, pp. 869-74.
2. Gerber, Alan S., and Donald P. Green. 2000. "The Effects of Canvassing, Telephone Calls, and Direct Mail on Voter Turnout: A Field Experiment." *American Political Science Review* Vol. 94, pp. 653-63.
3. Imai, Kosuke. 2005. "Do Get-Out-the-Vote Calls Reduce Turnout? The Importance of Statistical Methods for Field Experiments" *American Political Science Review* Vol. 99:2 (May), pp. 283-300.
4. Gerber, Alan S. and Donald P. Green. 2005. "Correction to Gerger and Green (2000), Replication of Disputed Findings, and Reply to Imai (2005)" *American Political Science Review* Vol. 99:2 (May), pp. 301–313.

Natural experiments

5. Dunning, Thad. 2012. *Natural Experiments in the Social Sciences: A Design-Based Approach* New York: Cambridge University Press, pp. 1-62.
6. Sekhon, Jasjeet and Rocío Titiunik. 2012. “When Natural Experiments are Neither Natural nor Experiments” *American Political Science Review* Vol. 106:1, pp. 35–67.
7. Hyde, Susan. 2007. “The International Observer Effect in International Politics: Evidence from a Natural Experiment” *World Politics* Vol. 60 (October), pp. 37–63.
8. Posner, Daniel. 2004. “The Political Salience of Cultural Differences: Why the Chewas and Tumbukas Are Allies in Zambia and Adversaries in Malawi” *American Political Science Review* Vol. 98:4 (November), pp. 529–545.

Quasi-experiments

9. Abadie, Alberto. 2005. “Semiparametric Difference-in-Differences Estimators” *Review of Economic Studies* Vol. 72, pp. 1–19.
10. Bertrand, Marianne, Esther Duflo, and Sendhil Mullainathan. 2004. *Quarterly Journal of Economics* “How Much Should We Trust Differences-in-Differences Estimates?” Vol. 199:1 (February), pp. 249–75.
11. Fowler, Anthony. 2013. “Electoral and Policy Consequences of Voter Turnout: Evidence from Compulsory Voting in Australia” *Quarterly Journal of Political Science* Vol. 8:2, pp. 159–182.
12. Humphreys, David K., Manuel P. Eisner, and Douglas J. Wiebe. 2013. “Evaluating the Impact of Flexible Alcohol Trading Hours on Violence: An Interrupted Time Series Analysis” *PlosOne* Vol. 8:2.

February 15, 2021

No class today Midterm Assignment is provided. The partial prospectus is due by 5:00pm via upload to the Carmen drop box.

February 22, 2021: Challenges of descriptive inference

Though long derided as a second-order goal relative to causal inference, of late descriptive questions—getting accurate inferences on important properties of populations of interest—have begun to become more prominent (especially as they relate to ‘big data’ or machine learning techniques). There is, however, a very important set of research design strategies that are related to getting accurate information where simple measurement is unlikely to succeed—for instance, where the data available are at the wrong level of aggregation, where the information would be subject to strong ‘social desirability’ effects, or problems with perception-based indicators.

Ecological Inference Problems

1. King, Gary. 1997. *A Solution to the Ecological Inference Problem* Princeton, NJ: Princeton University Press, pp. 3–27.
2. Freedman, David, Stephen P. Klein, Michael Ostland, and Michael R. Roberts. 1998. “On ‘Solutions’ to the Ecological Inference Problem” *Journal of the American Statistical Association*

Vol. 93, pp. 1518–22.

3. W. S. Robinson, “Ecological Correlations and the Behavior of Individuals” *American Sociological Review* Vol. XV (1950), pp. 351–57.
4. Heilbroner, Oded and Detlef Mühlberger. 1997. “The Achilles’ Heel of German Catholicism: ‘Who Voted for Hitler’ Revisited” *European History Quarterly* Vol. 27:2, pp. 221–249.

Techniques for Hard-to-Get Information

5. James H. Kuklinski, Paul M. Sniderman, Kathleen Knight, Thomas Piazza, Philip E. Tetlock, Gordon R. Lawrence, Barbara Mellers, “Racial Prejudice and Attitudes toward Affirmative Action” *American Journal of Political Science* Vol. 41:2 (1997), pp. 402–419.
6. Corstange, Daniel. 2009. “Sensitive Questions, Truthful Answers? Modeling the List Experiment with LISTIT” *Political Analysis* Vol. 17, pp. 45–63.
7. Goffman, Alice. 2009. “On the Run: Wanted Men in a Philadelphia Ghetto” *American Journal of Sociology* Vol. 74 (June), pp. 339–357.

Do we trust our descriptive inferences?

8. Kurtz, Marcus J. and Andrew Schrank. 2007. “Growth and Governance: Models, Measures, and Mechanisms” *Journal of Politics* Vol. 69:2 (May), pp. 538–554.

March 1, 2021: Observational Research Designs and Statistical Approaches to Causal Inference

Statistical analysis of patterns of association used to be the dominant approach to causal inference in post-1960s Political Science. In the past two decades this dominance has been challenged on distinct fronts. On the one hand, proponents of ‘causal inference’ have challenged the applicability many forms of statistical analysis to causal questions. On the other, scholars rooted in a qualitative tradition have emphasized the limitations of statistical approaches, and have in turn highlighted gains that can be made by utilizing case-based analysis.

What sorts of things might we worry about?

1. Keele, Luke. 2015. “The Statistics of Causal Inference: A View from Political Methodology” *Political Analysis* Vol. 23, pp. 313–335.
2. Collier, David, Henry E. Brady, and Jason Seawright. 2010. “Sources of Leverage in Causal Inference: Toward an Alternative View of Methodology” in Henry Brady and David Collier, eds., *Rethinking Social Inquiry*, Plymouth, UK: Rowman and Littlefield, pp. 161–199.
3. Rodrik, Dani. 2012. “Why We Learn Nothing from Regression Economic Growth on Policies” *Seoul Journal of Economics* Vol. 25:2, pp. 137–151.
4. Lieberman, Stanley, and Lynn Hansen. 1974. “National Development, Mother Tongue Diversity, and the Comparative Study of Nations” *American Sociological Review* Vol. 39 (August), pp. 523–541.

What is to be done—if anything is needed?

5. Sala-I-Martin, Xavier. 1997. “I Just Ran Two Million Regressions” *American Economic Review* Vol. 87:2 (Papers and Proceedings), pp. 178–83.

6. Rubin, Donald B. 2007. "The design *versus* the analysis of observational studies for causal effects: Parallels with the design of randomized trials" *Statistics in Medicine* Vol. 26, pp. 20–36.
7. Vandembroucke, Jan P. 2004. "When are observational studies as credible as randomised trials?" *The Lancet*, Vol.363, pp. 1728–31.
8. Sampson, Robert J. 2010. "Gold Standard Myths: Observations on the Experimental Turn in Quantitative Criminology" *Journal of Quantitative Criminology* Vol. 26, pp. 489–500.
9. Lucas, Robyn M. and Rachel M. Rodney Harris. 2018. "On the Nature of Evidence and 'Proving' Causality: Smoking and Lung Cancer vs. Sun Exposure, Vitamin D and Multiple Sclerosis" *Environmental Research and Public Health* Vol. 15:8, 1726.

March 7, 2021: The Midterm Exam is due.

Please upload your midterm exam to the carmen drop box by 5:00pm on Sunday, March 7.

March 8, 2021: Characteristic issues in utilizing observational, qualitative research designs

There are quite a few approaches to research that consider themselves to be 'qualitative' research design—and indeed at some level they are. They are, however, sufficiently distinct from each other in terms of epistemology, knowledge goals, and use of evidence that to consider them fundamentally similar confuses more than it enlightens. In this section we consider only qualitative research strategies that embody a loosely positivistic epistemology and that aim, at some level, at making inferences about causation. Left aside, however, are equally valid ethnographic approaches to knowledge as well as contemporary constructivist analyses. This is not an effort to suggest that these are invalid approaches—far from it. Instead they signal the knowledge deficits of your instructor. Please also note that a 'detailed case study' and an 'ethnography' are far from being the same thing.

The small-N problem

1. Stanley Lieberman, "Small N's and Big Conclusions: An Examination of the Reasoning in Comparative Studies Based on a Small Number of Cases" *Social Forces* Vol. 70:2 (1990), pp. 307-20.
2. Donald Campbell, "Degrees of Freedom and the Case Study" *Comparative Political Studies* Vol. 8:2 (1975), pp. 178-93.
3. Dion, Douglas. 1998. "Evidence and Inference in the Comparative Case Study" *Comparative Politics* Vol. 30:2, pp. 127-145.

Selection bias

4. King, Keohane, and Verba, *Designing Social Inquiry*, Ch. 6, pp. 208–230.
5. Barbara Geddes, "How the Cases You Choose Affect the Answers You Get: Selection Bias in Comparative Politics" *Political Analysis* (1990), pp. 131–50.
6. Collier, David and James Mahoney. 1996. "Insights and Pitfalls: Selection Bias in Qualitative Research" *World Politics* Vol. 49:1, pp. 56–91.

7. Freedman, David. 2010. “Black Ravens, White Shoes, and Case Selection: Inference with Categorical Variables” in David Collier, Jasjeet S. Sekhon, and Philip B. Stark, eds., *Statistical Models and Causal Inference: A Dialogue with the Social Sciences* New York, Cambridge University Press, pp. 105–114.

Mixed designs and other solutions

8. James Mahoney, “Strategies of Causal Inference in Small-N Analysis” *Sociological Methods and Research* Vol. 28:4 (2000), pp. 387–424.
9. Lieberman, Evan S. 2005. “Nested Analysis as a Mixed-Method Strategy for Comparative Research” *American Political Science Review* Vol. 99:3, pp. 435–452.
10. Nicholas Sambanis. 2004. “Using Case Studies to Expand Economic Models of Civil War” *Perspectives on Politics* Vol. 2:4 (June)

March 15, 2021: No class, spring break.

March 22, 2021: Time as a problem and a centerpiece of theory. Non-stationarity, post-treatment bias, path-dependence, hysteresis, evolution, and sequencing

Temporal dynamics have often been treated as a problem to ‘fixed’ in observational analyses. They pose particular problems in observational work where post-treatment bias or non-stationarity impede traditional statistical analyses examining claims founded on a counterfactual notion of causation. At the same time, other common causal claims make temporal dynamics the centerpiece of their structures (as in path-dependent, evolutionary, or sequential theories). In some cases combinations could be present—for instance, path dependencies conditioning more traditional causal connections). All of these pose challenges from the perspective of research design, and they are typically only soluble by beginning with an understanding of the causal structure that implied by the theory under examination.

Path Dependence and Sequencing

1. Mahoney, James. 2000. “Path Dependence in Historical Sociology” *Theory and Society* Vol. 29:4 (August): 507–548.
2. Pop-Eleches, Grigore. 2007. “Historical Legacies and Post-Communist Regime Change” *Journal of Politics* Vol. 69:4 (November), pp. 908–926.
3. Kurtz, Marcus. 2009. “The Social Foundations of Institutional Order: Reconsidering War and the ‘Resource Curse’ in Third World State Building” *Politics & Society* Vol. 37:4, pp. 479–520.
4. Weir, Margaret and Theda Skocpol. 1985. “State Structures and the Possibilities for ‘Keynesian’ Responses to the Great Depression in Sweden, Britain, and the United States” in Peter Evans, Dietrich Rueschemeyer, and Theda Skocpol, eds., *Bringing the State Back In*, Cambridge: Cambridge University Press.

Evolution and Natural Selection

5. Spruyt, Hendrik. 2011. “War, Trade, and State Formation” in Robert E. Goodin, ed., *The Oxford Handbook of Political Science* Oxford: Oxford University Press.

6. Diamond, Jared. 2002. "Evolution, consequences and future of plant and animal domestication" *Nature* Vol. 418 (8 August).
7. Axelrod, Robert. 1981. "The Emergence of Cooperation among Egoists" *American Political Science Review* Vol. 75:2 (June), pp. 306–18.

Non-stationarity

8. Hamilton, James. 1994. *Time Series Analysis*. Chapter 15: Models of Nonstationary Time Series. Princeton, NJ: Princeton University Press, pp. 435–453. See also, for those interested, Chapter 16–19 dealing with deterministic time trends, univariate processes with unit roots, unit roots in multivariate time series, and cointegration.
9. Haber, Stephen and Victor Menaldo. 2011. "Do Natural Resources Fuel Authoritarianism? A Reappraisal of the Resource Curse" *American Political Science Review* Vol. 105:1 (February), pp. 1–26.

March 29, 2021: Space as a problem and as the theoretical concern. Nonindependence of cases, spatial autocorrelation, and diffusion processes

For a long time cross-sectional non-independence of cases was all-but-ignored in statistical analyses. But then it began to be untenable in some topics (regime or alliance formation, policy adoption, innovation, social welfare systems) or some contexts (e.g., where cross-national institutions or networks are known to operate). Then the question became purging inferences of the pernicious effects of non-independence of cases so that better causal effect estimates could be recovered. Lately scholars have become interested in the dynamics that underlie the non-independence—asking, for instance, are they caused by mimicry, knowledge diffusion, competition, or external pressure?

1. Beck, Nathaniel and Jonathan Katz. 1995. "What to do (and not to do) with Time-Series Cross-Section Data" *American Political Science Review* Vol. 89:3 (September), pp. 634–647.
2. Neumayer, Eric and Thomas Plümper. 2012. "Conditional Spatial Policy Dependence: Theory and Model Specification." *Comparative Political Studies* Vol. 45:7, pp. 819–849.
3. Plümper, Thomas and Eric Neumayer. 2010. "Model specification in the analysis of spatial dependence" *European Journal of Political Research* Vol. 49:3 (May), pp.418–442.
4. Harvey Starr. 1991. "Democratic Dominoes: Diffusion Approaches to the Spread of Democracy in the International System" *Journal of Conflict Resolution* Vol. 35:2 (June), pp. 356–381.
5. Simmons, Beth and Zachary Elkins. 2004. "The Globalization of Liberalization: Policy Diffusion in the International Political Economy" *American Political Science Review* Vol. 98:1 (February), pp. 171–189.
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7. Mukand, Sharun W. and Dani Rodrik. 2005. "In Search of the Holy Grail: Policy Convergence, Experimentation, and Economic Performance" *American Economic Review* Vol. 95:1, pp. 374–83.

April 5, 2021: Understanding the Data Generating Process. statistical inference in populations versus samples; designs involving necessity and sufficiency; sequence analysis, Inference where selection processes are known to be present. Rare events and the meaning of probabilities.

1. Abbott, Andrew and Stanley DeViney. 1992. "The Welfare State as Transnational Event: Evidence from Sequences of Policy Adoption" *Social Science History* Vol. 16:2 (Summer), pp. 245–74.

Rare events

2. King, Gary and Langche Zeng. 2001. "Explaining Rare Events in International Relations" *International Organization*. Vol. 55:3 (Summer), pp. 693–715.
3. Freedman, David and Philip Stark. 2003. "What is the Chance of an Earthquake?" *Earthquake Science and Seismic Risk Reduction*. NATO Science Series IV. Earth and Environmental Sciences. Vol. 21, pp. 201–16.

Selection Bias

4. Heckman, James. 1979. "Sample Selection Bias as a Specification Error" *Econometrica*. Vol. 47:1 (January), 153–161.
5. Puhani, Patrick. 2000. "The Heckman Correction for Sample Selection and its Critique" *Journal of Economic Surveys* Vol. 14:1, pp. 53–68.
6. Bear F. Braumoeller, Bear F., Giampiero Marra, Rosalba Radice, and Aisha E. Bradshaw. 2018. "Flexible Causal Inference for Political Science" *Political Analysis* Vol. 26, pp. 54–71.
7. Dale, Stacy Berg and Alan Krueger. 2002. "Estimating the Payoff to Attending a More Selective College: An Application of Selection on Observables and Unobservables" *Quarterly Journal of Economics* Vol. 117:4 (November), pp. 1491–1527.

Necessity and Sufficiency

8. Braumoeller, Bear and Gary Goertz. 2000. "The Methodology of Necessary Conditions" *American Journal of Political Science*. Vol. 44:4 (October), pp. 844–858.
9. Seawright, Jason. 2002. "Testing for Necessary and/or Sufficient Causation: Which Cases are Relevant" *Political Analysis* Vol. 10:2 (Spring), pp. 178–193.

Missing Data

10. Lall, Ranjit. 2016. "How Multiple Imputation Makes a Difference" *Political Analysis* Vol. 24, pp. 414–33.
11. Arel-Bundock, Vincent and Krzysztof J. Pelc. 2018. "When Can Multiple Imputation Improve Regression Estimates?" *Political Analysis*, pp. 240–45.

April 12 and 19: In-class presentations of prospectus draft

The readings for these sessions will include the draft prospectuses written by the students participating in the course.