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POLI_SCI 407
Fall Quarter, 2019
Office Hours: By appointment

Experimental Political Science

Experiments are a central methodology in political science. Scholars from every subfield regularly turn to experiments. Practitioners rely on experimental evidence in evaluating social programs, policies, institutions, and information provision. The design, implementation, and analysis of experiments raise a variety of distinct epistemological and methodological challenges. This is particularly true in political science due to the breadth of the discipline, the varying contexts in which experiments are implemented (e.g., laboratory, survey, field), and the distinct methods employed (e.g., psychological or economic approaches to experimentation). This class will review the challenges to experimentation, discuss how to implement experiments, and survey prominent applications. The class also will touch on methodological advances in experiments and ongoing debates about the reliability of experimental studies. The class typically meets on Tuesdays from 1:00PM-3:50PM in the Ripton Room (201 Scott Hall).

The first two class sessions will provide background and address general issues in the design, implementation, and analysis of experiments. These sessions will involve a mix of lecture and discussion. From there, there are many ways to organize the field and we opt for one based on the approach and venue in which the experiment is implemented – in short, we will have sessions on laboratory experiments, survey experiments, field experiments, and natural experiments. As will be clear, these classes overlap, and thus, one should not view the distinctions as ironclad. The last three sessions turn to more advanced methods, questions about the analysis/reporting/publication of experimental results, and debates about replication.

Assignments

Each student will be assigned two weeks of the course (at the start of the quarter). For assigned weeks, the student will write an approximately three-page (double-spaced) paper reviewing and critiquing a subset of the readings, and – importantly – isolating areas in which more work is needed. The paper should conclude with discussion questions (that do not count toward the three-page limit). The paper must be distributed to all class members, via e-mail, by 3:00 PM *two days* before class. The student will use the paper as the basis to help lead class discussion. For many of these weeks, students can choose from a selection of topical/applied readings; this does not mean we will equally touch on all topical readings each week. The instructor will make clear which readings will receive more or less attention in a given week during the prior week's session.

The other major task for the class is a final paper. This paper should review a literature where experiments have been employed, isolate an unanswered question, and design an experiment to address the question. Students are expected to identify their topic by week 2, complete a literature review by week 5, design the basics by week 7, and submit the paper by 5:00PM on December 12th. Students are strongly encouraged to write on novel topics, rather than to re-

use prior work from other classes. If a student wants to re-use work or build on prior work, he/she should contact the instructor within the first week of class.

The last part of many classes will involve selected students presenting and discussing their projects. Students may be given notice the week before and may be asked to distribute material prior to the class.

Date Changes

The October 8th class will end at 4:20PM. The November 5th class will run from 2:00PM-4:50PM (if this is problematic for anyone, please inform the instructor by the second week of class). There will be no class on November 19th. The latter class, if needed, will be made-up on Thursday 12/5 or Friday 12/6 (there is no class otherwise that week as it is reading week).

Grading

The course grade will be determined as follows: class participation (25%), topical papers (25%), and the final paper (50%). Note that participation weighs heavily on the final grade and thus active contributions are expected.

Course Policies

Attendance is absolutely mandatory. Students are expected to come to class prepared to discuss, in detail, *all of the assigned readings*. Students may be asked to present specific assigned readings *without* prior notice. When so doing, be prepared to discuss main themes, contributions, problems, and unanswered questions.

Late assignments will not be accepted, including the topical papers which are strictly due by 3:00PM two days prior to the given class. Exceptions will only be made for religious holidays, illness (verified by a note from a health care provider), serious family emergencies, subpoenas, jury duty, military service, and participation in group activities sponsored by the university. *Note*: this means a late assignment, without a legitimate excuse, will not be read or accepted (a score of 0 will be assigned). Do not even request turning in an assignment late without a legitimate excuse.

The topical papers can be sent via e-mail. All other assignments must be printed single-sided and stapled with the student's name, date, and page numbers included. Do not e-mail other assignments. Failure to satisfy these requirements will lead the assignment to be not accepted (also do not wait to look for a stapler at the start of class – staple your assignments prior to class).

Readings

Substantial amounts of reading come from the texts listed below. Each is also an excellent resource to own and thus you are recommended to invest in purchasing these books (although copies of the books will be available for scanning from the instructor). Other readings are available via JSTOR or from the instructor. Some of the readings may be changed as the course progresses. The instructor will make changes clear at least one week in advance of a given class.

Shadish, William, R, Thomas D. Cook, and Donald T. Campbell. 2002. *Experimental and*

Quasi-Experimental Designs for Generalized Causal Inferences. Boston: Houghton Mifflin.

Johnson, George. 2008. *The Ten Most Beautiful Experiments*. New York: Alfred A. Knopf.

Druckman, James N., Donald P. Green, James H. Kuklinski, and Arthur Lupia, eds. 2011. *Cambridge Handbook of Experimental Political Science*. New York: Cambridge University Press. ***On the course readings, this book is identified by "HB."

Mutz, Diana C. 2011. *Population-Based Survey Experiments*. Princeton University Press.

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

Gerber, Alan S., and Donald P. Green. 2012. *Field Experiments: Design, Analysis, and Interpretation*. 1st ed. New York: W. W. Norton.

Glennerster, Rachel, and Kudzai Takavarasha. 2013. *Running Randomized Evaluations: A Practical Guide*. Princeton: Princeton University Press.

Course Outline

Class 1, September 24. Research Design, Surveys, and Experiments in Political Science

Wright, James D., and Peter V. Marsden. 2010. "Survey Research and Social Science: History, Current Practice, and Future Prospects." In Peter V. Marsden, and James D. Wright. *Handbook of Survey Research*. Bingley: Emerald.

Biemer, Paul P. 2010. "Overview of Design Issues: Total Survey Error." In Peter V. Marsden, and James D. Wright. *Handbook of Survey Research*. Bingley: Emerald.

Piazza, Thomas. 2010. "Fundamental of Applied Sampling." In Peter V. Marsden, and James D. Wright. *Handbook of Survey Research*. Bingley: Emerald.

Krosnick, Jon A., and Stanley Presser. 2010. "Question and Questionnaire Design." In Peter V. Marsden, and James D. Wright. *Handbook of Survey Research*. Bingley: Emerald.

Johnson, George. 2008. *The Ten Most Beautiful Experiments*. New York: Alfred A. Knopf.

HB: Chapters 1, 2.

Druckman, James N., Adam J. Howat, and Kevin J. Mullinix. 2018. "Graduate Advising in Experimental Research Groups," *PS: Political Science & Politics* 51: 620-624.

Druckman, James N., and Donald P. Green. N.d. "A New Era of Experimental Political Science." In James N. Druckman, and Donald P. Green, eds. *Cambridge Handbook of Advances in Experimental Political Science*. New York: Cambridge University Press.

Class 2, October 1. Causation, Validity, and Ethics

HB: Chapters 3, 4.

Holland, Paul W. 1986. "Statistics and Causal Inference." *Journal of the American Statistical Association* 81: 945-960. (Skim subsequent commentaries.)

Shadish, William, R, Thomas D. Cook, and Donald T. Campbell. 2002. *Experimental and Quasi-Experimental Designs for Generalized Causal Inferences*. Boston: Houghton Mifflin. Chapters 1-3.

Morton, Rebecca B. and Kenneth C. Williams. 2010. *Experimental Political Science and the Study of Causality: From Nature to the Lab*. New York: Cambridge University Press. Chapter 2, Skim Chapters 3-6.

Henrich, Joseph, Steven J. Heine, and Ara Norenzayan. 2010. "The Weirdest People in the World?" *Behavioral and Brain Sciences* 33 (April): 61-83. Skim.

Milgram, Stanley. 1963. "Behavioral Study of Obedience." *Journal of Abnormal and Social*

Psychology 67: 371-378.

Zimbardo, Phillip. "A Pirandellian Prison," *New York Times Magazine* April 8, 1973.

King, Gary, and Melissa Sands. 2015. "How Human Subjects Research Rules Mislead You and Your University, and What to Do About It." Institute for Quantitative Social Science, Harvard University.

Desposato, Scott. 2015. *Ethics and Experiments: Problems and Solutions for Social Scientists and Policy Professionals*. Routledge. Chapters 1, 19, and choose one other chapter.

Teele, Dawn. N.d "Virtual Consent: The Bronze Standard for Experimental Ethics." In James N. Druckman, and Donald P. Green, eds. *Cambridge Handbook of Advances in Experimental Political Science*. New York: Cambridge University Press.

Go through the IRB Office's Social Behavioral Protocol Template, available here:

<https://irb.northwestern.edu/templates-forms/templates-forms-sops>

Read the American Political Science Association's human subjects guidelines:

<https://politicalsciencenow.com/submit-your-comments-to-the-ad-hoc-committee-on-the-protection-of-human-subjects-report/>

Class 3, October 8 (end at 4:20). Laboratory Experiments

HB chapters 5, 6, 7; then choose two from this list of chapters: 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 29, 30; and one from this list of chapters: 17, 24, 25, 26, 28.

Hovland, Carl I. 1959. "Reconciling Conflicting Results Derived from Experimental and Survey Studies of Attitude Change." *The American Psychologist* 14: 8-17.

Choose one of the following:

Mutz, Diane C., and Byron Reeves. 2005. "The New Videomalaise: Effects of Televised Incivility on Political Trust." *American Political Science Review* 99: 1-15.

Klar, Samara. 2014. "Partisanship in a Social Setting." *American Journal of Political Science* 58: 687-704.

Smith, Vernon L. 1976. "Experimental Economics: Induced Value Theory." *American Economic Review* 66: 274-279.

Choose one of the following:

Ostrom, Elinor, James Walker, and Roy Gardner. 1992. "Covenants with and Without a Sword." *American Political Science Review* 86: 404-417.

Ostrom, Elinor. 2009. "Why Do We Need Laboratory Experiments in Political Science?" Indiana University, Bloomington: School of Public & Environmental Affairs Research Paper No. 2008-11-03

Bassi, Anna, Rebecca B. Morton, and Kenneth C. Williams. 2011. "The Effects of Identities, Incentives, and Information on Voting." *The Journal of Politics* 73:2, 558-571.

Eckel, Catherine, and Natalia Londono. N.d "How to Tame Lab-in-the-Field-Experiments" In James N. Druckman, and Donald P. Green, eds. *Cambridge Handbook of Advances in Experimental Political Science*. New York: Cambridge University Press.

Class 4, October 15. Survey Experiments

HB chapter 8, 31.

Mutz, Diana C. 2011. *Population-Based Survey Experiments*. Princeton University Press.

Choose one of the following:

Gaines, Brian J., James H. Kuklinski, and Paul J. Quirk. 2007. "The Logic of the Survey Experiment Reexamined." *Political Analysis* 15: 1-20.

Barabas, Jason, and Jennifer Jerit. 2010. "Are Survey Experiments Externally Valid?" *American Political Science Review* 104: 226-242.

Druckman, James N., and Thomas J. Leeper. 2012. "Learning More from Political Communication Experiments: Pretreatment and Its Effects." *American Journal of Political Science* 56: 875-896.

Mullinix, Kevin J., Thomas J. Leeper, James N. Druckman, and Jeremy Freese. 2015. "The Generalizability of Survey Experiments." *Journal of Experimental Political Science* 2: 109-138.

Hainmueller, Jens, Dominik Hangartner, and Teppei Yamamoto. 2015. "Validating Vignette and Conjoint Survey Experiments against Real-World Behavior." *Proceedings of the National Academy of Sciences of the United States of America* 112: 2395-2400.

Dafoe, Allan, Baobao Zhang, and Devin Caughey. 2018. "Information Equivalence in Survey Experiments." *Political Analysis* 26 (4): 399-416.

See: <http://tessexperiments.org/> (Time-sharing Experiments for the Social Sciences)

Class 5, October 22. Field Experiments

HB chapter 9; then choose one of the following: HB Chapters 16, 19, 27, 33.

Choose one of the following:

Henrich, Joseph, Robert Boyd, Samuel Bowles, Colin Camerer, Ernst Fehr, Herbert Gintis, and Richard McElreath. 2001. "In Search of Homo Economicus: Behavioral Experiments in 15 Small-Scale Societies." *American Economic Review* 91: 73-79.

Miguel, Edward, and Michael Kremer. 2004. "Worms: Identifying Impacts of Education and Health in the Presence of Treatment Externalities." *Econometrica* 72: 159–217

Glennster, Rachel, and Kudzai Takavarasha. 2013. *Running Randomized Evaluations: A Practical Guide*. Princeton: Princeton University Press. Chapters 4, 5, 7.

Gerber, Alan S., and Donald P. Green. 2012. *Field Experiments: Design, Analysis, and Interpretation*. 1st ed. New York: W. W. Norton. Chapters 1, 12.

John, Peter. 2017. *Field Experiments in Political Science and Public Policy: Practical Lessons in Design and Delivery*. Routledge. *Selectins*.

Broockman, David E., Joshua L. Kalla, and Jasjeet S. Sekhon. 2017. "The Design of Field Experiments with Survey Outcomes: A Framework for Selecting More Efficient, Robust, and Ethical Designs." *Political Analysis* 25: 435–464.

Butler, Daniel M., and David E. Broockman. 2011. "Do Politicians Racially Discriminate Against Constituents?: A Field Experiment on State Legislators." *American Journal of Political Science* 55: 463–477.

Choose one of the following:

Rooij, Eline A. de, Donald P. Green, and Alan S. Gerber. 2009. "Field Experiments on Political Behavior and Collective Action." *Annual Review of Political Science* 12 (1):389–95.

Humphreys, Macartan, and Jeremy M. Weinstein. 2009. "Field Experiments and the Political Economy of Development." *Annual Review of Political Science* 12 (1):367–78.

Grose, Christian R. 2014. "Field Experimental Work on Political Institutions." *Annual Review of Political Science* 17 (1):355–70.

Baldassarri, Delia, and Maria Abascal. 2017. "Field Experiments Across the Social Sciences." *Annual Review of Sociology* 43 (1):41–73.

Coppock, Alexander, and Donald P. Green. 2015. "Assessing the Correspondence between Experimental Results Obtained in the Lab and Field: A Review of Recent Social Science Research." *Political Science Research and Methods* 3: 113–131.

Class 6, October 29. Natural Experiments

Dunning, Thad. 2012. *Natural Experiments in the Social Sciences: A Design-Based Approach*. Strategies for Social Inquiry. New York: Cambridge University Press. Chapters 1–3, 8, 11.

Choose two of the following:

Doherty, David, Alan S. Gerber, and Donald P. Green. 2006. "Personal Income and Attitudes toward Redistribution: A Study of Lottery Winners." *Political Psychology* 27: 441–458.

Erikson, Robert S., and Laura Stoker. 2011. "Caught in the Draft: The Effects of Vietnam Draft Lottery Status on Political Attitudes." *American Political Science Review* 105: 221-237.

Hyde, Susan D. 2007. "The Observer Effect in International Politics: Evidence from a Natural Experiment." *World Politics* 60: 37-63.

Sekhon, Jasjeet S., and Roćio Titiunik. 2012. "When Natural Experiments Are Neither Natural Nor Experiments." *American Political Science Review* 106: 35-57.

Titiunik, Rocio. N.d "Natural Experiments." In James N. Druckman, and Donald P. Green, eds. *Cambridge Handbook of Advances in Experimental Political Science*. New York: Cambridge University Press.

Class 7, November 5 (start at 2:00, end at 4:50). Mediation, Moderation, and Spillover Effects

HB Chapters 33, 35.

Baron, Reuben M., and David A. Kenny. 1986. "The Moderator–Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations." *Journal of Personality and Social Psychology* 51: 1173-1182.

Gerber, Alan S., and Donald P. Green. 2012. *Field Experiments: Design, Analysis, and Interpretation*. 1st ed. New York: W. W. Norton. Chapters 9-10.

Choose one of the following:

Jamieson, Jeremy P., and Stephen G. Harkins. 2011. "The Intervening Task Method: Implications for Measuring Mediation." *Personality and Social Psychology Bulletin* 37: 652-661.

Imai, Kosuke, Luke Keele, and Dustin Tingley. 2010. "A General Approach to Causal Mediation Analysis." *Psychological Methods* 15: 309-344.

Acharya, Avidit, Matthew Blackwell, and Maya Sen. 2018. "Analyzing Causal Mechanisms in Survey Experiments." *Political Analysis* 26: 357-378.

Gylmn, Adam. N.d "Advances in Mediation." In James N. Druckman, and Donald P. Green, eds. *Cambridge Handbook of Advances in Experimental Political Science*. New York: Cambridge University Press.

Coppock, Alexander, Thomas J. Leeper, and Kevin J. Mullinix. 2018. "The Generalizability

of Heterogeneous Treatment Effect Estimates Across Samples” *Proceedings of the National Academy of Science* 115: 12441-12446

Kam, Cindy D., and Marc J. Trussler. 2017. “At the Nexus of Observational and Experimental Research: Theory, Specification, and Analysis of Experiments with Heterogeneous Treatment Effects.” *Political Behavior* 39:789–815.

Choose one of the following:

Green, Donald P., and Holger L. Kern. 2012. “Modeling Heterogeneous Treatment Effects in Survey Experiments with Bayesian Additive Regression Trees.” *Public Opinion Quarterly* 76: 491-511.

Grimmer, Justin, Solomon Messing, and Sean J. Westwood. 2017. “Estimating Heterogeneous Treatment Effects and the Effects of Heterogeneous Treatments with Ensemble Methods.” *Political Analysis* 25: 413-434.

Ratokovic, Marc. N.d “Subgroup Analysis: Pitfalls, Promise, and Honesty.” In James N. Druckman, and Donald P. Green, eds. *Cambridge Handbook of Advances in Experimental Political Science*. New York: Cambridge University Press.

Choose one of the following:

Sinclair, Betsy, Margaret McConnell, and Donald P. Green. 2012. “Detecting Spillover Effects: Design and Analysis of Multilevel Experiments.” *American Journal of Political Science* 56: 1055-1069.

Coppock, Alexander. 2014. “Information Spillovers: Another Look at Experimental Estimates of Legislator Responsiveness.” *Journal of Experimental Political Science* 1: 159-169. AND Coppock, Alexander. 2016. “Information Spillovers: Another Look at Experimental Estimates of Legislator Responsiveness – Corrigendum.” *Journal of Experimental Political Science* 3: 206-208.

Class 8, November 12. Statistical Power and Publishing Experiments

Glennerster, Rachel, and Kudzai Takavarasha. 2013. *Running Randomized Evaluations: A Practical Guide*. Princeton: Princeton University Press. Chapter 6.

Choose one of the following:

Ioannidis, John P. A. 2005. “Why Most Published Research Findings Are False.” *PLoS Medicine* 2 (8):e124.

Simmons, Joseph P., Leif D. Nelson, and Uri Simonsohn. 2011. “False-Positive Psychology: Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant.” *Psychological Science* 22 (11):1359–1366.

Choose one of the following:

Franco, A., N. Malhotra, and G. Simonovits. 2014. “Publication Bias in the Social

Sciences: Unlocking the File Drawer.” *Science* 345 (6203):1502–5.

Brown, Andrew W., Tapan S. Mehta, and David B. Allison. 2017. “Publication Bias in Science.” In *The Oxford Handbook of the Science of Science Communication*, eds. Kathleen Hall Jamieson, Dan M. Kahan, and Dietram A. Scheufele. Oxford University Press.

Malhorta, Neil. N.d “The Scientific Credibility of Experiments.” In James N. Druckman, and Donald P. Green, eds. *Cambridge Handbook of Advances in Experimental Political Science*. New York: Cambridge University Press.

Gerber, Alan S., and Donald P. Green. 2012. *Field Experiments: Design, Analysis, and Interpretation*. 1st ed. New York: W. W. Norton. Chapter 13.

Skim the following:

Gerber, Alan, Kevin Arceneaux, Cheryl Boudreau, Conor Dowling, Sunshine Hillygus, Thomas Palfrey, Daniel R. Biggers, and David J. Hendry. 2014. “Reporting Guidelines for Experimental Research: A Report from the Experimental Research Section Standards Committee.” *Journal of Experimental Political Science* 1 (1):81–98.

Mutz, Diana C., and Robin Pemantle. 2015. “Standards for Experimental Research: Encouraging a Better Understanding of Experimental Methods.” *Journal of Experimental Political Science* 2 (2):192–215.

Gerber, Alan S., Kevin Arceneaux, Cheryl Boudreau, Conor M. Dowling, and D. Sunshine Hillygus. 2015. “Reporting Balance Tables, Response Rates and Manipulation Checks in Experimental Research: A Reply from the Committee That Prepared the Reporting Guidelines.” *Journal of Experimental Political Science* 2 (2):216–229.

Monogan, James E. 2015. “Research Preregistration in Political Science: The Case, Counterarguments, and a Response to Critiques.” *PS: Political Science & Politics*, 48(3): 425-429.

Glennerster, Rachel, and Kudzai Takavarasha. 2013. *Running Randomized Evaluations: A Practical Guide*. Princeton: Princeton University Press. Pages 373-385.

Lupia, Arthur, and Colin Elman. 2014. “Openness in Political Science: Data Access and Research Transparency.” *PS: Political Science and Politics* 47(1): 19-42.

Nosek, Brian A., et al. 2015. “Promoting an Open Research Culture.” *Science* 348: 1422-1425.

Fanelli, Daniele, Rodrigo Costas, and John P.A. Ioannidis 2017. “Meta-Assessment of Bias in Science.” *Proceedings of the National Academy of Sciences* 114: 3714-3719.

November 19. No Class.

Class 9, November 26. Replication

Open Science Collaboration. 2015. “Estimating the Reproducibility of Psychological Science.” *Science* 349: aac4716.

Choose one of the following:

Gilbert, Daniel T., Gary King, Stephen Pettigrew, and Timothy D. Wilson. 2016. “Comment on ‘Estimating the Reproducibility of Psychological Science’.” *Science* 351: 1037. AND Anderson, Christopher, et al. 2016. “Response to Comment on ‘Estimating the Reproducibility of Psychological Science.’” *Science* 351: 1037.

Van Bavel, Jay J., Peter Mende-Siedlecki, William J. Brady, and Diego A. Reinero. 2016. “Contextual Sensitivity in Scientific Reproducibility.” *Proceedings of the National Academy of Sciences* 113: 6454-6459.

Camerer, Colin F., Anna Dreber, Eskil Forsell, Teck-Hua Ho, Jürgen Huber, Magnus Johannesson, and Michael Kirchler, et al. 2016. “Evaluating Replicability of Laboratory Experiments in Economics.” *Science* 351: 1433–1436.

Baker, Monya. 2016. “Is There a Reproducibility Crisis?” *Nature* 533 (May):452–54.

Fanelli, Daniele. 2018. “Is Science Really Facing a Reproducibility Crisis, and Do We Need It To?” *Proceedings of the National Academy of Sciences* 115: 2628-2631.

Dunning, Thad. 2016. “Transparency, Replication, and Cumulative Learning: What Experiments Alone Cannot Achieve.” *Annual Review of Political Science* 19: 541-563.

Freese, Jeremy, and David Peterson. 2017. “Replication in Social Science.” *Annual Review of Sociology* 43: 147–165.

Benjamin, Daniel J., James O. Berger, Magnus Johannesson, Brian A. Nosek, E.-J. Wagenmakers, Richard Berk, Kenneth A. Bollen, et al. 2017. “Redefine Statistical Significance.” *Nature Human Behavior*, September.

Coppock, Alexander. 2019. “Generalizing from Survey Experiments Conducted on Mechanical Turk: A Replication Approach.” *Political Science Research and Methods* 7 (3): 613-628.

Bollen, Kenneth, John T. Cacioppo, Robert M. Kaplan, Jon A. Krosnick, James L. Olds, and Heather Dean. 2015. “Social, Behavioral, and Economic Sciences Perspectives on Robust and Reliable Science.” *Report of the Subcommittee on Replicability in Science Advisory Committee to the National Science Foundation Directorate for Social, Behavioral, and Economic Sciences*.

Berinsky, Adam J., James N. Druckman, Teppei Yamamoto. 2019. "Publication Biases in Replication Studies." Unpublished Paper, Northwestern University.

Class 10, December 5 or 6 if needed (*Reading Week*)