

POS 5746
Advanced Quantitative Analysis in Political Science
Wednesdays 2:30 PM to 5:00 PM
Fall 2012

Instructor: Dr. Jason Barabas

Class Location: Pepper 263

Office: Pepper 238 or Bellamy 554

Office Hours: Thursdays 10-11 AM in Pepper 238 or by Appt.

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Office Hours/Lab: Mondays, 1-2 pm, Pepper 263

Course Description and Objectives:

This course introduces students to maximum likelihood statistical inference in the social sciences. It builds upon the lessons from previous methodology courses students are expected to have had covering research design, statistics, and linear regression techniques. Upon completion of the course, students should be able to understand and conduct rigorous quantitative research.

We begin by covering research design principles, validity, and causality with an emphasis on the Neyman-Rubin Causal Model. After these preliminaries, we move to data and software as well as a review of hypothesis testing and ordinary least squares regression. From there, we study some of the most popular analytical techniques for count, binary, ordinal, and nominal outcome variables. In the course of studying these models (all of which can and will be situated within a generalized linear model framework), we will discuss theory, estimation, interpretation, and presentation of findings. In the second half of the class we will cover techniques to contend with estimation problems related to endogeneity and selection bias. Throughout the course we will emphasize software and data techniques as well as how to display results graphically.

The course will be taught using the R and Stata statistical programs. Our main emphasis will be on using R, but students should feel comfortable with both packages as well as computing generally. It is also advantageous to take this course in addition to or along with the companion graduate-level class on experimentation being offered in the Department of Political Science.

Required Books:

Wooldridge, Jeffrey M. 2010. *Econometric Analysis of Cross Section and Panel Data*, 2nd ed. Cambridge, MA: MIT Press.

Gelman, Andrew, and Jennifer Hill. 2007. *Data Analysis Using Regression and Multilevel/Hierarchical Models*. New York: Cambridge University Press.

Guo, Shenyang, and Mark W. Fraser. 2010. *Propensity Score Analysis: Statistical Methods and Applications*. Thousand Oaks, CA: Sage.

Morgan, Stephen L., and Christopher Winship. 2007. *Counterfactuals and Causal Inference: Methods and Principles for Social Research*. New York: Cambridge University Press.

Shadish, William R, Thomas D. Cook, and Donald T. Campbell. 2001. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Boston: Houghton Mifflin.

Adler, Joseph. 2011. *R in a Nutshell*. Sebastopol, CA: O'Reilly Media.

Recommended Books:

Cameron, A. Colin, and Pravin K. Trivedi. 2005. *Microeconometrics*. New York: Cambridge University Press.

Crawley, Michael J. 2005. *Statistics: An Introduction Using R*. Hoboken, NJ: John Wiley & Sons.

Crawley, Michael J. 2007. *The R Book*. Hoboken, NJ: Wiley.

Dalgaard, Peter. 2008. *Introductory Statistics with R*, 2nd ed. New York: Springer-Verlag.

Fox, John, and Sanford Weisberg. 2011. *An R Companion to Applied Regression*, 2nd Edition. Thousand Oaks: Sage.

Green, Donald, and Alan Gerber. Forthcoming. *Field Experiments: Design, Analysis, and Interpretation*.

Greene, William. 2012. *Econometric Analysis*. 7th ed. New York: Prentice Hall.

King, Gary. 1989. *Unifying Political Methodology: The Likelihood Theory of Statistical Inference*. Ann Arbor, Michigan: University of Michigan Press.

Kennedy, Peter. 2008. *A Guide to Econometrics*, 6th ed. New York. Wiley.

Long, J. Scott. 1997. *Regression Models for Categorical and Limited Dependent Variables*. Thousand Oaks, CA: Sage.

Morton, Rebecca and Kenneth Williams. 2010. *From Nature to the Lab: The Methodology of Experimental Political Science and the Study of Causality*. New York: Cambridge.

Wooldridge, Jeffrey M. 2009. *Introductory Econometrics: A Modern Approach*, 4th ed. Mason, OH: South-Western Cengage Learning.

Grading:	% of Final Grade
Homework	40%
Project Design/Proposal	25%
Exam	25%
Class Participation	10%

Homework: Most weeks there will be homework assignments based on the techniques covered in class. These assignments will generally be made available at the conclusion of class with a due date based on the difficulty of the assignment. You may work with other classmates on these assignments. However, I recommend that you do not work in large groups (i.e., >3). Each of you should write up your own answers and run any relevant computer code. Some homework assignments will ask you to critically evaluate how one of the techniques that we have learned is used in some article of interest to you; these problems should be done individually and not as a group. The assignments will vary in terms of length and point value.

Project Design/Proposal: By the end of the semester you will be asked to design a study that incorporates the principles and techniques that you have learned. Ideally, your project will go beyond the methods covered in the weekly homework assignments (i.e., do not simply add a variable to a model you estimated in one of the homework sets) and hopefully your project will

have the potential to be published one day. Attention to validity and causality will be especially important. The specifics of this assignment will be discussed several weeks into the semester.

Exam: The purpose of the exam is to test your knowledge of the material presented as well as your ability to use the techniques we cover. In addition to multiple choice questions, students will be given a topic(s), a theory(-ies) with hypotheses, and data. Students will execute statistical analyses, demonstrating their proficiency on everything from data management and transformation to model estimation and interpretation. There may also be a section in which students are asked to come up with a causally-robust design to test a theory.

Participation: Students are expected to attend class and participate in discussions. In particular, you are expected to read the required texts/readings *before class* and come to class with questions and/or comments. If you have an emergency situation and cannot fulfill these requirements, you must let me know immediately and before the scheduled date of the exam, homework assignment, or paper. In general, aim for high quality comments rather than high quantity. As part of the participation grade, students will be asked to present the findings of readings from the recommended reading list.

Grading Scale: Barring any unforeseen changes, the grading scale for the course is as follows:

	B+ 89 – 87	C+ 79 – 77	D+ 69 – 67	
A 100 – 93	B 86 – 83	C 76 – 73	D 66 – 63	F 59 – 0
A- 92 – 90	B- 82 – 80	C- 72 – 70	D- 62 – 60	

Note: Final grade percentages ending in a decimal of “.5” or greater will be rounded up to the next whole number.

General Expectations: Students are expected to attend class and participate in discussions. In particular, you are expected to read the required texts/readings *before class* and come to class with questions and/or comments. If you have an emergency situation and cannot fulfill these requirements, you must let me know immediately and before the scheduled date of the exam, homework assignment, or paper.

University Attendance Policy: Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy: The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to “...be honest and truthful and... [to] strive for personal and institutional integrity at Florida State University.” (Florida State University Academic Honor Policy, found at <http://dof.fsu.edu/honorpolicy.htm>.)

Americans with Disabilities Act: Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; and (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class. This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice), (850) 644-8504 (TDD)
sdrc@admin.fsu.edu
<http://www.disabilitycenter.fsu.edu/>

Syllabus Change Policy: Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice. Please monitor the class webpage on the Blackboard system for the latest announcements and changes.

Helpful Websites:

Data

ICPSR: <http://www.icpsr.umich.edu/icpsrweb/ICPSR/access/index.jsp>

Roper Center: <http://www.ropercenter.uconn.edu/>

Roper Center's iPoll: http://www.ropercenter.uconn.edu/data_access/ipoll/ipoll.html

Dataverse: <http://thedata.org/>

Issue Correlates of War (ICOW): <http://www.paulhensel.org/icow.html>

Time Sharing Experiments in the Social Sciences (TESS): <http://www.tessexperiments.org/>

Software & Resources

Stata: <http://www.stata.com/>

R: <http://cran.r-project.org/>

Rstudio: <http://rstudio.org/>

UCLA Statistical Computing: <http://www.ats.ucla.edu/stat/>

Princeton Data Services: http://dss.princeton.edu/online_help/

Gary King's Website: <http://gking.harvard.edu/>

Amelia <http://gking.harvard.edu/amelia/>

Carlisle Rainey's website: <http://www.carlislerainey.com>

Carlisle Rainey's Hierarchical lectures/files: <http://www.carlislerainey.com/Follow/>

COURSE SCHEDULE

(ALL CLASSES TO BE HELD IN PEPPER 263 UNLESS TOLD OTHERWISE; CHECK BLACKBOARD)

Each week there are assigned readings (“Reading”) and recommended selections (“Recommended”) that you can read if you have finished the others. Whenever possible I will put copies (PDFs) of the assigned non-book readings on the class Blackboard website. In addition to the readings listed below, you will benefit by reading about each week’s topic in background reference or econometrics books (i.e., the titles in the recommended book list).

Week 1 (Aug. 29nd) – Validity and Causality

Shadish, Cook, and Campbell 2001, Chapters 1-5, 8, 14.

Guo and Fraser 2010, Chapters 1-3.

Gelman and Hill 2007, Chapter 9.

Morgan and Winship 2007, Chapters 1-3, 8.

Brady, Henry. 2009. "Causality and Explanation in Social Science" In *The Oxford Handbook of Political Methodology*, eds. J. Box-Steffensmeier, H. Brady and D. Collier. New York: Oxford University Press.

Sekhon, Jasjeet. 2009. "The Neyman-Rubin Model of Causal Inference." In *The Oxford Handbook of Political Methodology*, eds. J. Box-Steffensmeier, H. Brady and D. Collier. New York: Oxford University Press.

Gerber, Alan S., Donald P. Green, and Edward H. Kaplan. 2004. “The Illusion of Learning from Observational Research,” In Ian Shapiro, Rogers Smith, and Tarek Massoud, *Problems and Methods in the Study of Politics*. New York: Cambridge University Press. pp. 251-73.

Recommended:

Adcock, Robert, and David Collier. 2001. "Measurement Validity: A Shared Standard for Qualitative and Quantitative Research." *American Political Science Review* 95 (3): 529-46.

Cortina, Jeronimo. 2009. “The Potential-Outcomes Model of Causation,” in Andrew Gelman and Jeronimo Cortina, eds., *A Quantitative Tour of the Social Sciences*. New York: Cambridge University Press, pp. 303-8.

Cameron, Charles. 2009. “What is Political Science?” in Andrew Gelman and Jeronimo Cortina, eds., *A Quantitative Tour of the Social Sciences*. New York: Cambridge University Press, pp. 207-22.

Freedman, David A. 1991. “Statistical Models and Shoe Leather.” *Sociological Methodology* 21: 291-313.

Holland, Paul W. 1986. “Statistics and Causal Inference.” *Journal of the American Statistical Association* 81 (396): 945–60.

Imai, Kosuke, Luke Keele, Dustin Tingley, and Teppei Yamamoto. 2011. “Unpacking the Black Box of Causality: Learning about Causal Mechanisms from Experimental and Observational Studies.” *American Political Science Review* 105 (November): 765-89.

Pearl, Judea. 2009. *Causality: Models, Reasoning, and Inference*, 2nd ed. New York: Cambridge.

Zaller, John. 2002. “The Statistical Power of Election Studies to Detect Media Exposure Effects in Political Campaigns.” *Electoral Studies* 21: 297-329.

Week 2 (Sept. 5th) – Software, Data Transformation, and Imputation

Adler, *R in a Nutshell*, Chapters 1-10, 12-13

King, Gary James, Honaker, Anne Joseph, and Kenneth Scheve. 2001. "Analyzing Incomplete Political Science Data: An Alternative Algorithm for Multiple Imputation." *American Political Science Review* 95 (Mar.): 49-69.

Gelman and Hill 2007, Chapter 25 and Appendix C.

Sherman, Robert P. 2000. "Tests of Certain Types of Ignorable Nonresponse in Surveys Subject to Item Nonresponse." *American Journal of Political Science* 44 (April): 356-68.

Recommended:

Ansolabehere, Stephen, Jonathan Rodden, and James M. Snyder, Jr. 2008. "The Strength of Issues: Using Multiple Measures to Gauge Preference Stability, Ideological Constraint, and Issue Voting." *American Political Science Review* 102 (May): 215-32.

Cranmer, Skyler, and Jeff Gill. 2012 [Forthcoming]. "We Have to Be Discrete About This: A Non-Parametric Imputation Technique for Missing Categorical Data." *British Journal of Political Science*.

Gelman, Andrew, Gary King, and Chuanhai Liu. 1998. "Not Asked and Not Answered: Multiple Imputation for Multiple Surveys." *Journal of the American Statistical Association* 93 (September): 846-57.

Honaker, James, and Gary King. 2010. "What to do about Missing Values in Time-Series Cross-Section Data." *American Journal of Political Science* 54 (April): 561-81.

Long, J. Scott. 2009. *The Workflow of Data Analysis Using Stata*. College Station, TX: Stata.

Nagler, Jonathan. 1995. "Coding Style and Good Computing Practices." *The Political Methodologist* 6 (Spring): 2-7.

Rubin, Donald B. 2004. *Multiple Imputation for Nonresponse in Surveys*. New York: Wiley.

Week 3 (Sept. 12th) – Review of Statistical Inference, Hypothesis Testing, and OLS

Adler, *R in a Nutshell*, Ch. 16-20

Gelman and Hill 2007, Chapters 1-4.

Wooldridge 2010, Chapters 1-4.

King, Gary. 1986. "How Not to Lie with Statistics: Avoiding Common Mistakes In Quantitative Political Science." *American Journal of Political Science* 30 (Aug.): 666-87.

Brambor, Thomas, William Roberts Clark, and Matt Golder. 2006. "Understanding Interaction Models: Improving Empirical Analyses." *Political Analysis* 14: 63-82.

Bullock, John G., Donald P. Green, and Shang E. Ha. 2010. "Yes, But What's the Mechanism? (Don't Expect an Easy Answer)." *Journal of Personality and Social Psychology* 98(4): 550-8.

Recommended:

Green, Donald P., Shang E. Ha, and John G. Bullock. 2010. "Enough Already about "Black Box" Experiments: Studying Mediation is More Difficult than Most Scholars Suppose." *Annals of the American Academy of Political and Social Sciences* 628: 200-8.

Gerber, Alan S., Donald P. Green, and David Nickerson. 2001. "Testing for Publication Bias in Political Science." *Political Analysis* 9: 385-92

Week 4 (Sept. 19th) – Count Outcomes (Poisson, Negative Binomial, Zero-Inflated P/NB)

Wooldridge 2010, Chapters 13 & 18.

King, Gary. 1989. 'Event Count Models for International Relations: Generalizations and Applications.' *International Studies Quarterly* 33: 123-47.

Barabas, Jason, and Jennifer Jerit. 2004. "Redistricting Principles and Racial Representation." *State Politics and Policy Quarterly* 4 (Winter): 415-35.

Recommended:

Barreto, Matt A., Gary M. Segura, and Nathan D. Woods. 2004. "The Mobilizing Effect of Majority-Minority Districts on Latino Turnout." *American Political Science Review* 98 (Feb.): 65-75.

Bercovitch, Jacob, and Gerald Schneider. 2000. "Who Mediates? The Political Economy of International Conflict Management." *Journal of Peace Research* 37 (2): 145-65.

Brandt, Patrick, Benjamin O. Fordham, Brian Pollins and John T. Williams. 2000. "Dynamic Modeling for Persistent Event Count Time Series." *American Journal of Political Science* 44: 823-43.

Brandt, Patrick and John T. Williams. 2001. "A Linear Poisson Autoregressive Model: The Poisson AR(p) Model." *Political Analysis* 9: 164-84.

Chin, Hoong Chor, and Mohammed Abdul Quddus. 2003. "Modeling Count Data with Excess Zeroes: An Empirical Application to Traffic Accidents." *Sociological Methods and Research* 32 (Aug.): 90-115.

King, Gary. 1989. "Variance Specification in Event Count Models: From Restrictive Assumptions to a Generalized Estimator." *American Journal of Political Science* 33: 762-84.

King, Gary. 1988. "Statistical Models for Political Science Event Counts: Bias in Conventional Procedures and Evidence for the Exponential Poisson Regression Model." *American Journal of Political Science* 32: 838-63.

Martin, Andrew D. 2003. "Bayesian Inference for Heterogeneous Event Counts." *Sociological Methods and Research* 32 (Aug.): 30-63.

Wang, Te-Yu, William J. Dixon, Edward N. Muller, and Mitchell A. Seligson. 1993. "Inequality and Political Violence Revisited." *American Political Science Review* 87 (Dec.): 979-94.

Zorn, Christopher. 1998. "An Analytic and Empirical Examination of Zero-Inflated and Hurdle Poisson Specifications." *Sociological Methods and Research* 26: 368-400.

Week 5 (Sept. 26th) – Dichotomous Outcomes (Probit and Logit) & Fit Statistics

Gelman and Hill 2007, Chapters 5-7.

Wooldridge 2010, Chapter 15.

Berry, William, Jacqueline H. R. DeMeritt, and Justin Esarey. 2010. "Testing for Interaction in Binary Logit and Probit Models: Is a Product Term Essential?" *American Journal of Political Science* 54 (Jan.): 248-66.

Gomez, Brad T., and J. Matthew Wilson. 2001. "Political Sophistication and Economic Voting: A Theory of Heterogeneous Attribution." *American Journal of Political Science* 45 (Oct.): 899-914.

- King, Gary, Michael Tomz, and Jason Wittenberg . 2000. "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." *American Journal of Political Science* 44 (Apr.): 341-55.
- Kastellac, Jonathan P., and Eduardo L. Leoni. 2007. "Using Graphs Instead of Tables in Political Science." *Perspectives on Politics* 5 (4): 755-71.

Recommended:

- Ahlquist, John S. 2010. "Building Strategic Capacity: the Political Underpinnings of Coordinated Wage Bargaining." *American Political Science Review* 104 (Feb): 171-88.
- Fearon, James D. and David D. Laitin. 2003. "Ethnicity, Insurgency, and Civil War." *American Political Science Review* 97 (Feb.): 75-90.
- Fredrich, Robert J. 1982. "In Defense of Multiplicative Terms in Multiple Regression Equations." *American Journal of Political Science* 26 (Nov.): 797-833.
- Gomez, Brad T., and J. Matthew Wilson. 2006. "Cognitive Heterogeneity and Economic Voting: A Comparative Analysis of Four Democratic Electorates." *American Journal of Political Science* 50 (Jan.): 127-45.
- Herron, Michael C. 1999. "Postestimation Uncertainty in Limited Dependent Variable Models." *Political Analysis* 8 (1): 83-98.
- Huckfeldt, Robert, and John Sprague. 1992. "Political Parties and Electoral Mobilization: Political Structure, Social Structure, and the Party Canvass." *American Political Science Review* 86 (1): 70-86.
- Jackson, Robert A. 2002. "Gubernatorial and Senatorial Campaign Mobilization of Voters." *Political Research Quarterly* 55 (Dec.): 825-44.
- Jackson, Robert A. 1993. "Voter Mobilization in the 1986 Midterm Election." *Journal of Politics* 55 (Nov.): 1081-99.
- Javeline, Debra. 2003. "The Role of Blame in Collective Action: Evidence from Russia." *American Political Science Review* 97 (Feb.): 107-21.
- Raftery, Adrian E. 1995. "Bayesian Model Selection in Social Research." *Sociological Methodology* 25: 111-63.
- Vasquez, John A. 2004. "The Probability of War, 1816-1992." *International Studies Quarterly* 48 (March): 1-28.

Week 6 (Oct. 3rd) – Nominal Outcomes (Multinomial Logit and Multinomial Probit)

- Wooldridge 2010, Chapter 16 (Sections 16.1-16.2).
- Alvarez, R. Michael., Jonathan Nagler, and Shaun Bowler. 2000. "Issues, Economics, and the Dynamics of Multiparty Elections: The British 1987 General Election." *American Political Science Review* 94 (Mar.): 131-49.
- Alvarez, R. Michael, and Jonathan Nagler. 1998. "When Politics and Models Collide: Estimating Models of Multiparty Elections." *American Journal of Political Science* 42 (Jan.): 55-96.
- Alvarez, R. Michael, and Jonathan Nagler. 1995. "Economics, Issues and the Perot Candidacy: Voter Choice in the 1992 Presidential Election." *American Journal of Political Science* 39 (Aug.): 714-44.

Recommended:

- Bahry, Donna P., Mikhail Kosolapov, Polina Kozyreva, and Rick K. Wilson. "Ethnicity and Trust: Evidence from Russia." *American Political Science Review* 99: 521-32.

Allee, Todd L., and Paul K. Huth. 2006. "Legitimizing Dispute Settlement." *American Political Science Review* 100 (May): 219-34.

Week 7 (Oct. 10th) – Ordered Outcomes (Ordered Probit and Ordered Logit)

Wooldridge 2010, Chapter 16 (Section 16.3).

Alvarez, R. Michael., and Charles H. Franklin. 1994. "Uncertainty and Political Perceptions." *Journal of Politics* 56 (Aug.): 671-88.

Franklin, Charles H., and Liane C. Kosaki. 1989. "Republican Schoolmaster: The U.S. Supreme Court, Public Opinion, and Abortion." *American Political Science Review* 83 (Sept.): 751-77.

Recommended:

Franklin, Charles H., and John E. Jackson. 1983. "The Dynamics of Party Identification." *American Political Science Review* 77 (Dec.): 957-73.

Tate, Katherine. 2003. "Black Opinion on the Legitimacy of Racial Redistricting and Minority-Majority Districts." *American Political Science Review* 97 (Feb.): 45-56.

Gelpi, Christopher F., and Michael Griesdorf. 2001. "Winners or Losers? Democracies in International Crisis, 1918-94." *American Political Science Review* 95 (Jan.): 633-47.

Davis, Christina L. 2004. "International Institutions and Issue Linkage: Building Support for Agricultural Trade Liberalization." *American Political Science Review* 98 (Feb.): 153-69.

Gay, Claudine. 2004. "Putting Race in Context: Identifying the Environmental Determinants of Black Racial Attitudes." *American Political Science Review* 98 (Nov.): 547-62.

Week 8 (Oct. 17th) – Experiments and Interpretable Observational Designs

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* 94 (Sept.): 653-63.

Dunning, Thad. 2008. "Improving Causal Inference: Strengths and Limitations of Natural Experiments." *Political Research Quarterly* 61 (June): 282-93.

Robinson, Gregory, John E. McNulty, and Jonathan S. Krasno. 2009. "Observing the Counterfactual? The Search for Political Experiments in Nature." *Political Analysis* 17 (Autumn): 341-57.

Morgan and Winship 2007, Chapters 9-10.

Shadish, Cook, and Campbell 2001, Chapters 6-7.

Gelman and Hill 2007, Section 10.4-10.7, pp. 212-29.

Wooldridge 2010, Chapter 21.

Recommended:

Albertson, Bethany, and Adria Lawrence. 2009. "After the Credits Roll: The Long-Term Effects of Educational Television on Public Knowledge and Attitudes." *American Politics Research* 37 (March): 275-300.

Barabas, Jason, and Jennifer Jerit. 2010. "Are Survey Experiments Externally Valid?" *American Political Science Review* 104 (May): 226-42.

Card, David. 1990. "The Impact of the Mariel Boatlift on the Miami Labor Market." *Industrial and Labor Relations Review* 43: 245-257.

- Card, David, and Alan B. Krueger. 1994. "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania." *American Economic Review* 84 (Sept.): 772-93.
- Druckman, James, Donald P. Green, James H. Kuklinski, and Arthur Lupia. 2006. "The Growth and Development of Experimental Research in Political Science." *American Political Science Review* 100 (Nov.): 627-35.
- Gerber, Alan S., Dean Karlan, and Daniel Bergan. 2009. "Does the Media Matter? A Field Experiment Measuring the Effect of Newspapers on Voting Behavior and Political Opinion." *Applied Economics* 1 (April): 35-52.
- Green, Donald P., Terence Y. Leong, Holger L. Kern, Alan S. Gerber, and Christopher W. Laimer. 2009. "Testing the Accuracy of Regression Discontinuity Analysis using Experimental Benchmarks." *Political Analysis* 17 (Autumn): 400-17.
- McDermott, Rose. 2002. "Experimental Methodology in Political Science." *Political Analysis* 10: 325-42.
- Horiuchi, Yusaku, Kosuke Imai, and Naoko Taniguchi. 2007. "Designing and Analyzing Randomized Experiments: Application to a Japanese Election Survey Experiment." *American Journal of Political Science* 51 (July): 669-87.
- Imbens, Guido W., and Thomas Lemieux. 2008. "Regression Discontinuity Designs: A Guide to Practice." *Journal of Econometrics* 142: 615-35.
- Kern, Holger Lutz, and Jens Hainmueller. 2009. "Opium for the Masses: How Foreign Media can Stabilize Authoritarian Regimes." *Political Analysis* 17:377-99.
- Paluck, Elizabeth Levy, and Donald P. Green. 2009. "Deference, Dissent, and Dispute Resolution: An Experimental Intervention using Mass Media to Change Norms and Behavior in Rwanda." *American Political Science Review* 103: 622-44.
- Sekhon, Jasjeet, and Devin Caughey. 2011. "Elections and the Regression-Discontinuity Design: Lessons from Close U.S. House Races, 1942-2008." *Political Analysis* 19 (4): 385-408.
- Sekhon, Jasjeet, and Rocio Titiunik. 2012. "When Natural Experiments Are Neither Natural nor Experiments." *American Political Science Review* 106 (Feb.): 35-57.
- Winship, Christopher, and Stephen L. Morgan. 1999. "The Estimation of Causal Effects from Observational Data." *Annual Review of Sociology* 25: 659-707.

Week 9 (Oct. 24th) – Problems I: Endogeneity and Two-Stage Estimators (IV, 2SLS, 2SCML, 2SPLS)

- Morgan and Winship 2007, Chapter 7.
- Wooldridge 2010, Chapters 7 and 21 (Skim 6-9).
- Guo and Fraser 2010, Chapter 4.
- Sovey, Allison J., and Donald P. Green. 2011. "Instrumental Variables Estimation in Political Science: A Reader's Guide." *American Journal of Political Science* 55 (Jan.): 188-200.
- Alvarez, R. Michael, and Garrett Glasgow. 1999. "Two-Stage Estimation of Nonrecursive Choice Models." *Political Analysis* 8 (2): 147-65.
- Green, Donald P., Alan S. Gerber, and David W. Nickerson. 2003. "Getting Out the Vote in Local Elections: Results from Six Door-to-Door Canvassing Experiments." *Journal of Politics* 65 (Nov.): 1083-96.

Recommended:

- Angrist, Joshua D., Guido W. Imbens, and Donald B. Rubin. 1996. "Identification of Causal Effects using Instrumental Variables." *Journal of the American Statistical Association* 91 (June): 444-55.
- Angrist, Joshua D., and Jorn-Steffen Pischke. 2009. *Mostly Harmless Econometrics*. Princeton: Princeton University Press.
- Ansolabehere, Stephen, and Philip Edward Jones. 2010 "Constituents' Responses to Congressional Roll-Call Voting." *American Journal of Political Science* 54 (July): 583-97.
- Freedman, David A., and Jasjeet S. Sekhon. 2010. "Endogeneity in Probit Response Models." *Political Analysis* 138-50.
- Hansford, Thomas G., and Brad T. Gomez. 2010. "Estimating the Electoral Effects of Voter Turnout." *American Political Science Review* 104 (May): 268-88.

Week 10 (Oct. 31st) – Problems II: Censoring, Truncation, and Selection (Tobit, Heckman, Bivariate Probit)

- Wooldridge 2010, Chapter 17.
- Guo and Fraser 2010, Chapter 4.
- Kam, Cindy. 2007. "When Duty Calls, Do Citizens Answer?" *Journal of Politics* 69 (Feb.): 17-29.
- Berinsky, Adam J. 2002. "Silent Voices: Social Welfare Policy Opinions and Political Equality in America." *American Journal of Political Science* 46 (Apr.): 276-87.
- Berinsky, Adam J. 1999. "The Two Faces of Public Opinion." *American Journal of Political Science* 43 (Oct.): 1209-30.

Recommended:

- Sigelman, Lee and Langche Zeng. 1999. "Analyzing Censored and Sample-Selected Data with Tobit and Heckit Models." *Political Analysis* 8: 167-82.
- Sartori, Anne. 2003. "An Estimator for Some Binary-Outcome Selection Models Without Exclusion Restrictions." *Political Analysis* 11: 111-38.
- Maestas, Cherie, Sarah A. Fulton, L. Sandy Maisel, Walter J. Stone. 2006. "When to Risk it? Institutions, Ambitions, and the Decision to Run for the U.S. House." *American Political Science Review* 100 (May): 195-208.
- Golder, Matt. 2003. "Explaining Variation in the Electoral Success of Extreme Right Parties in Western Europe." *Comparative Political Studies* 36: 432-66.
- Przeworski, Adam and James Raymond Vreeland. 2002. "A Statistical Model of Bilateral Cooperation." *Political Analysis* 10: 101-12.
- Dubin, Jeffrey A. and Douglas Rivers. 1989/1990. "Selection Bias in Linear Regression, Logit, and Probit Models." *Sociological Methods and Research* 18: 360-90.

Week 11 (Nov. 7th) – Introduction to Matching Methods and Applications

- Morgan and Winship 2007, Chapters 4-5.
- Gelman and Hill 2007, Chapter 10, Section 10.1-10.3.
- Guo and Fraser 2010, Chapters 5-7.
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- Ho, Daniel, Kosuke Imai, Gary King, and Elizabeth Stuart. 2007. "Matching as Nonparametric Preprocessing for Reducing Model Dependence in Parametric Causal Inference." *Political Analysis* 15: 199-236.
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Recommended:

- Abadie, Alberto, David Drukker, Jane Leber Herr, and Guido W. Imbens. 2001. "Implementing Matching Estimators for Average Treatment Effects in Stata." *Stata Journal* 1: 1-18.
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- Barabas, Jason. 2009. "Not the Next IRA: How Health Savings Accounts Shape Public Opinion." *Journal of Health Politics, Policy and Law* 34 (April): 181-217.
- Cortina, Jeronimo. 2009. "Some Statistical Tools for Causal Inference with Observational Data," in Andrew Gelman and Jeronimo Cortina, eds., *A Quantitative Tour of the Social Sciences*. New York: Cambridge University Press, pp. 309-18.
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- King, Gary, and Langche Zeng. 2006. "The Dangers of Extreme Counterfactuals." *Political Analysis* 14 (2): 131-59.
- King, Gary, and Langche Zeng. 2007. "When Can History Be Our Guide?: The Pitfalls of Counterfactual Inference." *International Studies Quarterly* 51: 83-210.
- Ladd, Jonathan McDonald, and Gabriel S. Lenz. 2009. "Exploiting a Rare Communication Shift to Document the Persuasive Power of the News Media." *American Journal of Political Science* 53 (April): 394-410.
- Rosenbaum, Paul R. and Donald B. Rubin. 1983. "The Central Role of the Propensity Score in Observational Studies for Causal Effects." *Biometrika* 70 (1): 41-55.
- Sekhon, Jasjeet S. 2011. "Multivariate and Propensity Score Matching Software with Automated Balance Optimization: The Matching Package for R." *Journal of Statistical Software* 42 (May): 1-52.

Week 12 (Nov. 14th) – Matching Critiques, Diagnostics, and Advances

- Guo and Fraser 2010, Chapters 8-9.
- Kam, Cindy D., and Carl L. Palmer. 2008. "Reconsidering the Effects of Education on Political Participation." *Journal of Politics* 70 (July): 612-31.
- Henderson, John, and Sara Chatfield. 2011. "Who Matches? Propensity Scores and Bias in the Causal Effects of Education on Participation." *Journal of Politics* 73 (July): 646-58.
- Mayer, Alexander K. 2011. "Does Education Increase Political Participation?" *Journal of Politics* 73 (July): 633-45.

- Kam, Cindy D., and Carl L. Palmer. 2011. "Rejoinder: Reinvestigating the Causal Relationship between Higher Education and Political Participation." *Journal of Politics* 73 (July): 659-63.
- Arceneaux, Kevin, Alan S. Gerber, and Donald P. Green. 2006. "Comparing Experimental and Matching Methods Using a Large-Scale Voter Mobilization Experiment." *Political Analysis* 14 (Winter): 37-62.
- Abadie, Alberto, Alexis Diamond, and Jens Hainmueller. 2010. "Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program." *Journal of the American Statistical Association* 105 (490): 493-505.

Recommended:

- Abadie, Alberto, Alexis Diamond, and Jens Hainmueller. 2011. "Synth: An R Package for Synthetic Control Methods in Comparative Case Studies." *Journal of Statistical Software* 42 (13): 1-17.
- Barabas, Jason, and Jennifer Jerit. 2009. "Estimating the Causal Effects of Media Coverage on Policy-Specific Knowledge." *American Journal of Political Science* 53 (Jan.): 73-89.
- Hainmueller, Jens. 2012. "Entropy Balancing for Causal Effects: A Multivariate Reweighting Method to Produce Balanced Samples in Observational Studies." *Political Analysis* 20: 35-46.
- Hollister, Matissa. 2009. "Is Optimal Matching Suboptimal?" *Sociological Methods and Research* 38 (2): 235-64.
- Keele, Luke. 2009. "An Observational Study of Ballot Initiatives and State Outcomes." Working Paper.
- Smith, Jeffrey A., and Petra Todd. 2005. "Does Matching Overcome LaLonde's Critique of Nonexperimental Estimators?" *Journal of Econometrics* 125: 305-53.

Nov. 21st – No Class – Thanksgiving Holiday

(http://registrar.fsu.edu/dir_class/fall/acad_cal.htm)

Week 13 (Nov. 28th) – Multilevel/Hierarchical Models I: Continuous Outcomes

Readings:

- Gelman and Hill 2007, Chapters 11-13
- Jones, Brad S. 2009. "Multilevel Models." In *The Oxford Handbook of Political Methodology*, eds. J. Box-Steffensmeier, H. Brady and D. Collier. New York: Oxford University Press.
- Steenbergen, Marco R., and Brad S. Jones. 2002. "Modeling Multilevel Data Structures." *American Journal of Political Science* 46 (Jan.): 218–37.

Recommended:

- Arceneaux, Kevin, and David W. Nickerson. 2009. "Modeling Certainty with Clustered Data: A Comparison of Methods." *Political Analysis* 17: 177-90.
- Beck, Nathaniel. 2005. "Multilevel Analyses of Comparative Data: A Comment." *Political Analysis* 13: 457-58.
- Fridkin, Kim L., and Patrick J. Kenney. 2011. "The Role of Candidate Traits in Campaigns." *Journal of Politics* 73 (Jan.): 61-73.

- Andersen, Robert, and Tina Fetner. 2008. "Economic Inequality and Intolerance toward Homosexuality in 35 Democracies." *American Journal of Political Science* 52 (Oct.): 942-58.
- Keele, Luke, and Jennifer Wolak. 2008. "Contextual Sources of Ambivalence." *Political Psychology* 29 (5): 653-73.
- Rohrschneider, Robert. 2002. "The Democracy Deficit and Mass Support for an EU-Wide Government." *American Journal of Political Science* 46 (Apr.): 463-75.
- Rohrschneider, Robert, and Matthew Loveless. 2010. "Macro Salience: How Economic and Political Contexts Mediate Popular Evaluations of the Democracy Deficit in the European Union." *Journal of Politics* 72 (Oct.): 1029-45.
- Rudolph, Thomas J., and Elizabeth Popp. 2009. "Race, Environment, and Interracial Trust." *Journal of Politics* 72 (Jan.): 74-89.
- Wong, Cara J. 2007. "'Little' and 'Big' Pictures in Our Heads: Race, Local Context, and Innumeracy about Racial Groups in the United States." *Public Opinion Quarterly* 71 (Fall): 392-412.
- Raudenbush, Stephen W. and Anthony Bryk. 2002. *Hierarchical Linear Models*. Thousand Oaks, CA: Sage.
- Shor, Boris, Joseph Bafumi, Luke Keele, and David Park. 2007. "A Bayesian Multilevel Modeling Approach to Time-Series Cross-Section Data." *Political Analysis* 15: 165-81.

Week 14 (Dec. 5th) – Multilevel II: Limited Dependent Variables & Bayesian Estimation

Readings:

- Gelman and Hill 2007, Chapters 14-15, skim 16-19
- Jerit, Jennifer, Jason Barabas, and Toby Bolsen. 2004. "Citizens, Knowledge, and the Information Environment." *American Journal of Political Science* 50 (April): 266-82.
- Lax, Jeffrey R., and Justin H. Phillips. 2009. "How Should We Estimate Public Opinion in the States?" *American Journal of Political Science* 53 (Jan.): 107-21.

Recommended:

- Beazer, Quintin. 2012. "Bureaucratic Discretion, Business Investment, and Uncertainty." *Journal of Politics*. Forthcoming.
- Jerit, Jennifer. 2009. "Understanding the Knowledge Gap: The Role of Experts and Journalists." *Journal of Politics* 71(2): 442-56.
- Keele, Luke, and Jennifer Wolak. 2008. "Contextual Sources of Ambivalence." *Political Psychology* 29 (5): 653-73.
- Lizotte, Mary-Kate, and Andrew H. Sidman. 2009. "Explaining the Gender Gap in Political Knowledge." *Politics and Gender* 5: 127-51.
- Peffley, Mark, and Robert Rohrschneider. 2003. "Democratization and Political Tolerance in Seventeen Countries: A Multi-Level Model of Democratic Learning." *Political Research Quarterly* 56 (3): 243-57.
- Solt, Frederick. 2011. "Diversionary Nationalism: Economic Inequality and the Formation of National Pride." *Journal of Politics* 73(3):821-30.
- Solt, Fredrick. 2008. "Economic Inequality and Democratic Political Engagement." *American Journal of Political Science* 52 (Jan.): 48-60.

Week 15 (Dec. 10-14th) – Exam with the Time/Date To Be Announced in Class

A	α	alpha	a	“father”
B	β	beta	b	
Γ	γ	gamma	g	
Δ	δ	delta	d	
E	ε	epsilon	e	“end”
Z	ζ	zêta	z	
H	η	êta	ê	“hey”
Θ	θ	thêta	th	“ thick ”
I	ι	iota	i	“it”
K	κ	kappa	k	
Λ	λ	lamda	l	
M	μ	mu	m	
N	ν	nu	n	
Ξ	ξ	xi	ks	“box”
O	ο	omikron	o	“off”
Π	π	pi	p	
P	ρ	rho	r	
Σ	σ, ς	sigma	s	“say”
T	τ	tau	t	
Υ	υ	upsilon	u	“put”
Φ	φ	phi	f	
X	χ	chi	ch	“ Back ”
Ψ	ψ	psi	ps	
Ω	ω	omega	ô	“grow”