

## JAKE BOWERS

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### Academic Appointments

Assistant Professor, Department of Political Science (August 2007–present)  
Research Scientist, National Center for Supercomputer Applications (August 2007–present)  
University of Illinois @ Urbana-Champaign

Research Affiliate, Center for American Political Studies, Harvard University (July 2007–present)

Scholar, Robert Wood Johnson Health Policy Scholars Program, Harvard University (September 2005–July 2007)

Assistant Professor, Department of Political Science (September 2003–June 2007)  
Faculty Associate, Center for Political Studies, Institute for Social Research (November 2003–present)  
Faculty Affiliate, Quantitative Methodology Program, Institute for Social Research (Oct 2003–present)  
University of Michigan

Assistant Research Scientist, Institute for Social Research (September 2002–August 2003)  
University of Michigan

### Degrees

Ph.D. Political Science, University of California, Berkeley, 2003.  
M.A. Political Science, University of California, Berkeley, 1995.  
B.A. Ethics, Politics and Economics, Yale University, 1992.

### Theses

Ph.D. The Dynamics of Political Participation in the Lives of Ordinary Americans  
Dissertation Committee: Henry Brady and Laura Stoker (chairs), Raymond Wolfinger, David Brillinger

M.A. Violence and Discontent in Argentina, 1955–1972: A Time-Series and Intervention Analysis  
(Advisor: Henry Brady)

B.A. Participation and Consolidation in Chile (Advisor: Juan Linz)

### Honors

Franklin L. Burdette/Pi Sigma Alpha prize for the best paper presented at APSA 2009.  
NSF Methodology, Measurement and Statistics grant (with Ben Hansen) \$230,000 (5/2008-5/2011)  
Robert Wood Johnson Foundation, Health Policy Scholars Postdoctoral Fellowship, Harvard University  
2005–2007.  
Faculty Mentor Award Award for Excellence in Graduate Education (at the University of Illinois Department  
of Political Science) (2009-2010).  
Rackham Summer Faculty/Student Collaboration Grant (with Kate Gallagher) 2005 & 2006 (\$1500 × 2)  
Rackham Faculty Fellowship Enhancement Award 2005 (\$3000)  
Rackham Spring/Summer Research Grant 2005 (\$4000)  
Rackham Interdisciplinary Institute 2004–2005 Grant Recipient (with Cara Wong):  
\$30,000 for Pilot Study of Racial Context Perceptions and Assessments.

National Election Study Pre-doctoral Fellowship 2001–2002.

Best Poster Award, Political Methodology Summer Conference 2000.

National Election Study, 1997 Pilot Study proposal accepted.

National Science Foundation Graduate Fellowship, 1994–1995, 1996–1997, 1998–1999.

Carolina Poll, Spring 1997, proposal accepted.

### Publications

“Making Effects Manifest in Randomized Experiments.” *Handbook of Experimental Political Science*. 2011. to appear.

“Attributing Effects to A Cluster Randomized Get-Out-The-Vote Campaign.” (with Ben Hansen) *Journal of the American Statistical Association*. 2009. 104(487):873–885.

“Politics across Generations: Family Transmission Reexamined.” (with Kent Jennings and Laura Stoker) *The Journal of Politics*. 2009. 71(3):782–799.

“Covariate balance in simple, stratified and clustered comparative studies.” (with Ben Hansen) *Statistical Science*. 2008. 23(2):219–236.

“Attributing Effects to A Cluster Randomized Get-Out-The-Vote Campaign.” (with Ben Hansen) University of Michigan, Dept of Statistics Technical Report # 448. October 2006.

“EDA for HLM: Visualization when Probabilistic Inference Fails” (with Katherine Drake). *Political Analysis*. 2005. 13(4):301–326.

“Analyzing the 2000 National Election Study” (with Nancy Burns, Michael Ensley, and Don Kinder). *Political Analysis*. 2005. 13(1):109–111.

“Using R to Keep it Simple: Exploring Structure in Multilevel Datasets.” *The Political Methodologist*. Fall 2004.

“Does Moving Disrupt Campaign Activity?” 2004. *Political Psychology*. 21(4):525–543.

“Designing Multi-Level Studies: Sampling Voters and Electoral Contexts” (with Laura Stoker). 2002. *Electoral Studies*. 21(2):235–267 and Erratum in 21(3):535–536.  
Also appearing in *The Future of Election Studies*. 2002. Eds. Christopher Wlezien and Mark Franklin. Oxford:Pergamon Press.

“Contextual Analysis and the NES” (with Laura Stoker). *The Political Psychologist*. August 1997.

“Issues in Analyzing Data from the Dual-Mode 2000 American National Election Study” (with Michael Ensley). 2003. National Election Study Technical Report #64.

“Black Threat and Christian Fundamentalist Threat: A National Election Study 1997 Pilot Study Report.” 1997. National Election Study 1997 Pilot Report.

“NES Pilot Study Efforts to Measure Values and Predispositions.” 1995. National Election Study Technical Report #18.

### Current Projects

“Design-Based Inference for Social Science” (with Ben Hansen). This research program involves enhancing the applicability of randomization inference techniques to field experiments and observational studies. So far we have created methods to (1) test balance after matching or data-collection; (2) estimate treatment effects that vary by units with non-compliance, binary outcomes, and clustered treatment-assignment in field or lab experiments (radically simplifying what might otherwise be known as a two-stage, multilevel/hierarchical, logit model); (3) enhance the precision of such effect estimates using

linear models without relying on the assumptions usually required by such models; (4) (with Mark Fredrickson) write and release software to do some of these tasks as the Rltools package for R (and the xbalance add-on for Stata; (5) (also with Mark Fredrickson) produce a reproduction archive for Hansen and Bowers (2009) which allows any interested scholar to redo every analysis in our paper from the beginning (which thus will allow people to learn and explore more about how to execute the techniques we are creating). (NSF Awards # 0753168 and 0753164).

“Rltools: Randomization Inference Tools” (with Ben Hansen and Mark Fredrickson). (<http://www.umich.edu/~jwbowers/Rltools.html>) The Rltools package for R (<http://www.r-project.org>) and Stata (<http://www.stata.com>) currently executes randomization-based tests of sum statistics (such as Fishers exact test for 2x2 tables, or Mantel-Haenszel’s test for 2x2xS stratified tables, or differences of means, or linear regressions) using Normal approximations to enable balance assessment and the estimation of treatment effects in observational and experimental studies. The package currently implements theoretical developments from Rosenbaum (2001,2002a,b) and Hansen and Bowers (2008). (NSF Awards # 0753168 and 0753164).

“The Dynamics of Political Participation”. Project aims to understand what stimulates or inhibits moments of political involvement in the lives of ordinary citizens.

“Effect of Regulatory Change on the FDA” (with Dan Carpenter, Susan Moffitt, and Ben Hansen). An effort to use randomization inference and matching to make credible claims about the effects of the Prescription Drug User Fee act on the general safety of drugs approved by the FDA.

“Maps in Our Heads” (with Cara Wong). An effort to measure how people see and understand the places where they live in order to begin to understand the link between context and individual political behavior. Pilot study data collection completed 12/2004. We have cleaned the data and presented preliminary results at MPSA 2005. We received a “Must Fund” from the Political Science panel of the NSF for our 1/2007 submission, but did not receive funding due to concerns about our proposal raised by the Geography and Sociology sections.

Revising for publication: “Threat, Mobilization, and Participation: The Impact of Crossburnings on Political Behavior in North Carolina.”

#### Invited Presentations

“The Shape of Political Participation: A plea for tolerance in matters empirical.” Department of Political Science, Northwestern University, Evanston, IL. November 12, 2009.

“Design as a Reasoned Basis for Statistical Inference”(with Ben Hansen, Costas Panagopoulos, Dan Carpenter, and Mark Fredrickson). Center for Political Studies Causality Conference at the University of Michigan, Ann Arbor, MI. June 5, 2009.

“Randomization Inference for GOTV Campaigns: Causal Inference for a Cluster Randomized Get-Out-The-Vote Campaign” (with Ben Hansen). Nuffield Political Science Seminar at Nuffield College, Oxford, UK. Jan 29, 2008.

“Drug Safety and Deadlines: An Application of Prognostic Scores, Propensity Scores, Full Matching and Permutation Inference to Regulatory Regime Change at the FDA” (with Dan Carpenter and Ben Hansen). Invited Presentation at the Northeastern Political Methodology Conference at NYU, April 27, 2007.

“How to Analyze Field Experiments Using Optimal Matching: The Case of the Vote Turnout Experiment” (with Ben Hansen). Invited Presentation at the Department of Political Science at the University of Illinois at Urbana-Champaign, July 23, 2004.

“A Theory of the Dynamics of Political Participation.” Invited Presentation at the Political Psychology and Behavior Workshop at Harvard University, April 29, 2004.

“Political Participation as a Dynamic Process.” Invited Presentation at The Second Minnesota Symposium in Political Psychology, November 8–9, 2002. Minneapolis.

#### Conference Papers and Presentations

“Randomization inference as a particularly reasonable basis for statistical inference.” Presented at the Institute of Government and Public Affairs at the University of Illinois, April 2010. Urbana, IL.

“Design-based Statistical Inference: Fisher (1935) and Neyman (1923) for 2010.” Presented at the annual meeting of the American Sociological Association Methodology Section, April 2010. Urbana, IL.

“ ‘Probability of What?': A Randomization-based Method for Hypothesis Tests and Confidence Intervals about Treatment Effects.” (with Costas Panagopoulos). Presented at the bi-annual Experiments in Governance and Politics (EGAP) meeting , October 2009. New York, NY.

“Reconciling Neyman and Fisher: Attributing Effects to A Cluster Randomized Get-Out-The-Vote Campaign” (with Ben Hansen). Presented at the annual meeting of the American Political Science Association, August 2009. Toronto, Canada.

“Tests of Covariate Balance in Experiments and Observational Studies” (presented by Ben Hansen). Presented at the Joint Statistical Meetings, August 2009, Washington, DC.

“A Reasoned Basis for Inference: Randomization and Design Justifying Estimation and Testing ” (with Costas Panagopoulos). Presented at annual meeting of the Political Methodology Section of the American Political Science Association, July 2009. New Haven.

“Threat, Mobilization, and Participation: The Impact of Crossburnings on Political Behavior in North Carolina.” (with Mark Fredrickson and Thomas Engstrom). Presented at the annual meeting of International Political Science Association, July 2009. Santiago, Chile.

“Making Effects Manifest: How can we enhance the sensitivity of experiments using what we (think we) know?” Discussed at the Experimentation in Political Science conference, May 2009. Evanston.

“RItools: Software for balance testing using randomization inference.” Poster presented at annual meeting of the Political Methodology Section of the American Political Science Association, July 2008. Ann Arbor.

“Randomization Inference tools” (with Ben Hansen). Presentation to the The Quantitative Methodology Program of the Survey Research Center of the Institute for Social Research at the University of Michigan. April 11, 2008. Ann Arbor.

“Causal Inference About A Regulatory Regime Change at the FDA” (with Dan Carpenter and Ben Hansen). Presentation at the annual meeting of the Robert Wood Johnson Health Policy Scholars, Aspen, CO. June 2007.

“The effect of The Prescription Drug User Fee Act(s) (PDUFA) on Drug Safety Causal Inference for A Policy Change.” (with Dan Carpenter, Ben Hansen, and Evan Zucker) Presentation to the Robert Wood Johnson Workshop, March 2007.

“The Crisis of Birth: Do Babies Pull Women Out of the Public Sphere While Pushing Men Back In.” (with Katherine Gallagher) Presentation to the Center for Political Studies, University of Michigan, October 2006.

“Fixing Broken Experiments: A Proposal to Bolster the Case for Ignorability Using Subclassification and Full Matching.” (with Ben Hansen) Presented to the Applied Statistics Workshop, Harvard University, Cambridge, MA. Sep 2006.

“RIttools: Randomization Inference Tools.” (with Ben Hansen). Presentation at the international meeting of R users. Medical and Applied Statistics Section. Vienna, Austria. June 2006.

- “RIttools and Optmatch: Tools for the Analysis of Observational Studies (À la Rosenbaum 2002).” (with Ben Hansen). Poster presentation at the international meeting of the R users. Medical and Applied Statistics Section. Vienna, Austria. June 2006.
- “Drug Safety and the Prescription Drug User Fee Act of 1992.” (with Dan Carpenter and Evan Zucker) Presentation at the annual meeting of the Robert Wood Johnson Health Policy Scholars, Aspen, CO. June 2006
- “The Effect of FDA Deadlines on Drug Safety?: A proposal for and questions about measurement, design, and analysis in 10 slides.” (with Dan Carpenter and Evan Zucker) Presentation to the Robert Wood Johnson Workshop, May 2006.
- “GOTV: A Civic Good? Or a Civic Bad?” (with Ben Hansen) Presented at the annual meeting of the Midwestern Political Science Association, Chicago, IL. April 2006.
- “Randomization Inference for Health Policy Evaluation.” Presentation to the Robert Wood Johnson Health Policy Workshop. Feb 2006.
- “The Distributional Effects of Get-Out-The-Vote Efforts.” Presentation to the Center for Political Studies, University of Michigan, March 2006.
- “Simple Heuristics and Approaches for Experimental Data.” Presentation to the CPS Workshop, October 2005.
- “Randomization Inference for Experiments” (with Ben Hansen). Presented at the annual meeting of the American Political Science Association, September 2005. Washington D.C.
- “Attributing Effects to A Cluster Randomized Get-Out-The-Vote Campaign: An Application of Randomization Inference Using Full Matching” (with Ben Hansen). Presented at annual meeting of the Political Methodology Section of the American Political Science Association, July 2005. Tallahassee.
- “Keep it simple social scientist! or How randomization inference helped me attribute effects to get-out-the-vote efforts.” Presentation to the NES Workshop, April 2005.
- “Attributing Effects to a Get-Out-The-Vote Campaign Using Full Matching and Randomization Inference” (with Ben Hansen). Presented at the annual meeting of the Midwest Political Science Association, April 2005. Chicago.
- “EDA for HLM” (with Katherine Drake). Presented at the annual meeting of the Midwest Political Science Association, April 2005. Chicago.
- “Maps and Pictures in Our Heads: Testing the Assumptions of Power Threat Theory” (with Katherine Drake and Cara Wong). Presented at the annual meeting of the Midwest Political Science Association, April 2005. Chicago.
- “Do Low Resources Necessarily Mean Low Political Participation?” Presentation to the The Quantitative Methodology Program of the Survey Research Center of the Institute for Social Research at the University of Michigan. September 28, 2004. Ann Arbor.
- “Research Design for The Precipitants of Political Activity.” Presentation to the NES Workshop, September 2004. Ann Arbor.
- “Flexible, optimal matching for the comparison of two groups (in an experiment with imperfect compliance, imperfect randomization, and multiple treatments)” (presented by Ben Hansen). Presented at the annual meeting of the Royal Statistical Society, September 2004. Manchester, UK.
- “Polling and Prediction: A Reexamination of the 1936 Literary Digest Poll” (with Adam Berinsky). Presented at the annual meeting of the American Political Science Association, September 2003. Philadelphia.

- “Pragmatic Sample Design for Detecting Contextual Effects: Assessing the Power Threat Theory of Race Relations” (with Cara Wong). Presentation to the The Quantitative Methodology Program of the Survey Research Center of the Institute for Social Research at the University of Michigan. March 18, 2003. Ann Arbor.
- “Cycling Involvements: Exploring the Periodicity in Political Participation.” Poster presented at the annual meeting of the American Political Science Association, September 2001. San Francisco.
- “Participation Transitions, Rates and Memories.” Presentation to the NES Workshop, May 2001. Ann Arbor.
- “Dynamics of Individual Participation.” Presentation to the NES Workshop, October 2000. Ann Arbor.
- “Sample Design for Studying Congressional Elections.” Poster presented at the annual meeting of the Political Methodology Section of the American Political Science Association, July 2000. Los Angeles.
- “Politics Across Generations” (with M. Kent Jennings and Laura Stoker). Presented at the annual meeting of the American Political Science Association, September 1999. Atlanta.
- “Movement in the Body Politic: Exploring Dynamic Representations of Political Participation.” Poster presented at the annual meeting of the Political Methodology Section of the American Political Science Association, July 1999. San Diego.
- “Measuring Perceptions of Black Threat: An Individual Level Test of the Power Threat Hypothesis.” Presented at the annual meeting of the American Political Science Association, August 1998. Boston.
- “Crossburnings and Black Officials in North Carolina: A Multi-Level Model of Threat, Mobilization, and Participation.” Poster presented at the annual meeting of the Political Methodology Section of the American Political Science Association, July 1998. San Diego.
- “Black Threat and Black Context: New Evidence From the 1997 NES Pilot Study.” Presented at the annual meeting of the International Society of Political Psychology, July 1998. Montreal, Canada.
- “Meaning and Measures: A Validity Test of Symbolic Racism” (with Cara Wong). Presented at the Annual Meeting of the Midwest Political Science Association, April 1997. Chicago.
- “Threat, Mobilization, and Participation: The Impact of Crossburnings on Political Behavior in North Carolina.” Presented at the Annual Meeting of the American Political Science Association, August 1997. Washington, D.C.
- “Threat, Mobilization, and Participation: The Impact of Crossburnings on Vote Turnout in North Carolina.” Presented at the Annual Meeting of the International Society of Political Psychology, July 1996. Vancouver, BC, Canada.

### Teaching Experience

Assistant Professor, University of Illinois @ Urbana-Champaign

- Statistical Inference and Linear Models (Graduate) 2010
- Introduction to Statistics for Political Research (Undergraduate) 2009
- Future Politics (Undergraduate) 2009
- Quantitative Political Analysis II (Graduate) 2007
- Potential Outcomes Inference (iTV Graduate) 2007

Assistant Professor, University of Michigan

- Statistical Methods for Political Research (Graduate), 2003–2004.
- Advanced Topics in Statistical Inference: Bayesian and Robust Approaches (Graduate), 2005.
- Political Participation (Undergraduate), 2003 and 2005.

- Research Design and Data Analysis for Political Science (Undergraduate), 2004.

Teaching Assistant, University of California, Berkeley

- The Logic and Methods of Cross-Sectional Time-Series and Panel Analysis (Graduate), with Henry Brady, 1999.
- Psychometric and Econometric Methods (Graduate), with Henry Brady, 1997.
- Quantitative Analysis in Political Research (Graduate), with Laura Stoker, 1997.
- Political Psychology and Involvement (Undergraduate), with Jack Citrin, 1996.
- Introduction to Empirical Analysis and Quantitative Methods (Undergraduate), with Robert Powell, 1995.
- (Group Tutor) Conceptualization, Measurement and Causal Thinking (Graduate), with Henry Brady and David Collier, 1998.

### Advising and Service

Thesis Advising

- Dissertation Committee member for Gisela Sin, University of Michigan (Currently at University of Illinois)

Departmental Service (University of Illinois)

- Alumni Affairs Committee, 2008–2009
- Ad-hoc Graduate Computing Lab Committee, 2009–2010
- Co-founded the Faculty-Student Working Paper Seminar Series (2009) (with Jose Cheibub, Jim Kuklinski, and Cara Wong).
- Co-manage the Methodology Speaker series (2007–present) (with Wendy Tam Cho).

Departmental Service (University of Michigan)

- Admissions Committee, 2003–2004
- Methodology Search Committee, 2004–2005
- Information Technology Taskforce Member and co-Founder, 2004–2005

Disciplinary Service

- Society for Political Methodology — Political Methodology Career Award Committee 2009 & 2010
- Society for Political Methodology — Program committee for the annual meeting, 2007

### Professional Activities

Editor (with Brian Gaines, Wendy Tam Cho, and Jude Hays) of *The Political Methodologist*, September 2010–present.

Reviewer for the *American Political Science Review*, the *Journal of the American Statistical Association*, the *American Journal of Political Science*, *Political Analysis*, *The Journal of Politics*, *The National Science Foundation*, *Journal of Educational and Behavioral Statistics*, *Perspectives*, *Political Psychology*, *American Politics Research*, *PS: Political Science & Politics*.

Discussant at APSA, MPSA annually. Invited Discussant at the MIT Political Inequality Conference, September 2006 and the Political Methodology Summer Conference, July 2007 & 2008 & 2009.

Member of the American Political Science Association (Political Methodology, Qualitative Methods, Foundations and Political Thought, Political Psychology; Elections, Public Opinion and Voting Behaviour; Race, Ethnicity, and Politics), the Midwestern Political Science Association, the Southern Political Science Association, and the American Statistical Association.

## Previous Research Experience

1995–2000 Research Assistant for Laura Stoker and M. Kent Jennings on The Youth-Parent Political Socialization Project, Wave 4

- Helped write the NSF grant proposal that funded the fourth wave of the Youth-Parent Political Socialization Project.
- Collaborated in design of new survey instruments (CAPI and self-administered), and in helping the Survey Research Center at the University of Michigan track respondents last interviewed in 1982.
- Conducted in-person interviews with respondents in Oklahoma City, St. Louis, and Salt Lake City (Summer 1997).

1996 Statistical and Design Consultant for *The Daily Californian*, UC-Berkeley.

Designed and analyzed a survey to gauge the attitudes of UC Berkeley undergraduates about Proposition 209, sponsored by the Pew Foundation.

1995 Statistical Consultant for McKinsey Consulting, Inc. and Kaiser Foundation Health Plan Inc., Hawaii Region.

1992–1994 Market Research Analyst for Kaiser Foundation Health Plan, Inc., Program Offices.

Designed survey instruments, administered field work, analyzed data, wrote reports, presented results to decision makers.

## Additional Education

Advanced graduate courses in quantitative methods in the Departments of Statistics and Economics at UC-Berkeley (Spring 1997–Spring 2000) and Harvard (Fall 2005).

- Causal Inference in Statistics and the Social and Biomedical Sciences (Rubin and Imbens). An advanced class dealing with the Neyman-Rubin potential outcomes approach to causal inference. This class includes coverage of techniques such as randomization and permutation inference, matching and propensity scores.
- Analysis of Time Series (Brillinger). An advanced class dealing with univariate and multivariate time series models in both the time and frequency domains; state space models and the Kalman filter.
- Introductory Statistics and Econometrics (McFadden/Powell). The first econometrics class for economics graduate students.
- Econometrics (Powell/Rothenberg). An advanced class dealing with fundamental and higher order asymptotic theory, non-parametric estimation, mme, second-order efficiency, bootstrap simulation, latent variable models, and systems of simultaneous equations.
- Statistical Models: Theory and Application (Brillinger). An applied statistics class covering the classical linear model, general estimation and testing theory, glm, smoothing, gam, and non-parametric uncertainty estimation.

ICPSR Summer Program in Quantitative Methods, University of Michigan:

Maximum Likelihood, Simultaneous Equations, Quantitative Analysis in Latin America (1995).  
Hierarchical Linear Modeling (1998).

Workshop on Qualitative Choice Analysis, Economics Department, University of California, Berkeley, Summer 1997.

**Languages and Other Skills**

**Languages:** Spanish(fluent but not native); Portuguese(fair)

**Statistical and Computer Languages:** S[R/Splus], Stata, Mathematica, SAS, SPSS, HLM, AMOS, LISREL

**Ph.D. Comprehensive Fields**

Political Methodology, American Politics, Political Behavior, Political Theory

**References**

References available upon request.