PLS 501: Methods of Political Analysis (Research Design)

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Office: Pond Lab, room 227
Office Hours: Wednesday 1:30pm-3:30pm and by appointment.

Introduction

This class will provide graduate students with an introduction to the scientific method and an overview of how to apply it to the study of politics. Students will learn the fundamentals of the scientific method and, through research design, how to improve both causal inference and the measurement of political phenomena.

Required Reading Material

1. Trochim and Donnelly — Trochim, William and James P. Donnelly. 2007.*The Research Methods Knowledge Base*, 3rd Edition. Cincinnati, OH, Atomic Dog Publishing.

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

3. KKV — King, Gary, and Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research* Princeton: Princeton University Press.

4. Additional articles and chapters are listed below. Copies of these readings will be provided by the instructor.

Class Expectations and Grades

- Read all of the assigned materials and be prepared to discuss each piece at the assigned class meeting.

- There are six 5-page written assignments for the course that are each worth 10% of the final grade. The remaining 40% is for participation in the classroom discussions.

- **Laptops will not be allowed during class meetings**, so make sure to print out the readings before class.

- Make sure to read the **Lecture Readings** prior to the beginning of class each Tuesday and the **Discussion Readings** prior to the beginning of class each Thursday.

Suggested Research Design Books and Other Readings

The books listed here and the other articles and chapters list in the **Suggested Readings** sections below are useful readings, some of which once existed in either the **Lecture Readings** or **Discussion Readings** lists in earlier versions of this syllabus. Don't worry about reading these now. You should keep them in mind though for future reference because they are useful examples and much more in depth on certain research design topics. These lists are of course not exhaustive and will continue to grow.

1. Brady, Henry E., and David Collier, editors, 2004. *Rethinking Social Inquiry: Diverse Tools, Shared Standards*. Lanham, MD: Rowman and Littlefield.

2. Borsboom, Denny. 2005. *Measuring the Mind*. Cambridge: Cambridge University Press.

3. Curd, Martin and J. A. Cover. 1998. *Philosophy of Science: The Central Issues* New York: W. W. Norton.

4. Coombs, Clyde. 1964. *A Theory of Data*. New York: John Wiley.

5. Geddes, Barbara. 2003. *Paradigms and Sand Castles: Theory Building and Research Design in Comparative Politics* University of Michigan Press.

6. Kuhn, Thomas S. 1970. *The Structure of Scientific Revolutions*, 2nd ed. Chicago: University of Chicago Press. Selected chapters.

7. Mosley, Layna. 2013. *Interview Research in Political Science*. Ithaca NY, Cornell University Press.

8. Popper, Karl R. 1968. *The Logic of Scientific Discovery*, 2nd ed. New York: Harper Row. Selected chapters.

9. Shadish, William R., Thomas D. Cook and Donald T. Campbell. 2001. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Wadsworth Publishing.

10. Weller, Nicholas, and Jeb Barnes. 2014. *Finding Pathways: Mixed-Method Research for Studying Causal Mechanisms* Cambridge University Press.

Assignments

Due dates appear below in the *Schedule of Readings* section. Assignments are due at the beginning of the first class in the week of the due date.

1. **Theory Essay**: In no more than 5-double spaced pages, answer the following questions: "What is a theory and what is it good for."?

2. **Experimental Design**: Take a well known theory of politics and derive a hypothesis that is testable with an experimental design. Describe the theory, hypothesis, and experimental design in no more than 5-double spaced pages.

3. **Quasi-Experimental Design**: Take a well known theory of politics and derive a hypothesis that is testable with a quasi-experimental design. Describe the theory, hypothesis, and quasi-experimental design in no more than 5-double spaced pages.

4. **Data Validity Assessment**: Analyze the data provided by the instructor and assess its validity in no more than 5-double spaced pages

5. **Survey or Case Study Design**: Take a well known theory of politics and derive a hypothesis that is testable with a survey or case study. Describe the theory, hypothesis, and design in no more than 5-double spaced pages.

6. **Group Reproduction/Replication Project**: In groups of 2-4 students, obtain the materials necessary to replicate a political science research paper published in the last 5 years. Describe the initial study and the ease with which the results are reproduced. Then identify any research design flaws in the research and propose a new or improved design. Again, the write-up should be no more than 5-pages. For background information read: King, Gary. 2006. "Publication, Publication." *PS: Political Science and Politics* 39: 119-125, which is assigned in week 11.

Acknowledgment

This syllabus is based in large part on the Research Design (204A) course developed by David Lake and Mathew McCubbins at the University of California, San Diego.

Schedule of Readings

Week 1: Introduction to the Scientific Method and the Philosophy of Science

Lecture Readings:

1. Trochim and Donnelly. Ch 1: "Foundations."
2. KKV. Ch 1: "The Science in Social Science."

Discussion Readings:

3. Lake, David A. 2011. "Why 'Isms' are Evil: Theory, Epistemology, and Academic Sects as Impediments to Understanding and Progress." *International Studies Quarterly* 55(2):465-480.
4. Mackie, Gerry 1996. "Ending Footbinding and Infibulation: A Convention Account." *American Sociological Review* 61(6):999-1017.
5. Schwartz, Thomas. 1980. *The Art of Logical Reasoning*. New York: Random House. pg.3-53.
6. Schrodt. Philip A. 2014. "Seven Deadly Sins of Quantitative Political Analysis." *Journal of Peace Research* 51(2):287-300.

Week 2: Methods of Observation and Inference

Lecture Readings:

1. Fenno Jr., Richard F. 1986. "Observation, Context, and Sequence in the Study of Politics." *American Political Science Review* 80(1):3-15.

2. KKV. Ch 2: "Descriptive Inference."

3. KKV. Ch 4: "Determining What to Observe."

Discussion Readings:

4. Cox, Gary W., and J. Morgan Kousser. 1981. "Turnout and Rural Corruption: New York as a Test Case." *American Journal of Political Science* 25(4):646-663.

5. Fenno, Richard. 1977. "U.S. House Members in Their Constituencies: An Exploration." *American Political Science Review* 71(3):883-917.

6. Geertz, Clifford. 1973. "Thick Description." In Geertz, Clifford. *The Interpretation of Cultures*. New York: Basic Books.

Week 3: Design, Validity, and Disconfirmation

A draft of the **Theory Essay** assignment is due at the beginning of the first class this week. The final draft is due at the beginning of Week 15.

Lecture Readings:

1. Trochim and Donnelly. Ch 7: "Design."
2. Shadish, William R. 2010. "Campbell and Rubin: A Primer and Comparison of Their Approaches to Causal Inference in Field Settings." *Psychological Methods* 15(1):3-17.

Discussion Readings:

3. Carlson, Elizabeth C., "Social Desirability Bias and Reported Voting Behavior on African Surveys." *Afrobarometer Working Paper* 144.
4. Gibson, James L. and Michael J. Nelson. 2014. "Is the U.S. Supreme Court's Legitimacy Grounded in Performance Satisfaction and Ideology?" *American Journal of Political Science*. 59(1):162-174.
5. Gibson, James L. and Gregory A. Caldeira. 2009. "Knowing the Supreme Court? A Reconsideration of Public Ignorance of the High Court." *Journal of Politics* 71(2):429-441.
6. Lyall, Jason. 2009."Does Indiscriminate Violence Incite Insurgent Attacks? Evidence from Chechnya." *Journal of Conflict Resolution* 53(3): 331-62.

Suggested Readings:

7. Shadish, William R., Thomas D. Cook and Donald T. Campbell. 2001. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Wadsworth Publishing. Ch 1 and Ch 2.

Week 4: Experimental Design

Lecture Readings:

1. Trochim and Donnelly. Ch 9: "Experimental Design."

2. Green, Donald P. and Alan S. Gerber. 2002. "Reclaiming the Experimental Tradition in Political Science." In *Political Science: State of the Discipline*, ed. by Ira Katznelson and Helen V. Milner. New York: W. W. Norton. pg.805-32.

Discussion Readings:

3. Bond, Robert M., Christopher J. Fariss, Jason J. Jones, Adam D. I. Kramer, Cameron Marlow, Jaime E. Settle, James H. Fowler. 2012. "A 61-Million-Person Experiment in Social Influence and Political Mobilization." *Nature* 489(7415):295-298.

4. Chattopadhyay, Raghabendra and Esther Duflo. 2004. "Women as Policy Makers: Evidence from a India-Wide Randomized Policy Experiment." *Econometrica* 72(5):1409-1443.

5. Malesky, Edmund, Anh Tran, and Paul Schuler. 2012. "A Field Experiment on Legislative Transparency in an Authoritarian Assembly." *American Political Science Review* 106(4):762-786.

6. Sinclair, Betsy, Margaret McConnell, and Donald P. Green. 2012. "Detecting Spillover Effects: Design and Analysis of Multilevel Experiments." *American Journal of Political Science* 56(4):1055-1069.

Suggested Readings:

7. Falk Armin, James J. Heckman 2009. "Lab Experiments Are a Major Source of Knowledge in the Social Sciences." *Science* 326(5952):535-538.

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

Week 5: Quasi-Experimental Design: Non-Equivalent Group Designs

The **Experimental Design** assignment is due at the beginning of the first class this week.

Lecture Readings:

1. Trochim and Donnelly. Ch 10: "Quasi-Experimental Design."
2. Dunning. Ch 2: "Standard Natural Experiments."

Discussion Readings:

3. 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(4):772-793.
4. Hyde, Susan. 2007. "The Observer Effect in International Politics: Evidence from a Natural Experiment." *World Politics* 60:37-63.
5. Loewen, Peter J., Royce Koop, Jaime E. Settle, and James H. Fowler. Forthcoming. "A Natural Experiment in Proposal Power and Electoral Success." *American Journal of Political Science*
6. Posner, Daniel N. 2004. "The Political Salience of Cultural Difference: Why Chewas and Tumbukas Are Allies in Zambia and Adversaries in Malawi." *American Political Science Review* 98(4):529-545.

Suggested Readings:

7. Hainmueller, Jens and Dominik Hangartner. 2013. "Who Gets a Swiss Passport? A Natural Experiment in Immigrant Discrimination." *American Political Science Review* 107(1):159-187

Week 6: Quasi-Experimental Design: Interrupted Time-Series, Regression Discontinuity, Matching, and Instrumental Variable Designs

Lecture Readings:

1. Trochim and Donnelly. Ch 11: "Advanced Design Topics."
2. Dunning. Ch 3: "Regression-discontinuity designs."
3. Dunning. Ch 4: "Instrumental-variables designs."

Discussion Readings:

4. Acemoglu, Daron, Simon Johnson, and James A. Robinson. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economic Review* 91(5):1369-1401.
5. Campbell, Donald T. and H. Laurence Ross. 1968. "Analysis of Data on the Connecticut Speeding Crackdown as a Time-Series Quasi-Experiment." *Law and Society Review* 3(1):55-76.
6. Fowler, James H. (2008) "The Colbert Bump in Campaign Donations: More Truthful Than Truthy." *PS: Political Science Politics* 41(3):533-539.
7. Lyall, Jason. 2010. "Are Co-Ethnics More Effective Counter-Insurgents? Evidence from the Second Chechen War." *American Political Science Review* 104(1):1-20.

Suggested Readings:

8. Imbens, Guido and Thomas Lemieux. 2008. "Regression Discontinuity Designs: A Guide to Practice." *Journal of Econometrics* 142:615-635.
9. Sovey, Allison J., and Donald P. Green. 2010. "Instrumental Variables Estimation in Political Science: A Readers Guide." *American Journal of Political* Science 55(1):188-200.

Week 7: Measurement Theory: Data, Validity, and Reliability

The **Quasi-Experimental Design** assignment is due at the beginning of the first class this week.

Lecture Readings:

1. Adcock, Robert, and David Collier. 2001. "Measurement Validity: A Shared Standard for Qualitative and Quantitative Research." *American Political Science Review* 95(3):529–546.
2. Coombs, Clyde. 1964. *A Theory of Data*. New York: John Wiley. Ch 1.
3. Trochim and Donnelly. Ch 3: "The Theory of Measurement."

Discussion Readings:

4. Brysk, Allison. 1994. "The Politics of Measurement: The Contested Count of the Disappearance in Argentina." *Human Rights Quarterly*, 16(4):676-692.
5. Fowler, James H., and Sangick Jeon. 2008. "The Authority of Supreme Court Precedent." *Social Networks* 30:16-30.
6. Gleditsch, Kristian, and Michael Ward. 1997. "Double Take: A Re-examination of Democracy and Autocracy in Modern Politics." *Journal of Conflict Resolution* 41:361-83.

Suggested Readings:

7. Geddes, Barbara, Joseph Wright, and Erica Frantz. 2012. "New Data on Autocratic Regimes." Available at: http://dictators.la.psu.edu/pdf/pp10.pdf
8. Przeworski, Adam, et. al. 2000. *Democracy and Development*. New York: Cambridge University Press. Ch 1: pg.13-77.

Week 8: Measurement Theory: Models of Unobservable Constructs

Lecture Readings:

1. Borsboom, Denny. 2005. *Measuring the Mind*. Cambridge: Cambridge University Press. Ch 3.
2. Jackman, Simon. 2008. "Measurement". In *The Oxford Handbook of Political Methodology*, edited by Janet M. Box-Steffensmeier, Henry E. Brady, and David Collier. Oxford University Press.
3. Trochim and Donnelly. Ch 5: "Scales and Indexes."

Discussion Readings:

4. Bond, Robert M., and Solomon Messing. 2015. "Quantifying Social Media's Political Space: Estimating Ideology from Publicly Revealed Preferences on Facebook." *American Political Science Review* 109(1):62-78.
5. Fariss, Christopher J. Forthcoming. "The Changing Standard of Accountability and the Positive Relationship between Human Rights Treaty Ratification and Compliance" *British Journal of Political Science*.
6. Poole, Keith T. and Howard Rosenthal. 1991. "Patterns of Congressional Voting." *American Journal of Political Science* 35(1):228-278.

Suggested Readings:

7. Clinton, Joshua, Simon Jackman, and Douglas Rivers. 2004. "The Statistical Analysis of Roll Call Data." *American Political Science Review* 98(2):355-370.

   American Political Science Review 108(2):297-318.
8. Guttman, Louis. 1944. "A basis for scaling qualitative data." *American Sociological Review* 9:139-150.
9. Likert, Rensis. 1932. "A Technique for the Measurement of Attitudes." *Archives of Psychology* 22:5-55.
10. Martin, Andrew D. and Kevin M. Quinn. 2002. "Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953-1999." *Political Analysis* 10(2):134-153.
11. Schnakenberg, Keith E. and Christopher J. Fariss "Dynamic Patterns of Human Rights Practices." *Political Science Research and Methods* 2(1):1-31.
12. Shepard, Roger N. 1987. "Toward a Universal Law of Generalization for Psychological Science." *Science* 237:1317-1323.
13. van Schuur, Wijbrandt H. 2003. "Mokken Scale Analysis: Between the Guttman Scale and Parametric Item Response Theory." *Political Analysis* 11(2): 139-63.

Week 9: Measurement Theory: Sampling and Survey Design

The **Data Validity Assessment** assignment is due at the beginning of the first class this week.

Lecture Readings:

1. Dunning. Ch 6: "Sampling processes and standard errors."
2. Trochim and Donnelly. Ch 2: "Sampling."
3. Trochim and Donnelly. Ch 4: "Survey Research."

Discussion Readings:

4. Berinsky, Adam J., Gregory A. Huber, and Gabriel S. Lenz. 2012. "Evaluating Online Labor Markets for Experimental Research: Amazon.com's Mechanical Turk." *Political Analysis* 20(3): 351-368.
5. Jesse, Stephen A. Forthcoming. "Dont Know Responses, Personality and the Measurement of Political Knowledge" *Political Science Research and Methods*.
6. Squire, Peverill 1988. "Why the 1936 Literary Digest Poll Failed." *Public Opinion Quarterly* 52:125-133.

Suggested Readings:

7. Berkman MB, Pacheco JS, Plutzer E. 2008. "Evolution and Creationism in America's Classrooms: A National Portrait." *PLOS Biol* 6(5): e124.
8. Jones, Jason J., Jaime E. Settle, Robert M. Bond, Christopher J. Fariss, Cameron Marlow, James H. Fowler 2013. "Inferring Tie Strength from Online Directed Behavior." *PLOS ONE* 8(1):e52168.
9. Sears, David O. 1986. "College Sophomores in the Laboratory: Influences of a Narrow Data Base on Social Psychologys View of Human Nature." *Journal of Personality and Social Psychology* 51:515-530.
10. Welch, Susan. 1975. "Sampling by Referral in a Dispersed Population." *Public Opinion Quarterly* 39(2):237-245.

Week 10: Observational Data and Design Choice

Lecture Readings:

1. KKV. Ch 5: "Understanding What to Avoid."

2. Shmueli, Galit. 2010. "To Explain or to Predict?" *Statistical Science* 25(3): 289-310.

Discussion Readings:

3. Grimmer, Justin and Brandon M. Stewart. Forthcoming. "Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts." *Political Analysis* 21(3):267-297.

4. King, Gary, Jennifer Pan, and Margaret Roberts. 2013. "How Censorship in China Allows Government Criticism but Silences Collective Expression." *American Political Science Review* 107(2):326-343:

5. Lupu, Yonatan. 2013. "The Informative Power of Treaty Commitment: Using the Spatial Model to Address Selection Effects". *American Journal of Political Science* 57(4):912-925.

6. Hill, Daniel W., Jr. and Zachary M. Jones. 2014. "An Empirical Evaluation of Explanations for State Repression". *American Political Science Review* 108(3):661-687.

Suggested Readings:

7. Bennett, D. Scott and Allan C. Stam 2000. "Research Design and Estimator Choices in the Analysis of Interstate Dyads When Decisions Matter." *Journal of Conflict Resolution* 44(5):653-685.

8. King, Gary, and Zeng, Langche. 2007. "When Can History Be Our Guide? The Pitfalls of Counterfactual Inference". *International Studies Quarterly* 183-210.

9. Miguel, Edward, Sebastian M. Saiegh, and Shanker Satyanath. 2011. "Civil War Exposure and Violence." *Economics Politics* 23(1):59-73.

10. Ward, Michael D., Brian Greenhill and Kristin Bakke. 2010. "The Perils of Policy by p-value: Predicting Civil Conflicts." *Journal of Peace Research* 46(4): 363-375.

Week 11: Enhancing Generalizability though Analysis, Transparency, and Reproduction and Replication

Lecture Readings:

1. Dunning. Ch. 5: "Simplicity and Transparency: keys to quantitative analysis."
2. Trochim and Donnelly. Ch 12: "Analysis."
3. Trochim and Donnelly. Ch 14: "Analysis for Research Design."

Discussion Readings:

4. Driscoll, Jesse. "Prison States & Games of Chicken" working paper.
5. Fariss, Christopher J. and Zachary M. Jones. "Enhancing External Validity in Observational Settings When Replication is Not Possible". *working paper*.
6. Fowler, James H., and Christopher T. Dawes (2013) "In Defense of Genopolitics." *American Political Science Review* 107(2):362-374.
7. King, Gary. 2006. "Publication, Publication." *PS: Political Science and Politics* 39:119-125.

Suggested Readings:

8. Christakis, Nicholas A. and James H. Fowler. 2013. "Social Contagion Theory: Examining Dynamic Social Networks and Human Behavior." *Statistics in Medicine* 32(4): 556-577.
9. Jones, Jason J., Robert M. Bond, Christopher J. Fariss, Jaime E. Settle, Adam D. I. Kramer, Cameron Marlow, and James H. Fowler. 2013. "Yahtzee: An Anonymized Group Level Matching Procedure" *PLOS ONE* 8(2):e55760.
10. King, Gary. 1995. "Replication, Replication." *PS: Political Science and Politics* 28: 443-499.
11. King, Gary, Nielsen, Richard, Coberley, Carter, Pope, James E, and Wells, Aaron. 2011. "Avoiding Randomization Failure in Program Evaluation." *Population Health Management* 14(1):S11-S22.

Week 12: Case Studies and Case Selection

Lecture Readings:

1. Abadie, Alberto, Alexis Diamond and Jens Hainmueller. 2014. "Comparative Politics and the Synthetic Control Method" *American Journal of Political Science*

2. Geddes, Barbara. 1990. "How the Cases You Choose Affect the Answers You Get." *Political Analysis* 2:131-150.

3. Lijphart, Arend 1971. "Comparative Politics and the Comparative Method." *American Political Science Review* 65(3):682-693.

Discussion Readings:

4. Dreze, Jean and Amartya Sen. 1989. "Hunger and Public Action." Oxford University Press. Ch 11: "China and India."

5. Gartzke, Erik and Yonatan Lupu. 2012. "Trading on Preconceptions: Why World War I Was Not a Failure of Economic Interdependence." *International Security* 36(4):115-150.

6. Nielsen, Richard. Forthcoming. "Case Selection via Matching" *Sociological Methods and Research*.

7. Plümper, Thomas, Vera E. Troeger, and Eric Neumayer. "Case Selection and Causal Inference in Qualitative Research." working paper.

Suggested Readings:

8. 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.

Week 13: Qualitative Methods and Mixed Methods

The **Survey or Case Study Design** assignment is due at the beginning of the first class this week.

Lecture Readings:

1. Dunning. Ch. 7: "The central role of qualitative evidence."
2. Mosley, Layna. 2013. ""Just Talk to People"? Interviews in Contemporary Political Science" In *Interview Research in Political Science*, editors, Layna Mosley. Ithaca NY, Cornell University Press.
3. Trochim and Donnelly. Ch 6: "Qualitative and Unobtrusive Measures."
4. Trochim and Donnelly. Ch 8: "Qualitative and Mixed Methods Designs."

Discussion Readings:

5. Brady, Henry E., David Collier, and Jason Seawright. 2006. "Toward a pluralistic vision of methodology." *Political Analysis* 14:353-368.
6. Driscoll, Jesse. 2012. "Commitment Problems or Bidding Wars? Rebel Fragmentation as Peace Building". *Journal of Conflict Resolution*, 56(1):118-149.
7. Gallagher, Mary. 2012. "Capturing Meaning and Confronting Measurement" In *Interview Research in Political Science*, editors, Layna Mosley. Ithaca NY, Cornell University Press.
8. Lustik, Ian S. 1996. "History, Historiography, and Political Science: Multiple Historical Records and the Problem of Selection Bias." *American Political Science Review* 90(3):605-618.

Suggested Readings:

9. Brady, Henry E., and David Collier, editors, 2004. *Rethinking Social Inquiry: Diverse Tools, Shared Standards*. Lanham, MD: Rowman and Littlefield.
10. Lieberman, Evan. 2009. *Boundaries of Contagion*. Princeton: Princeton University Press. Ch 2.
11. Scott, James C. 1999. *Seeing Like a State*. Yale University Press. Ch 1.
12. Tannenwald, Nina. 1999. "The nuclear taboo: The United States and the normative basis for nuclear nonuse." *International Organization* 53:433-468.
13. Weiss, Jessica Chen. 2013. "Authoritarian Signaling, Mass Audiences, and Nationalist Protest in China." *International Organization* 67(1):1-35.
14. Weller, Nicholas, and Jeb Barnes. 2014. *Finding Pathways: Mixed-Method Research for Studying Causal Mechanisms* Cambridge University Press.

Week 14: The Philosophy of Science Revisited

Lecture Readings:

1. Kuhn, Thomas S. 1970. *The Structure of Scientific Revolutions*, 2nd ed. Chicago: University of Chicago Press. Selected chapters.

2. Lakatos, Imre. 1970. "Falsification and the Methodology of Scientific Research Programmes." In *Criticism and the Growth of Knowledge,* edited by Imre Lakatos and Alan Musgrave. Cambridge: Cambridge University Press.

3. Popper, Karl R. 1968. *The Logic of Scientific Discovery*, 2nd ed. New York: Harper Row. Selected chapters.

Discussion Readings:

4. Clarke, Kevin A. and David M. Primo. 2007. "Modernizing Political Science: A Model-Based Approach." *Perspectives on Politics* 5(4):741-753.

5. Curd, Martin and J. A. Cover. 1998. *Philosophy of Science: The Central Issues* New York: W. W. Norton. Chapters by Ruse, pg.38-47, Hempel, pg.445-480, and Snyder, 460-480.

6. Lake, David A. 2013. "Theory is Dead, Long Live Theory: The End of the Great Debates and the Rise of Eclecticism in International Relations." *European Journal of International Relations* 19(3):567-587.

Suggested Readings:

7. Bueno de Mesquita, Bruce. 1985. "Toward a Scientific Understanding of International Conflict: A Personal View." *International Studies Quarterly* 29(2):121-136.

Week 15: Finding the Research Frontier (Finals Week)

An updated draft of the **Theory Essay** assignment is due at the beginning of the first class this week.
The **Group Replication Project** assignment is due by the end of week.

Lecture Readings:

1. Clark, William Roberts, and Matt Golder. 2015. "Big Data, Causal Inference, and Formal Theory: Contradictory Trends in Political Science?" *PS: Political Science Politics* 48(1):65-70.

2. Fowler, James H. and Darren Schreiber 2008. "Biology, Politics, and the Emerging Science of Human Nature." *Science* 322(5903):912-914.

3. Zinnes, Dina A. 1980. "Three Puzzles in Search of a Researcher: Presidential Address." *International Studies Quarterly* 24(3):315-342.

Discussion Readings:

Note: readings for this week will be assigned to individuals to informally (i.e., no slides) present during the last discussion section.

4. Barberá, Pablo. 2015. "Birds of the Same Feather Tweet Together. Bayesian Ideal Point Estimation Using Twitter Data." *Political Analysis* 23(1):76-91.

5. Bonica, Adam. 2012. "Ideology and Interests in the Political Marketplace." *American Journal of Political Science* 57(2):294-311.

6. Caughey Devin and Christopher Warshaw. 2015. "Dynamic Estimation of Latent Opinion Using a Hierarchical Group-Level IRT Model" *Political Analysis* 23(2):197-211.

7. Ferwerda, Jeremy, and Nicholas L. Miller. 2014. "Political Devolution and Resistance to Foreign Rule: A Natural Experiment" *American Political Science Review* 108(3):642-660.

8. Getmansky, Anna and Thomas Zeitzoff. 2014. "Terrorism and Voting: The Effect of Rocket Threat on Voting in Israeli Elections" *American Political Science Review* 108(3):588-604.

9. Jung, Danielle F., and David A. Lake. 2011. "Markets, Networks and Hierarchies: An Agent-Based Organizational Ecology." *American Journal of Political Science* 55(4):972-990.

10. Imai, Kosuke, Luke J. 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(4):765-789.

11. Montgomery, Jacob M., Florian M. Hollenbach, and Michael D. Ward. 2012. "Improving Predictions Using Ensemble Bayesian Model Averaging." *Political Analysis* 20(3): 271-291.

12. Roberts, Margaret E., Brandon M. Stewart, Dustin Tingley, Christopher Lucas, Jetson Leder-Luis, Shana Gadarian, Bethany Albertson and David Rand. Forthcoming. "Structural topic models for open-ended survey responses" *American Journal of Political Science*.

13. Schnakenberg, Keith E. and Elizabeth Maggie Penn. 2014. "Scoring from Contests." *Political Analysis* 22(1):86-114.

14. Schreiber, Darren, Greg Fonzo, Alan N. Simmons, Christopher T. Dawes, Taru Flagan, James H. Fowler, Martin P. Paulus. 2013. "Red Brain, Blue Brain: Evaluative Processes Differ in Democrats and Republicans." *PLOS ONE* 8(2):e52970.

Suggested Readings:

15. Gelman, Andrew and Cosma Rohilla Shalizi. 2012. "Philosophy and the practice of Bayesian statistics." *British Journal of Mathematical and Statistical Psychology* 66(1):8-38.

16. Lazer, David, Alex (Sandy) Pentland, Lada Adamic, Sinan Aral, Albert-Lszl Barabsi, Devon Brewer, Nicholas Christakis, Noshir Contractor, James H. Fowler, Myron Gutmann, Tony Jebara, Gary King, Michael Macy, Deb Roy, Marshall Van Alstyne 2009. "Computational Social Science." *Science* 323(5919): 721-723.

17. Roberts, Margaret E, Brandon Stewart, and Dustin Tingley. "Navigating the Local Modes of Big Data: The Case of Topic Models." In *Data Analytics in Social Science, Government, and Industry*, New York: Cambridge University Press.

Week 16: Finals Week

The **Group Replication Project** assignment is due by the scheduled final exam time this week.

Course Policies

Late Assignments

I will deduct one letter grade from a written assignment for each week it is past due. I will give no credit for the in class discussion leader assignment. You must be provide your class mates with the material 72 hours ahead of class and be in class to lead the discussion.

Resources for Harassment

Title IX makes it clear that violence and harassment based on sex and gender, including violence and harassment based on sexual orientation, are a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here: www.bw.edu/resources/hr/harass/policy.pdf

Language and Gender

"Language is gender-inclusive and non-sexist when we use words that affirm and respect how people describe, express, and experience their gender. Just as sexist language excludes womens experiences, non-gender-inclusive language excludes the experiences of individuals whose identities may not fit the gender binary, and/or who may not identify with the sex they were assigned at birth. Identities including trans, intersex, and genderqueer reflect personal descriptions, expressions, and experiences. Gender-inclusive/non-sexist language acknowledges people of any gender (for example, first year student versus freshman, chair versus chairman, humankind versus mankind, etc.). It also affirms non-binary gender identifications, and recognizes the difference between biological sex and gender expression. Teachers and students should use gender-inclusive words and language whenever possible in the classroom and in writing. *Students, faculty, and staff may share their preferred pronouns and names, either to the class or privately to the professor, and these gender identities and gender expressions should be honored.*" For more information:
www.wstudies.pitt.edu/faculty/gender-inclusivenon-sexist-language-syllabi-statement.

Academic Dishonesty

The Department of Political Science, along with the College of the Liberal Arts and the University, takes violations of academic dishonesty seriously. Observing basic honesty in one's work, words, ideas, and actions is a principle to which all members of the community are required to subscribe.

All course work by students is to be done on an individual basis unless an instructor clearly states that an alternative is acceptable. Any reference materials used in the preparation of any assignment must be explicitly cited. Students uncertain about proper citation are responsible for checking with their instructor.

In an examination setting, unless the instructor gives explicit prior instructions to the contrary, whether the examination is in class or take home, violations of academic integrity shall consist but are not limited to any attempt to receive assistance from written or printed aids, or from any person or papers or electronic devices, or of any attempt to give assistance, whether the one so doing has completed his or her own work or not.

Lying to the instructor or purposely misleading any Penn State administrator shall also constitute a violation of academic integrity.

In cases of any violation of academic integrity it is the policy of the Department of Political Science to follow procedures established by the College of the Liberal Arts. More information on academic integrity and procedures followed for violation can be found at:
http://laus.la.psu.edu/current-students/academics/academic-integrity/college-policies

Note to students with disabilities: Penn State welcomes students with disabilities into the University's educational programs. If you have a disability-related need for reasonable academic adjustments in this course, contact the Office for Disability Services. For further information regarding policies, rights and responsibilities please visit the Office for Disability Services (ODS) Web site at: www.equity.psu.edu/ods/

Instructors should be notified as early in the semester as possible regarding the need for reasonable accommodations.