POL 682: ADVANCED STATISTICAL MODELING II

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POL 682: Th: 3 – 5:50 pm

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COURSE OVERVIEW:

We will cover a series of advanced methodological topics in this course. While the subject material in this course is varied, all of the topics we will cover are directly related to the ongoing research of the graduate students taking the course. We will usually spend 2-3 weeks covering each topic. For most of what we cover, the assigned readings will only cover an introduction to the subject. As we progress, I will highlight the necessary additional reading if you are applying a particular method in your own research. We will also explore software implementation, and as usual, we will work primarily with Stata and R – other software will be demonstrated as necessary.

GRADING

Paper: 60%
Presentation and Participation: 40%

Each student will be responsible for presenting original research once during the semester. Most of our meetings will have two separate components – a lecture from me to start, and then the second half will be a workshop session for a student paper. The student presentations should last 20-30 minutes and focus on the methodological issues of the project – the rest of the time will be a class critique of the work. A draft of the paper, full dataset, and replication materials will be distributed to the class one week prior to the presentation. Two students will also be assigned as discussion leaders for each presentation. We will work as a class through whatever methodological and substantive issues arise during the presentation.

A revised version of the presented paper will be submitted to me no later than May 12th. The revision should account for the issues raised in our discussion.

SCHEDULE OF TOPICS

1) Categorical Dependent Variables

Readings:

Winship, C., and R. Mare. 1984. "Regression Models with Ordinal Variables." *American Sociological Review*. 49: 512-525.

Anderson, JA. 1984. "Regression and Ordered Categorical Variables." *Journal of the Royal Statistical Society, Series B.* 46: 1-30.

Liu I., and A. Agresti. 2005. "The Analysis of Ordered Categorical Data: An Overview and a Survey of Recent Developments." TEST 14: 1-73.

Jones, B., and M. Sobel. 2000. "Modeling Direction and Intensity in Semantically Balanced Ordinal Scales: An Assessment of Congressional Incumbent Approval." *American Journal of Political Science*. 44: 174-185.

Long, J. Scott. 1997. *Regression Models for Categorical and Limited Dependent Variables*. Sage. Chs 5-6.

2) Interactive Hypotheses

Readings:

Kam C., and R. Franzese. 2007. *Modeling and Interpreting Interactive Hypotheses in Regression Analysis*. Michigan University Press.

Brambor T., W. Clark, M. Golder. 2006. "Understanding Interaction Models: Improving Empirical Analyses." *Political Analysis*. 14: 63-82.

Berry W., DeMerritt JHR, Esarey J. 2010. "Testing for Interaction in Binary Logit and Probit Models: Is a Product Term Essential?" *American Journal of Political Science*. 54: 248-266.

Braumoeller B. 2004. "Hypothesis Testing and Multiplicative Interaction Terms." *International Organizations*. 58: 807-820.

3) Missing Data

Readings:

King G., J. Honaker, K. Joseph, A. Scheve. 2001. "Analyzing Incomplete Political Science Data." *American Journal of Political Science*. 95: 49-69.

Sherman R. 2000. "Tests of Certain Types of Ignorable Nonresponse." *American Journal of Political Science*. 94: 356-368.

King G., and J. Honaker. Forthcoming. "What to do about Missing Values in TSCS Data." *American Journal of Political Science*.

Note: see also the documentation and related literature for Amelia II and ICE – we will have lengthy tutorials for both.

4) Treatment Effects and Matching Methods

Readings:

Ho, D., K. Imai, G. King, and Stuart. 2007. "Matching as Nonparametric Preprocessing for Reducing Model Dependence in Parametric Causal Inference." *Political Analysis*. 15: 199-236.

Imai, K. and Y. Yamamoto. Forthcoming: Causal Inference with Differential Measurement Error. *American Journal of Political Science*.

Imai, K. 2005. "Do Get-Out-the-Vote Calls Reduce Turnout?" *American Political Science Review*. 99: 283-300.

Boyd, C., L. Epstein, and A. Martin. Forthcoming. "Untangling the Causal Effects of Sex on Judging." *American Journal of Political Science.*

Epstein, L., D. Ho, G. King, and J. Segal. 2005. "The Supreme Court During Crisis." *New York University Law Review*. 80: 1-116.

Note: see the documentation for MatchIt and Coarsened Exact Matching as well as the discussion of the Seguro Popular Evaluation project.

5) Structural Equation / Measurement Models

Readings:

Kaplan, D. 2000. *Structural Equation Modeling*. Sage.

Allen, M., and W. Yen. 2002. *Introduction to Measurement Theory*. Waveland Press.

Goren, P. 2004. "Political Sophistication and Policy Reasoning." *American Journal of Political Science*. 48: 462-478.

Williams, J., and M. McGinnis. 1992. "Dimensions of Superpower Rivalry." *Journal of Conflict Resolution*. 36: 86-118.

Smith, A., and D. Winter. 2002. "Right-Wing Authoritarianism, Party Identification, and Attitudes toward Feminism in Student Evaluations of the Clinton-Lewinsky Story." *Political Psychology*. 23: 355-383.

Sunshine, J., and T. Tyler. 2003. "Role of Procedural Justice and Legitimacy in Shaping Public Support for Policing." *Law and Society Review*. 37: 513-548.

Clinton, J., S. Jackman, and D. Rivers. 2004. "The Statistical Analysis of Roll Call Data." *American Political Science Review*. 98: 355-370.

6) Limited Outcomes & Selection Bias Models

Readings: TBA

7) Count Models

Readings: TBA