

SOCIOLOGY/EPS 908  
SEMINAR IN SOCIOLOGY OF EDUCATION  
Fall 2009

**Multilevel Models for Education Effects**

Thursdays, 1:30-4:00pm

**Professor Adam Gamoran**

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Office hours by appointment

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**Course Description**

This graduate seminar concerns the hierarchical and stratified nature of school systems, including the “nested layers” of classrooms, schools, and districts, and the stratified divisions within school systems such as selective schools, tracks, and ability groups. In the course, students will explore the methodological challenges and substantive implications of stratification and hierarchy for understanding the effects of schools and schooling on student outcomes. Substantively, we will begin with the literature on school effects, moving from early input-output studies to current research that examines the organizational context of schools. We will also examine the impact of stratification within and between schools, focusing on selection processes as well outcomes. Next, we will consider stratification and hierarchy in light of salient policy issues such as standards and accountability, teacher quality, evidence-based practice, and charter schools. Methodologically, we will examine the rationale for and execution of *multilevel models*, and develop facility with a statistical packages designed to address the hierarchical organization of school systems and other issues that demand a multilevel approach. Substantive and methodological issues will be integrated through seminar discussions, student presentations, and seminar papers.

Students are advised that Sociology 362 or equivalent (statistics through ordinary least squares regression) is necessary for adequate preparation for this course.

**Course Requirements**

Students will be expected to read assigned material, take part in discussions, complete computer exercises, present work in progress to the class, and write a seminar paper. The course grade will be based on an evaluation of the seminar paper, and satisfactory performance on the other requirements.

Students are asked to bring laptop computers to class sessions. Students for whom this may be a hardship are asked to speak with the instructor on the first day of class.

## Course Readings

A packet of readings is available for purchase at the Social Sciences Copy Center (6<sup>th</sup> floor of Social Sciences) and additional readings are on reserve at the Social Science Reading Room (8<sup>th</sup> floor of Social Sciences). In addition, the following books have been ordered at the University Bookstore:

Rebecca Barr and Robert Dreeben, *How Schools Work* (Chicago: University of Chicago, 1983).

Eric A. Hanushek and Alfred A. Lindseth, *Schoolhouses, Courthouses, and Statehouses: Solving the Funding-Achievement Puzzle in America's Public Schools* (Princeton, NJ: Princeton University Press, 2009).

Jeannie Oakes, *Keeping Track: How Schools Structure Inequality*, second edition (New Haven, CT: Yale 2005).

Stephen W. Raudenbush and Anthony S. Bryk, *Hierarchical Linear Models: Applications and Data Analysis Methods*, second edition (Thousand Oaks, CA: Sage, 2002).

Stephen W. Raudenbush, Anthony S. Bryk, Yuk Fai Cheong, Richard Congdon, and Mathilda duToit, *HLM6: Hierarchical Linear and Nonlinear Modeling* (Chicago: Scientific Software International, 2004).

Claire E. Smrekar and Ellen B. Goldring, *From the Courtroom to the Classroom: The Shifting Landscape of School Desegregation* (Cambridge, MA: Harvard Education Press, 2009).

\*Anthony S. Bryk, Valerie E. Lee, and Peter B. Holland, *Catholic Schools and the Common Good* (Cambridge, MA: Harvard, 1993).

\*Adam Gamoran, Charles W. Anderson, Pamela Anne Quiroz, Walter G. Secada, Tona Williams, and Scott Ashmann, *Transforming Teaching in Math and Science: How Schools and Districts Can Support Change* (New York: Teachers College Press, 2003).

\*Maureen T. Hallinan, Editor, *Handbook of the Sociology of Education* (New York: Kluwer Academic/Plenum 2000).

\* indicates recommended book, not required.

SOC/EPS 908 – Fall 2009  
Schedule of Topics

	TOPIC 1	TOPIC 2
SEP 3	Introduction	
SEP 10	School Effects – 1	Large Data Sets
SEP 17	School Effects - 2	Multilevel Methods - 1
SEP 24	Organizational Context - 1	Multilevel Methods - 2
OCT 1	Organizational Context - 2	Multilevel Methods - 3
OCT 8	Stratification between Schools	Student Presentations: Research Problems
OCT 15	Stratification within Schools	Multilevel Methods - 4
OCT 19	Selection	Multilevel Methods - 5
	***Note special Monday session	
OCT 29	Teacher Quality	Multilevel Models – 6 (Guest Speaker on Fixed versus Random Effects: Doug Harris, EPS)
NOV 5	Standards and Accountability	Multilevel Methods – 7 (Guest Speaker on Cross-Classified Models: Brian An, University of Notre Dame)
NOV 12	Evidence-Based Practice	Student Presentations: Models
NOV 19	Charter Schools	Student Presentations: Models
NOV 26	THANKSGIVING	
DEC 3	Student Presentations -- Results and Interpretation	
Dec 10	Student Presentations -- Results and Interpretation	

Note: Class will not meet on Thursday, October 22. Instead, we will meet on Monday, October 19, 1:30-4pm, at a location to be announced.

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Reading List – Fall 2009

Notes: Readings should be completed in advance of the class session date listed.  
Supplemental readings indicated by \*.

**SEP 10**

**School Effects - 1**

J. S. Coleman, *Equality and Achievement in Education*, chapters 2, 6-11. [ON RESERVE]

Barr and Dreeben, *How Schools Work*, chapters 1-2, 6.

R. Dreeben, "Structural Effects in Education: History of an Idea," in Hallinan, *Handbook of the Sociology of Education*. [ON RESERVE]

Hanushek and Lindseth, *Schoolhouses, Courthouses, and Statehouses*, chapters 1-2.

\*C. E. Bidwell and J. D. Kasarda, "Conceptualizing and Measuring the Effects of School and Schooling." *American Journal of Education*, 88, 401-430 (1980).

**SEP 17**

**School Effects - 2**

A. B. Sorensen and S. L. Morgan, "School Effects: Theoretical and Methodological Issues," in Hallinan, *Handbook of the Sociology of Education*. [ON RESERVE]

D. Downey, P. von Hippel, and B. Broh, "Are Schools the Great Equalizer? Cognitive Inequality during the Summer Months and the School Year." *Sociology of Education*, 69, 613-635 (2004).

R. Greenwald, L. Hedges, and R. D. Laine, R. D., "The Effects of School Resources on Student Achievement." *Review of Educational Research*, 66, 361-396 (1996).

Goldring and Smrekar, *From the Courtroom to the Classroom*, chapters 1-2.

Hanushek and Lindseth, *Schoolhouses, Courthouses, and Statehouses*, chapters 3-6.

\*A. S. Bryk and S. W. Raudenbush, "Toward a More Appropriate Conceptualization of Research on School Effects: A Three-Level Linear Model." *American Journal of Education*, 97, 65-108 (1988).

\*B. Heyns, *Summer Learning and the Effects of Schooling* (New York: Academic Press, 1978).

## **Multilevel Methods - 1**

Raudenbush and Bryk, *Hierarchical Linear Models*, chapters 1-2.

Raudenbush et al., *HLM6*, chapters 1-2.

## **SEP 24**

### **Organizational Context - 1**

Barr and Dreeben, *How Schools Work*, chapters 3-5.

K. Weick, "Educational Organizations as Loosely Coupled Systems." *Administrative Science Quarterly*, 21, 541-552 (1976).

J. Meyer and B. Rowan, "The Structure of Educational Organizations." In M. Meyer and Associates, *Environments and Organizations* (San Francisco: Jossey-Bass, 1978).

### **Multilevel Methods - 2**

Raudenbush and Bryk, *Hierarchical Linear Models*, chapters 3-5.

\*R. W. Rumberger and G. J. Palardy, "Multilevel Models for School Effectiveness Research." Pp. 235-255 in D. Kaplan (Ed.), *Sage Handbook of Quantitative Methodology for the Social Sciences* (Thousand Oaks, CA: Sage 2004).

## **OCT 1**

### **Organizational Context - 2**

B. Rowan, "Commitment and Control: Alternative Strategies for the Organizational Design of Schools." In C. Cazden (Ed.), *Review of Research in Education*, vol 16 (Washington, DC: AERA 1990).

A. Gamoran, W. G. Secada, and C. B. Marrett, "The Organizational Context of Teaching and Learning: Changing Theoretical Perspectives," in Hallinan, *Handbook of the Sociology of Education*. [ON RESERVE]

R. J. Miller and B. Rowan, "Effects of Organic Management on Student Achievement." *American Educational Research Journal*, 43, 219-253 (2006).

\*Bryk, Lee, and Holland, *Catholic Schools and the Common Good*, chapters 4, 6-8.

\*Gamoran et al., *Transforming Teaching in Math and Science: How Schools and Districts Can Support Change*, chapters 1-6.

### **Multilevel Methods - 3**

Bryk and Raudenbush, *Hierarchical Linear Models*, chapters 6, 8.

Raudenbush et al., *HLM6*, chapters 3-4.

### **OCT 8**

#### **Stratification between Schools**

Morgan, Stephen L. "Counterfactuals, Causal Effect Heterogeneity, and the Catholic School Effect on Learning." *Sociology of Education* 74: 341-374 (2001).

G. K. LeTendre, B. K. Hofer, and H. Shimizu, "What is Tracking? Cultural Expectations in the United States, Germany, and Japan." *American Educational Research Journal*, 40, 43-89 (2003).

Goldring and Smreker, *From the Courtroom to the Classroom*, chapters 7-8.

\*A. Gamoran, "Student Achievement in Public Magnet, Public Comprehensive, and Private City High Schools." *Educational Evaluation and Policy Analysis*, 18, 1-18 (1996).

\*Bryk, Lee, and Holland, *Catholic Schools and the Common Good*, chapter 10.

\*P. Cookson and C. Persell, *Preparing for Power: America's Elite Boarding Schools* (New York: Basic Books, 1987).

### **OCT 15**

#### **Stratification within Schools**

Jeannie Oakes, *Keeping Track*, chapters 3-8, 11.

A. Gamoran, "The Stratification of High School Learning Opportunities." *Sociology of Education*, 60, 135-155 (1987).

A. Gamoran, "The Variable Effects of High School Tracking." *American Sociological Review*, 57, 812-828 (1992).

A. N. Applebee, J. Langer, M. Nystrand, and A. Gamoran. "Discussion-Based Approaches to Developing Understanding: Classroom Instruction and Student Performance in Middle and High School English." *American Educational Research Journal*, 40, 685-730 (2003).

W. Carbonaro, "Tracking, Student Effort, and Academic Achievement." *Sociology of Education* 78:27-49 (2005).

Burris, C. C., Heubert, J. P., & Levin, H. M. (2006). "Accelerating Mathematics Achievement Using Heterogeneous Grouping." *American Educational Research Journal*, 43, 105-136.

\*B. Heyns, "Social Selection and Stratification in Schools." *American Journal of Sociology*, 79, 1434-1451.

\*A. Gamoran, M. Nystrand, M. Berends, and P. C. LePore, "An Organizational Analysis of the Effects of Ability Grouping." *American Educational Research Journal*, 32, 687-715 (1995).

\*A. B. Sorensen, "Organizational Differentiation of Students and Educational Opportunity." *Sociology of Education*, 43, 35-376 (1970).

#### **Multilevel Methods - 4**

Raudenbush and Bryk, *Hierarchical Linear Models*, chapter 9.

#### **OCT 22**

#### **Selection**

R. Breen and J. O. Jonsson, "Analyzing Educational Careers: A Multinomial Transition Model." *American Sociological Review*, 65, 754-772 (2000).

S. R. Lucas, "Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects." *American Journal of Sociology*, 106, 1642-1690 (2001).

S. Kelly, "Do Increased Levels of Parental Involvement Account for the Social Class Difference in Track Placement?" *Social Science Research*, 33, 626-659 (2004).

E. Grodsky, "Compensatory Sponsorship in Higher Education." *American Journal of Sociology*, 112, 1662-1712 (2007).

\*J. D. Jones, B. E. Vanfossen, and M. E. Ensminger, "Individual and Organizational Predictors of High School Track Placement." *Sociology of Education*, 68, 287-300 (1995).

\* S. Dauber, K. L. Alexander, and D. R. Entwisle, "Tracking and Transitions through the Middle Grades: Channeling Educational Trajectories." *Sociology of Education*, 69, 290-307 (1996).

#### **Multilevel Methods - 5**

Raudenbush and Bryk, *Hierarchical Linear Models*, chapter 10.

Raudenbush et al., *HLM6*, chapters 5-6.

**OCT 29**

**Teacher Quality**

T. R. Sass, *The Stability of Value-Added Measures of Teacher Quality and Implications for Teacher Compensation Policy*. Policy Brief No. 4, Center for the Analysis of Longitudinal Data in Education Research (CALDER) (2008).

D. N. Harris, “Would Accountability Based on Teacher Value-Added Be Smart Policy? An Examination of the Statistical Properties and Policy Alternatives.” *Education Finance and Policy*, in press.

Hanushek and Lindseth, *Schoolhouses, Courthouses, and Statehouses*, chapters 7-8.

**Multilevel Methods – 6**

S. Rivkin, *Value-Added Analysis and Education Policy*. Policy Brief No. 1, Center for the Analysis of Longitudinal Data in Education Research (CALDER) (2007).

D. Harris and T. Sass, “Value-Added Models and the Measurement of Teacher Quality.” Paper presented at the annual meeting of the American Education Finance Association (2005).

S. W. Raudenbush, “What are Value-Added Models Estimating and What Does This Imply for Statistical Practice?” *Journal of Educational and Behavioral Statistics*, 29, 121-129 (2004).

S. W. Raudenbush, “Adaptive Centering with Random Effects: An Alternative to the Fixed Models for Time-Varying Treatments.” *Journal of Education, Finance and Policy* (in press).

**NOV 5**

**Standards and Accountability**

A. Gamoran, “School Accountability, American Style: Dilemmas of High-Stakes Testing.” *Swiss Journal for Educational Science and Research*, 29, 79-94 (2007).

D. Harris, “High Flying Schools, Student Disadvantage, and the Logic of NCLB.” *American Journal of Education*, 113, 367-394 (2007).

D. B. Downey, P. T. von Hippel, and M. Hughes, “Are ‘Failing’ Schools Really Failing? Removing the Influence of Nonschool Factors from Measures of School Quality.” *Sociology of Education*, 81, 242-270 (2008).

\*E. A. Hanushek and M. E. Raymond, “Does School Accountability Lead to Improved Student Performance?” *Journal of Policy Analysis and Management*, 24, 297-327 (2005).

\*A. Gamoran, Editor, *Standards-Based Reform and the Poverty Gap: Lessons for No Child Left Behind* (Washington, DC: Brookings Institution Press, 2007).

### **Multilevel Methods - 7**

Raudenbush and Bryk, *Hierarchical Linear Models*, chapter 12.

Goldstein, *Multilevel Statistical Models*, chapter 11.

Raudenbush et al., *HLM6*, chapters 10-11.

### **NOV 12**

#### **Evidence-Based Practice**

U.S. Department of Education, “Identifying and Implementing Educational Practices Supported by Rigorous Practice: A User-Friendly Guide.” Washington, DC (2003). At: <http://www.ed.gov/rschstat/research/pubs/rigorousetid/rigorousetid.pdf>

R. Boruch, H. May, H. Turner, J. Lavenberg, A. Petrosine, D. DeMoya, J. Grimshaw, and E. Foley, “Estimating the Effects of Interventions that are Deployed in Many Places.” *American Behavioral Scientist*, 47, 608-631 (2004).

G. D. Borman, R. E. Slavin, A. C. K. Cheung, A. M. Chamberlain, N. A. Madden, and B. Chambers, “Final Reading Outcomes of the National Randomized Field Trial of Success for All.” *American Educational Research Journal*, 44, 701-731 (2007).

G. D. Borman, A. Gamoran, and J. Bowdon, “A Randomized Trial of Teacher Development in Elementary Science: First-Year Effects.” *Journal of Research on Educational Effectiveness*, 1, 237-264 (2008).

### **NOV 19**

#### **Charter Schools**

R. Zimmer, B. Gill, K. Booker, S. Lavertu, T. R. Sass, and J. Witte, *Charter Schools in Eight States: Effects on Achievement, Attainment, Integration, and Competition* (Washington, DC: RAND 2009). Preface and Introduction. (Note: the full report is available at: [http://www.rand.org/pubs/monographs/2009/RAND\\_MG869.pdf](http://www.rand.org/pubs/monographs/2009/RAND_MG869.pdf) ).

L. A. Renzulli and V. J. Roscigno, "Charter Schools and the Public Good." *Contexts*, 6 (1), 31-36 (2007).

H. Braun, F. Jenkins, and W. Grigg, *A Closer Look at Charter Schools Using Hierarchical Linear Modeling* (NCES 2006-460) (Washington, DC: U.S. Government Printing Office, 2006). Executive Summary. (Note: the full report is available at: <http://nces.ed.gov/nationsreportcard/pdf/studies/2006460.pdf> ).