

**Quantitative Research Methods Comprehensive Exam**

**READING LIST**

**UNIVERSITY OF TORONTO,  
DEPARTMENT OF SOCIOLOGY**

**December 17, 2007**

**From Policy on Comprehensive Exams**

Reading lists **must** be organized according to modules for subfield areas with books, chapters or articles related to that topic listed underneath. Reading lists are **not** to be an alphabetical ordered list of books.

There will be a core plus supplemental readings for each module. Supplemental reading lists for each module contain 3-4 readings.

There will be a minimum of 150 and a maximum of 200 readings in each list, in article units. A book will count as five articles if it involves over 200 pages of assigned reading, as three articles if between 100-200 pages of assigned reading, and one article if less than 100 pages of assigned reading. Chapters and articles are considered equal. Any reading list with at least 20 books may have an upper limit of 240 readings.

Students will read all of the core readings in each module. They *must choose* two modules where they will complete the supplemental readings. The core readings plus two modules of supplemental readings constitute the entire reading the student completes. Students should not expect a question based solely on their supplemental readings. Rather these readings will add to their knowledge of specific sub areas.

**Total number of reading units (excluding supplemental): 169**

**Area's Standing Committee, 2007-2008:** Bob Andersen, Brent Berry, Blair Wheaton

**Other colleagues in the area (alphabetical order):** David Brownfield, Eric Fong, Ron Gillis, Charles Jones, John Kervin, Bill Magee, Schott Schieman, Ann Sorenson, Sandy Welsh, Bonnie Erickson

## MODULES

1. Research Design (14 units)
2. Quantitative Data Management and Presentation (23 units)
3. Causal Reasoning and Inference (13 units)
4. GLMs and Related Methods (35 units),
5. Loglinear and Related Methods (15 units),
6. Causal Models and SEMs (20 units),
7. Multilevel Models and Contextual Effects (16 units),
8. Methods for Longitudinal Analysis (32 units).

### **Research Design (14 units)**

#### ***1a. General Readings (5 units)***

Blalock, H.M. 1968. "The measurement problem: a gap between the languages of theory and research." Pp. 5-27 in Blalock, Hubert M. and Ann Blalock (eds.) *Methodology in Social Research*. New York: McGraw-Hill.

Lieberson, S. 1992. "Einstein, Renoir, and Greeley: Some Thoughts about Evidence in Sociology." *American Sociological Review* 57:1-15

Nettler, Gwynne. 2003. *Boundaries of Competence: How Social Studies Makes Feeble Science*. New Brunswick, N.J.:Transaction (chapters 1-2)

Wheaton, B. 2003. "When methods make a difference". *Current Sociology*. 51(5) 543-72.

#### Supplemental:

Aneshensel, Carol S. 2002 *Theory Based Data Analysis for the Social Sciences*. CA: Pine Forge.

Hagan, John, A.R. Gillis, and David Brownfield. 1996. *Criminological Controversies: A Methodological Primer*. Boulder: Westview.

Nettler, Gwynn. 1970. *Explanations*. New York: McGraw-Hill.

Raftery, A. E. (2001). Statistics in Sociology, 1950-2000: A Selective Review. *Sociological Methodology*, 31, 1-45.

#### ***1b. Survey Sampling and Design Effects (6 units)***

Berk, Richard A., Western, Bruce, and Robert E. Weiss. 1995. "Statistical Inference for Apparent Populations." *Sociological Methodology*, Vol. 25. pp. 421-458.

- Groves, R. M., Fowler, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2004). *Survey methodology*. Hoboken, NJ: Wiley. (read chapter 3: Target populations, sampling frames, and coverage error)
- Groves, R. M., & Couper, M. P. (1998). *Nonresponse in household interview surveys*. New York: Wiley. (read pp. 15-46)
- Mirowsky, John; Reynolds, John R. 2000. Age, Depression, and Attrition in the National Survey of Families and Households. *Sociological Methods and Research* 28 (4): 476-504.
- Raftery, Adrian E. 1995. "Judging the Meaning and Significance of Statistical Results: Bayesian Model Selection in Social Research." *Sociological Methodology*, Vol. 25. pp. 111-163.
- Western, Bruce. 1996. "Vague Theory and Model Uncertainty in Macrosociology." *Sociological Methodology*, Vol. 26. pp. 165-192.

Supplemental:

- Allison, Paul D. 2000. Multiple Imputation for Missing Data: A Cautionary Tale. *Sociological Methods and Research*, 28 (3): 301-309.
- Cortina, Jose M. 1993. "What is Coefficient Alpha? An Examination of Theory and Applications." *Journal of Applied Psychology*, 78: 98-104.
- Kish, Leslie and Martin R. Frankel. 1970. "Balanced Repeated Replications for Standard Errors." *Journal of the American Statistical Association*, 65: 1071-1094.
- Korn, Edward L. and Barry Grabard. 1991. "Epidemiological Studies Utilizing Surveys: Accounting for the Sampling Design." *American Journal of Public Health*, 81:1166-1173.
- Mooney, Christopher Z. and Robert Duval. *Bootstrapping: A Nonparametric Approach to Statistical Inference*. Newbury Park, CA: Sage.

***1c. Instrument design and evaluation (3 units)***

- Hambleton, R.K., Swaminthan, H. and Rogers, H.J. 1991. *Fundamentals of Item Response Theory*. Newbury Park: Sage. Pp. 1-6.

Presser, S., Couper, M. P., Lessler, J. T., Martin, E., Rothgeb, J. M., & Singer, E. (2004). Methods for testing and evaluating survey questions. *Public Opinoin Quarterly*, 68, 109-130.

Suen, H.K. 1990. "Basic Concepts of Item Response Theory." Pp. 83-98 in H.K. Suen (ed.) Principles of Test Theories. Lawrence Erlbaum Associates.

## **2. Quantitative Data Management and Presentation (23 units)**

Allison, Paul. 1995. *Survival Analysis using the SAS System: A Practical Guide*. Cary, NC: The SAS Institute.

Fox, John. 2002. *An R and S-Plus Companion to Applied Regression*. Sage.

Jacoby, W.G. 1998. *Statistical Graphics for Visualizing Multivariate Data*. (Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-120). Thousand Oaks, CA: Sage.

Long, J. S. & Freese, J. 2005. *Regression models for categorical dependent variables using Stata*. 2nd Edition. College Station TX: Stata Press.

Tufte, Edward R. 2001. *The Visual Display of Quantitative Information*. (2nd ed.). Cheshire, Conn. Graphics Press. (read chapters 1-3)

### Supplmental:

Allison, P. (2002). *Missing data*. Thousand Oaks, CA: Sage.(read pp. 1-12: Introduction; Assumptions; Conventional methods)

Bem, D. J. (2003). Writing the empirical journal article. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The complete academic* 2nd ed). Washington, DC: APA books.

Faraway, Tulian. 2006. *Extending the Linear Model with R*. Chapman & Hall/CRC Texts in Statistical Science Series . Volume 66

Goodman, Leo A. and Michael Hout, "Statistical Methods and Graphical Displays for Analyzing How the Association Between Two Qualitative Variables Differs Among Countries, Among Groups, or Over Time, Part II: Some Exploratory Techniques, Simple Models, and Simple Examples." *Sociological Methodology* 31 (2001, ed. M.E. Sobel and M.P. Becker): 189-221.

Pinheiro, J.C. and D.M. Bates. 2000. *Mixed-Effects Models in S and S-PLUS*. New York: Springer-Verlag.

Venables, W.N. and B. Ripley. 2002. *Modern Applied Statistics with S, Fourth Edition*. New York: Springer-Verlag.

### **3. Causal Reasoning and Inference (13 units)**

Abbott, Andrew. 1998. The Causal Devolution. *Sociological Methods and Research*, 127(2): 148-181.

Freedman, D.A. "From association to causation: Some remarks on the history of statistics." *Statistical Science*, vol. 14 (1999) pp. 243–58. Reprinted in *Journal de la Société Française de Statistique*, vol. 140 (1999) pp. 5–32 and in *Stochastic Musings: Perspectives from the Pioneers of the Late 20th Century*. Lawrence Erlbaum Associates (2003) pp. 45–71. J. Panaretos, ed. [\[PDF-preprint\]](#)

Marini, Margaret Mooney; Singer, Burton, "Causality in the Social Sciences". *Sociological Methodology*, 1988, 18, 347-409

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

Sobel, Michael E. 1996. An Introduction to Causal Inference. *Sociological Methods and Research*, 24 (3): 353-379.

*Special Issue of European Sociological Review on Causality (2001, vol 17, issue 1)*  
[Read: John H. Goldthorpe. Causation, Statistics, and Sociology, 1-20; Ulrich Pötter and Hans-Peter Blossfeld. Causal Inference from Series of Events, 21-32; Elja Arjas. Causal Analysis and Statistics: A Social Sciences Perspective, 59-64; D.R. Cox and Nanny Wermuth. Some Statistical Aspects of Causality, 65-74]

#### Supplemental

Berk, Richard. 1991. "Toward a Methodology for Mere Mortals." *Sociological Methodology*. 21, 315-324.

21: 315-324. Lieberman, Stanley. 1985. *Making it Count: The Improvement of Social Research and Theory*. Berkeley: University of California Press.

Manski, Charles F. 1993. Identification Problems in the Social Sciences. *Sociological Methodology*, Vol. 23. pp. 1-56.

Taleb, Nassim Nicholas. 2007. *The Black Swan: the Impact of the Highly Improbable*. New York: Random House.

#### **4. Linear Models, Generalized Linear Models, and Related Methods (35 units)**

##### ***4a. Linear and Generalized Linear Models*** (15 units)

Fox, John. 2008. *Applied Regression Analysis, Generalized Linear Models, and Related Methods, Second Edition*. Thousand Oaks, Cal.: Sage.

Long, J. S. 1997. *Regression models for categorical and limited dependent variables*. Thousand Oaks, CA: Sage.

McCullagh, P. and J.A. Nelder. 1989. *Generalized Linear Models (2nd Edition)*. New York: Chapman & Hall.

##### ***4b. Interpretation and Presentation of Statistical Models*** (9 units)

Firth, David. 2003. "Overcoming the reference category problem in the presentation of statistical models," *Sociological Methodology*, 33:1-18.

Fox, John, and Robert Andersen. 2006. "Effect Displays for Multinomial and Proportional-odds Logit Models," *Sociological Methodology* 36(1) 225-255

Frank, Kenneth A. 2000. Impact of a Confounding Variable on a Regression Coefficient. *Sociological Methods and Research*, 29(2): 147-194.

Manski, Charles F. 1995. *Identification Problems in the Social Sciences*. Harvard University Press. Chapters 1,2, Pp. 1-50.

Raftery, A. 1995. "Bayesian Model Selection in Social Research." *Sociological Methodology*, Pp. 111-164 in P. Marsden (ed.). Oxford: Blackwell.

Raftery, Adrian E. 1999. Bayes Factors and BIC: Comment on "A Critique of the Bayesian Information Criterion for Model Selection." *Sociological Methods and Research*, 27, (3): 411-427.

Silber, J.H., P.R. Rosenbaum and R.N. Ross. 1995. "Comparing the Contributions of Groups of Predictors: Which Outcomes Vary With Hospital Rather than Patient Characteristics," *Journal of the American Statistical Association*, 90 (429): 7-18.\

Southwood, K. E. 1977. "Substantive theory and statistical interaction." *American Journal of Sociology*. 83:1154-1203.

Weakliem, David L. 1999. "A Critique of the Bayesian Information Criterion for Model Selection." *Sociological Methods and Research*, 27 (3): 359-397.

**4c. Nonparametric and Robust Regression** (11 units)

Andersen, Robert. 2008. *Modern Methods for Robust Regression*. Sage University Paper Series on Quantitative Applications in the Social Sciences, 07-152. Thousand Oaks, CA: Sage.

Efron, B. 1981. Nonparametric standard errors and confidence intervals (with Discussion)." *Canadian Journal of Statistics* 9: 139-172.

Hastie, T.J. and R. Tibshirani. 1990. *Generalized Additive Models*. London: Chapman Hall.

**4d. Supplementary List**

Aldrich, J.H. and F.D. Nelson. 1984. *Linear Probability, Logit, and Probit Models*. Beverly Hills, CA: Sage Publications.

Barron, David N. 1992. "The Analysis of Count Data: Overdispersion and Autocorrelation." *Sociological Methodology*, Vol. 22. pp. 179-220.

Becker, M. 1994. "Analysis of Cross-Classification of Counts Using Models for Marginal Distributions: An Application to Trends in Attitudes on Legalized Abortion." *Sociological Methodology*, P. Marsden (ed.). Oxford: Blackwell.

Bishop, Y., S. Feinberg, and P. Holland. 1975. *Discrete Multivariate Analysis*. Cambridge: MIT Press.

Brown, George W., Tirril Harris, and Louise Lemyre. 1991. "Now you see it , now you don't- some considerations on multiple Regression." Pp. 67-94 in P. Magnusson, L. R. Bergman, G. Rudinger, and B. Toresatd (eds.) *Problems and Methods in Longitudinal Research: Stability and Change*. Cambridge University Press.

Cleary, P. D. and R. Angel. 1984. "The Analysis of Relationships Involving Dichotomous Dependent Variables." *Journal of Health and Social Behavior*, 25:334-348.

Davison, A.C. and D.V. Hinkley. 1997. *Bootstrap Methods and Their Application*. Cambridge University Press.

DeMaris, Alfred. 1992. *Logit Modeling*. Newbury Park, CA: Sage.

- Duncan, O.D. 1984. *Notes on Social Measurement*. New York: Russell Sage.
- Duncan, O.D. 1985. "Measurement and Structure: Strategies for Design and Analysis of Subjective Survey Data." Pp. 179-230 in *Surveying Subjective Phenomena*, Vol. 1., C. Turner and E. Martin (eds.). New York: Russell Sage.
- Fox, John. 2000. *Simple Nonparametric Regression*. (Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-129). Thousand Oaks, CA: Sage.
- Fox, John. 2000. *Multiple and Generalized Nonparametric Regression*. (Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-130). Thousand Oaks, CA: Sage.
- Haberman, S. 1979. *Analysis of Qualitative Data*. Vol. 2. New York: Academic.
- Powers, Daniel A. and Yu Xie. 2000. *Statistical Methods for Categorical Data Analysis*. Academic Press.

#### ***4e. Software Considerations***

- Fox, John. 2002. *An R and S-Plus Companion to Applied Regression*. Sage.
- Long, J. S. & Freese, J. 2005. *Regression models for categorical dependent variables using Stata 2nd Edition*. College Station TX: Stata Press.
- Venables, W.N. and B. Ripley. 2002. *Modern Applied Statistics with S*, Fourth Edition. New York: Springer-Verlag.

### **5. Loglinear Models, Latent Class Models and Related Methods (15 units)**

#### ***5a. Required List***

- Andrich, D. 1988. *Rasch Models for Measurement*. Newbury Park, CA: Sage.
- Hagenaars, J. 1993. *Loglinear Models with Latent Variables*. Newbury Park, CA: Sage.
- Knoke, D. and P. Burke. 1980. *Loglinear Models*. Beverly Hills: Sage.

#### ***5b. Supplemental List***

- Alba, R. 1987. "Interpreting the Parameters of Log-linear Models." *Sociological Methods and Research* 16(1):45-77.
- Clogg, C. 1982. "Using Association Models in Sociological Research." *American Journal of Sociology* 88: 114-134.
- Clogg, C. and L. Goodman. 1986. "On Scaling Models Applied to Data from Several Groups." *Psychometrika* 51:123-135.
- Clogg, C.C. and S.R. Eliason. 1988. "A Flexible Procedure for Adjusting Rates and Proportions, Including Statistical Methods for Group Comparisons." *American Sociological Review*, 53:267-283.
- Duncan, O. D. 1975. "Partitioning Polytomous Variables in Multiway Contingency Analysis." *Social Science Research* 4:167-182.
- Duncan, O.D. 1985. "Rasch Measurement: Further Examples and Discussion." Pp. 367-403 in *Surveying Subjective Phenomena*, Vol. 1., C. Turner and E. Martin (eds.). New York: Russell Sage.
- Duncan, O. D. and J. McRae, Jr. 1978. "Multiway Contingency Analysis with a Scaled Response or Factor." *Sociological Methodology*, K. Schuessler (ed.). San Francisco: Jossey-Bass.
- Everitt, B. S. and A. M. R. Smith. 1979. "Interactions in Contingency Tables: A Brief Discussion of Alternative Definitions." *Psychological Medicine*, 9:581-583.
- Goodman, L. A. 1969. "How to Ransack Social Mobility Tables and Other Kinds of Cross-Classification Tables." *American Journal of Sociology*, 75:3-40.
- Goodman, L. A. 1972. "A General Model for the Analysis of Surveys." *American Journal of Sociology* 77: 1035-1086.
- Goodman, L. A. 1972. "A Modified Multiple Regression Approach to the Analysis of Dichotomous Variables." *American Sociological Review*, 37:28-46.
- Goodman, L. A. 1976. "The Relationship Between Modified and Usual Multiple Regression Approaches to the Analysis of Dichotomous Variables." Pp. 83-110 in David Hiese, (ed.), *Sociological Methodology*. San Francisco: Jossey-Bass.
- Goodman, L. 1979. "Simple Models for the Analysis of Association in Cross-Classifications Having Ordered Categories." *Journal of the American Statistical Association* 74:537-552.

- Hout, M. 1982. "Using Uniform Association Models." Pp. 115-128 in *Quantitative Criminology*, J. Hagan (ed.). Beverly Hills: Sage.
- Hout, M. , O. D. Duncan, and M. Sobel. 1984. "Association and Heterogeneity." *Sociological Methodology* 14:145-184.
- Mare, R. D. and C. Winship. 1991. "Loglinear Models for Reciprocal and Other Simultaneous Effects." *Sociological Methodology*, 21:199-234.
- McCutcheon, A. 1987. *Latent Class Analysis*. Newbury Park: Sage.
- Raftery, A. 1986. "Choosing Models for Cross-Classifications." *American Sociological Review* 51:145-146.
- Reiser, M. and K. Schuessler. 1991. "A Hierarchy for Some Latent Structure Models." *Sociological Methods and Research* 19: 419-465.
- Weakliem, D. 1992. "Comparing Non-Nested Models for Contingency Tables." *Sociological Methodology*, P. Marsden (ed.). Oxford: Blackwell.
- Winship, C. and R. Mare. 1989. "Loglinear Models with Missing Data: A Latent Class Approach." *Sociological Methodology*, C. Clogg (ed.). Oxford: Blackwell.

## **6. Causal Models and Structural Equations with Latent Variables (20 units)**

### ***6a. Causal Models*** (7 units)

- Alwin, D. F. and R. M. Hauser. 1975. "The Decomposition of Effects in Path Analysis." *American Sociological Review*, 40:37-47.
- Duncan, O. D. 1975. *Introduction to Structural Equation Models*. New York: Academic. Chapters 1-3.
- Pearl, Judea. 1998. "Graphs, Causality, and Structural Equation Models." *Sociological Methods and Research*, 27(2): 226-284.
- Walker, H. A. and B. P. Cohen. 1985. "Scope statements: Imperatives for evaluating theory." *American Sociological Review*. 50(3):288-301.
- Winship, C. and R. D. Mare. 1983. "Structural Equations and Path Analysis for Discrete Data." *American Journal of Sociology*, 89:54-110.

### ***6b. Structural Equations with Latent Variables*** (13 units)

- Bollen, K. 1989. *Structural Equations with Latent Variables*. New York: Wiley.

- Bollen, K., and J. S. Long. 1993. *Testing Structural Equation Models*. Newbury Park, CA: Sage. Chapters 4,6,7,8,10.
- Muthen, B. O. 1984. "General Structural Equation Models with Dichotomous, Ordered Categorical, and Continuous Latent Variable Indicators." *Psychometrika*, 49:115-132.
- Spirtes, Peter; Richardson, Thomas; Meek, Christopher; Scheines, Richard; Glymour, Clark. 1998. Using Path Diagrams as a Structural Equation Modeling Tool, *Sociological Methods and Research*, 27(2): 182-225.
- Teachman, Jay; Duncan, Greg J; Yeung, W Jean; Levy, Dan. 2001. "Covariance Structure Models for Fixed and Random Effects." *Sociological Methods and Research*, 30 (2)271-288.
- 6c. Supplementary List**
- Alwin, D. F. and D.J. Jackson. 1980. "Measurement Models for Response Errors in Surveys: Issues and Applications." Pp. 68-119 in *Sociological Methodology*, K.F. Schuessler (ed.). San Francisco: Jossey-Bass.
- Berry, W. D. 1984. *Nonrecursive Causal Models*. Sage Series on Quantitative Applications in the Social Sciences. Newbury Park, CA: Sage.
- Bielby, W.T. and R. Matsueda. 1991. "Statistical Power in Nonrecursive Models." *Sociological Methodology* 21:167-197.
- Bollen, Kenneth A. 1995. "Structural Equation Models That are Nonlinear in Latent Variables: A Least-Squares Estimator." *Sociological Methodology*, Vol. 25. pp. 223-251.
- Davis, Walter. "The FC1 Rule of Identification for Confirmatory Factor Analysis: A General Sufficient Condition." *Sociological Methods and Research*, 21:403-437.
- Duncan, O. D. 1969. "Some Linear Models for Two-Wave, Two-variable Panel Analysis." *Psychological Bulletin* 72:177-182.
- Jae-On, Kim. 1984. "An Approach to Sensitivity Analysis in Sociological Research." *American Sociological Review*, 49:272-282.
- Stolzenberg, R. M. 1980. "The Measurement and Decomposition of Causal Effects in Nonlinear and Nonadditive Models." *Sociological Methodology*, 459-479.

- Hauser, R. M. and A. S. Goldberger. 1971. "The Treatment of Unobservable Variables in Path Analysis." Pp. 81-117 in *Sociological Methodology*, H. L. Costner (ed.). San Francisco: Jossey-Bass.
- Heise, D. R. 1970. "Causal Inference from Panel Data." *Sociological Methodology*, 3-28.
- Hoyle, Rick H. (ed.) 1995. *Structural Equation Modeling: Concepts, Issues, and Applications*. Sage: Thousand Oaks, CA. Chapters 2,4,6, and 13.
- Jasso, Guillermina. 1996. Exploring the Reciprocal Relations between Theoretical and Empirical Work: The Case of the Justice Evaluation Function. *Sociological Methods and Research*, 24 (3): 253-303.
- Mulaik, Stanley, and Lawrence R. James. "Objectivity and reasoning in science and structural equation modeling." Pp. 118-137 in Rick H. Hoyle, (ed.) *Structural Equation Modeling: Concepts, Issues, and Applications*.
- Muthen, B. O. 1978. "Contributions to Factor Analysis of Dichotomous Variables." *Psychometrika*, 43: 551-560.
- Reilly, Terence; O'Brien, Robert M. 1996. "Identification of Confirmatory Factor Analysis Models of Arbitrary Complexity: The Side-by-Side Rule." *Sociological Methods and Research* 24 (4): 473-491.

#### ***6d. Software Considerations***

- Long, S. J. 1983. *Confirmatory Factor Analysis: A Preface to LISREL*. Pp. 11-61. Newbury Park, CA: Sage.
- Long, S. J. 1983. *Covariance Structure Models: An Introduction to LISREL*. Pp. 25-73. Newbury Park, CA: Sage.

### **7. Multilevel Models and Contextual Effects (16 units)**

#### ***7a. Required Reading***

- DiPrete, Thomas A. and Jerry D. Forristal. 1994. "Multilevel models: methods and substance." *Annual Review of Sociology* 20: 331-357.
- Hox, Joop. 2000. "Multilevel analyses of grouped and longitudinal data." Pp. 15-32 in Todd Little, K.U. Schnabel, and J. Baumert (eds.), *Modeling Longitudinal and Multilevel Data*. Mahwah, NJ: Lawrence Erlbaum.

- Mason, William M., G.M. Wong, and B. Entwistle. 1983. "Contextual analysis through the multilevel linear model." Pp. 72-103 in In S. Leinhardt (ed.), *Sociological Methodology*. San Francisco: Jossey-Bass.
- Raudenbush, Stephen and Anthony Bryk, 2002. *Linear Models: Applications and Data Analysis Methods*. Second Edition. Thousand Oaks, CA: Sage.
- Raudenbush, Stephen W; Sampson, Robert. 1999. "Assessing Direct and Indirect Effects in Multilevel Designs with Latent Variables." *Sociological Methods and Research*, 128 (2): 123-153.
- Raudenbush, S., C. Johnson, and R. Sampson. 2003. "A Multivariate, Multilevel Rasch Model with Application to Self-Reported Criminal Behavior." *Sociological Methodology*, ed. Ross Stolzenberg.
- Robinson, W. S. 1950. "Ecological correlations and the behavior of individuals." *American Sociological Review* 15:351-7.
- Snijders, Tom A.B. and Roel Bosker. 1999. *Multilevel Analysis*. Thousand Oaks, CA: Sage Publications.
- 7b. Supplemental List**
- Blalock, H.M. 1984. "Contextual-effects models: theoretical and methodological issues." In R.H. Turner and J.F. Short (eds.), *Annual Review of Sociology* 10: 353-372.
- Chou, Chih-Ping, Peter M. Bentler, and Mary Ann Pentz. 2000. "A Two-Stage Approach to Multilevel Structural Equation Models: Application to Longitudinal Data." Pp. 33-51 in Todd Little, K.U. Schnabel, and J. Baumert (eds.), *Modeling Longitudinal and Multilevel Data*. Mahwah, NJ: Lawrence Erlbaum.
- Iversen, Gudmund R. 1991. *Contextual Analysis*. Newbury Park, CA: Sage.
- Hannan, Michael T. 1991. *Aggregation and Disaggregation in the Social Sciences*. (Revised Edition) Lexington: D.C. Heath
- Kreft, Ita and Jan de Leeuw. 1998. *Introducing Multilevel Modeling*. Thousand Oaks, CA: Sage Publications.
- Rovine, Michael J., and Peter C.M. Molenaar. 2001. "A Structural Equations Modeling Approach to the General Linear Mixed Model." Pp. 65-96 in Linda M. Collins and Aline G. Sayer (eds.), *New Methods for the Analysis of Change*. Washington: American Psychological Association.
- Raudenbush, Stephen W., and Robert J. Sampson. 1999. "Ecometrics: Toward a Science of Assessing Ecological Settings, with Application to the

Systematic Social Observation of Neighborhoods." *Sociological Methodology*, 29: 1-41.

Zajonc, Robert B. and Patricia R. Mullally. 1997. "Birth order: reconciling conflicting effects." *American Psychologist* 52(7):685-699.

### ***7c. Software Considerations***

Bryk, Anthony S. et al. 1996. *HLM: Hierarchical Linear and Nonlinear Modeling*. Chicago: Scientific Software International.

Pinheiro, J.C. and D.M. Bates. 2000. *Mixed-Effects Models in S and S-PLUS*. New York: Springer-Verlag.

Singer, Judith D. 1999. "Using PROC MIXED to fit multilevel models, hierarchical models, and individual growth models." *The Journal of Educational and Behavioral Statistics*. Spring, 1999.

## **8. Methods for Longitudinal Data (32 units)**

### ***8a. Growth Curve Models (7 units)***

Boyle, Michael H., and J. Douglas Willms. 2001. "Multilevel Modelling of Hierarchical Data in Developmental Studies." *Journal of Child Psychology and Psychiatry* 42: 141-162.

Curran, Patrick J., and Kenneth A. Bollen. 2001. "The Best of Both Worlds: Combining Autoregressive and Latent Curve Models." Pp. 105-136 in Linda M. Collins and Aline G. Sayer (eds.), *New Methods for the Analysis of Change*. Washington: American Psychological Association.

McArdle, John J., and Richard Q. Bell. 2000. "An Introduction to Latent Growth Models for Developmental Data Analysis." Pp. 33-51 in Todd Little, K.U. Schnabel, and J. Baumert (eds.), *Modeling Longitudinal and Multilevel Data*. Mahwah, NJ: Lawrence Erlbaum.

Muthen, Bengt. 1997. "Latent Variable Modeling of Longitudinal and Multilevel Data." *Sociological Methodology*, Vol. 27. pp. 453-480.

Muthen, Bengt. 2001. "Second-Generation Structural Equation Modeling with a Combination of Categorical and Continuous Latent Variables: New Opportunities for Latent Class – Latent Growth Modeling." Pp. 289-323 in Linda M. Collins and Aline G. Sayer (eds.), *New Methods for the Analysis of Change*. Washington: American Psychological Association.

Singer, Judith, and John B. Willett. 2003. *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence*. New York: Oxford University Press. Chapters 1-8.

Willett, John B. and A.G. Sayer. 1994. "Using covariance structure analysis to detect correlates and predictors of individual change over time." *Psychological Bulletin* 116 (2): 363-381.

**8b. Event History Analysis** (11 units)

Allison, Paul. D. 1984. *Event History Analysis for Longitudinal Event Data*. Newbury Park, CA: Sage.

Singer, Judith, and John B. Willett. 2003. *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence*. New York: Oxford University Press. Chapters 9-15.

Teachman, Jay, and Mark D. Hayward. 1993. "Interpreting Hazard Rate Models." *Sociological Methods and Research*, 21:340-372.

**8c. Sequence Analysis** (4 units)

Abbot, Andrew. 1983. "Sequences and social events: concepts and methods for the analysis of order in social processes." *Historical Methods* 16(4):129-47.

Abbott, Andrew and Alexander Hrycak. 1990. "Measuring Resemblance in Sequence Data: An Optimal Matching Analysis of Musicians' Careers." *American Journal of Sociology*: 144-185.

Abell, Peter. 1987. *The Syntax of Social Life*. Clarendon Press. Chapters 1, 2, &5, Pp. 1-12, 52-61.

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**8d. Time Series Analysis** (10 units)

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