Presenter: Kristian Bernt Karlson, Post-doctoral fellow, Department of Sociology, University of Copenhagen. ([www.soc.ku.dk/english/staff/researchers/?id=266163&vis=medarbejder](http://www.soc.ku.dk/english/staff/researchers/?id=266163&vis=medarbejder)).

Title: Comparing logit and probit coefficients across models and layers

Description: The talk presents recent methodological work on comparisons of coefficients across same-sample nested logit or probit models. In quantitative sociological research, researchers have long compared the coefficient of a predictor variable between models that successively add control or blocks of control variables. In this approach, coefficient change is taken to represent either confounding or mediation, two concepts that are central for testing sociological explanations. Yet whenever researchers compare coefficients between models using logit or probit, the coefficient change does not yield an unbiased estimate of the degree of confounding or mediation. The talk explains––both intuitively and technically––why this is so, and it demonstrates how a new method solves the problem. The talk also touches on a related issue, namely the problem that arises in comparisons of logit or probit coefficients across layers such as countries, birth cohorts, social class, gender, or race/ethnicity. The talk shows that this latter comparison problem, having far-reaching consequences for applied sociological research, is as serious a problem as the former, and it briefly discusses how sociologists may deal with the problem.

Suggested readings (attached):

Karlson, K.B., Holm, A., Breen, R. 2012. "Comparing Regression Coefficients Between Same-Sample Nested Models using Logit and Probit: A New Method." Sociological Methodology 42:288-313.

Breen, R., Karlson, K.B., Holm, A. 2013. "Total, Direct, and Indirect Effects in Logit and Probit Models." Sociological Methods and Research 42:164-191.

Breen, R., Holm, A., Karlson, K.B. Forthcoming. "Correlations and Non-Linear Probability Models." Sociological Methods and Research.

Supplementary readings:

Allison, P.D. 1999. “Comparing Logit and Probit Models Across Groups.” Sociological Methods and Research 28:186-208. Web: <http://smr.sagepub.com/content/28/2/186.short>.

Breen, R., Karlson, K.B. 2013. ”Counterfactual Causal Analysis and Non-Linear Probability Models.” Pp. 167-187 in Handbook of Causal Analysis for Social Research (Ed. S.L. Morgan). New York: Springer. Web: <http://link.springer.com/chapter/10.1007/978-94-007-6094-3_10>.

Mare, R.D. 2007. “Response: Statistical Models of Educational Stratification—Hauser and Andrew's Models for School Transitions.” Sociological Methodology 36:27-37. Web: <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9531.2006.00173.x/abstract>.

Applications:

Karlson, K.B., Holm, A. 2011. "Decomposing primary and secondary effects: A new method." Research in Social Stratification and Mobility 29:221-237. Web: <http://dx.doi.org/10.1016/j.rssm.2010.12.005>.

Breen, R., Karlson, K.B. Forthcoming. "Education and Social Mobility: New Analytical Approaches." European Sociological Review. Web: <http://dx.doi.org/10.1093/esr/jct025>.

Wildeman, C., Andersen, S.H., Lee, H., Karlson, K.B. Forthcoming. "Parental Incarceration and Child Mortality in Denmark." The American Journal of Public Health. Web: <http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2013.301590>.