

Muthen-Asparouhov PSMG talk May 8, 2018

Title: Intensive Longitudinal Data, Multilevel Modeling, and SEM:

New Features in Mplus Version 8.1

Abstract:

With the closely spaced repeated measurements in intensive longitudinal data (ILD), it becomes critical to allow for autocorrelation. In many ILD models, the autocorrelation is represented as the outcome at one or more previous time points influencing the current outcome, but an alternative model represents this as auto correlated residuals. The Dynamic Structural Equation Modeling (DSEM) approach of Asparouhov et al. (2018) has therefore been expanded in Mplus Version 8.1 into RDSEM, residual DSEM. Part 1 of this talk gives a brief overview of some key RDSEM models both for $N=1$ analysis and for $N > 1$ multilevel analysis with random effects. The development of Version 8.1 has also led to a new approach to multilevel analysis with random slopes for not only DSEM and RDSEM but also for general multilevel modeling. Using the Bayes estimator, this makes it possible to use a latent variable decomposition of the predictor that enables latent mean centering avoiding the biases in common approaches. Part 2 of the talk presents theory and applications for such random slope modeling. Other general SEM developments in Mplus Version 8.1 include a convenient approach to check if two models are nested as well as several other new features.