Growth Mixture Models: A Structural Equation Modeling Approach

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Course Description

The Growth Mixture Model (GMM) is an extension of the Latent Growth Curve Model that identifies distinct subgroups of growth trajectories and allows individuals to vary around subgroup-specific mean trajectories. Conventional growth modeling estimates a single mean intercept and slope for each individual and variance parameters around the mean intercept and slope. The GMM relaxes the assumption that all individuals are drawn from a single population with common parameters by using latent trajectory classes, resulting in separate intercepts, slopes, and variance parameters for each subgroup.

This three-day workshop will provide training in fitting GMMs to analyze growth trajectories. Key features of this model are that it can identify the number and form of distinct subgroups of growth trajectories, estimate the proportion of the population in each subgroup, and model predictors of the trajectories and predictors of class membership. In addition to the base model, this workshop will cover extensions, such as including a distal outcome predicted by the trajectories and allowing for nonlinear growth trajectories.
Tentative Schedule of Topics

Day 1

1. Linear Growth Mixture Model
   a) Introduction
   b) Building blocks
      i. Latent Growth Model
      ii. Repeated Measures Latent Class Analysis Model
      iii. Latent Class Growth Model
   c) Unconditional Linear Growth Mixture Model

2. Fitting Models in Mplus

Day 2

1. Growth Mixture Model with Covariates
   a) Conditional Growth Mixture Model
   b) Growth Mixture Model with Distal Outcomes

Day 3

1. Nonlinear Growth Mixture Model
   a) Quadratic Growth Mixture Model
   b) Latent Basis Growth Mixture Model

2. Advanced Topics with Growth Mixture Models

3. Question and Answer Period for Individual Projects
Resources

Growth Mixture Models

Overviews


Technical Details


Latent Growth Model


Repeated Measures Latent Class Analysis


Latent Class Growth Model