The Growth Mixture Model (GMM) is an extension of the Latent Growth Curve Model (LGCM) 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 estimating 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 basic model, this workshop will cover several extensions, such as including a distal outcome predicted by the trajectories, multiple group GMMs, and joint trajectory models.

Participants should be familiar with LGCMs. Familiarity with MPlus would be helpful but is not required.

**Daily Schedule:**
9:00 am – 12:00 pm Lecture in Manning Hall 14
12:00 pm – 1:30 pm Lunch Break
1:30 pm – 3:30 pm Computer Lab in Manning Hall 01
3:30 pm – 4:30 pm Question & Answer Session in Manning Hall 01

**Topic and Readings**

**Day 1: Introduction to the GGMM – history, specification, and examples.**

**Overview of GMM:**


**Comparison of GMM to other popular approaches:**


**Finding the optimal number of classes:**

Day 2: Incorporating predictors and distal outcomes. Model Checking.

Substantive examples

Typical example – aggression trajectories in boys:


Recent development – drug trials:


Critiques of GMMs


Model checking - residual diagnostics


Day 3: Multigroup models, parallel process models, missing data.

