A developmental trajectory describes the course of a behavior over age or time. This two-and-a-half-day workshop aims to provide participants with the training to apply a group-based method for analyzing developmental trajectories. This methodology has four significant capabilities:

The capability to identify rather than assume distinctive groups of trajectories

1. The capability to estimate the proportion of the population following each such trajectory group
2. The capability to relate group membership probability to individual characteristics and circumstances
3. The capability to use the group membership probabilities for various other purposes such as creating profiles of group members

In addition, workshop participants will be trained in the application of three important extensions of the method:

1. The capability to add time-varying covariates to trajectory models
2. The capability to estimate joint trajectory models of distinct but related behaviors
3. The capability to link trajectories with distal outcomes

The first extension provides the statistical capacity for testing whether a contemporaneous factor, such as an experimental intervention or a non-experimental event like pregnancy, deflects a pre-existing trajectory. This extension is intended to provide the statistical capacity for modeling turning points in the context of a group-based trajectory model. The second extension provides the capability to study the unfolding of distinct but related behaviors such as childhood problem behavior and adolescent drug abuse. This extension is designed to address two prominent themes in developmental psychology and criminology -- comorbidity and heterotypic continuity. Comorbidity refers to the contemporaneous occurrence of two or more undesirable conditions, such as conduct disorder and hyperactivity. Heterotypic continuity is the manifestation over time of a latent individual trait in different but analogous behaviors.
The third extension allows the estimation of models that link trajectories through period $t$ to specific outcomes such as employment or mental health status in period $t+1$ or beyond. Participants should have a statistical background of matrix algebra and multiple regression. This workshop is targeted at researchers from the social and behavioral sciences and medicine who investigate developmental processes.

**Software:** Participants will be trained in the use of a Stata-based procedure - TRAJ - for estimating group-based trajectories.

**Prerequisites:** Participants should have at least one year of graduate level statistics and have a working knowledge of multiple regression analysis. A basic working knowledge of Stata and the multinomial logit model is desirable but not required. Participants who have no Stata background are encouraged to review any one of the many introductory “how to use Stata” manuals. There are also many introductory discussions of the multinomial logit model available.

**Note:** The workshop will be held all-day long on day 1 and day 2, and until 3:00pm on Day 3.