WORKSHOP INFORMATION

Cross Classified and Multiple Membership Models

SHORT COURSE DESCRIPTION

This one-day workshop is intended for applied education and social science researchers to introduce participants to extensions to the conventional hierarchical linear model (HLM) intended to handle multiple membership (MM) and cross-classified (CC) data structure complexities. Applied examples will be used to demonstrate scenarios in which MM and CC data are encountered and in which MM random effects models (MMREMs) and CC random effects models (CCREM) should be used. Two- and three-level MMREMs and CCREMs will be discussed and demonstrated using cross-sectional and longitudinal data examples. The focus will be on participants' conceptual understanding of these multilevel models and the complications that they are designed to handle, how to estimate the corresponding models using MLwiN software and how to interpret relevant parameter estimates. This will be accomplished using multiple applied examples. Lab time will be set aside during the workshop for the participants to have guided practice using the software.

At the end of the workshop, participants should be able to

- Identify clustered data structure types (pure hierarchy, MM or CC)
- Formulate the relevant two- and three-level models to assess simple research questions for interval-scaled outcomes using the unconditional and conditional MMREM and CCREM
- Estimate the specified model (two- or three-level HLM, MMREM or CCREM) using MLwiN software
- Interpret parameters estimated for relevant models (HLM, MMREM and CCREM)

REQUISITE KNOWLEDGE

The workshop will show how to estimate two- and three-level HLMs using MLwiN as a foundation for using MLwiN to estimate the CCREM and MMREM models. However, it will be assumed that participants already have experience with the conventional HLM – when it is needed and how to interpret conventional HLM model parameters.

SOFTWARE

The lecture material will be woven into hands-on exercises throughout the entire workshop. Participants are expected to bring their own laptop with the latest student (or full) version of MLwiN already installed. http://www.bristol.ac.uk/cmm/software/mlwin/download/ Internet connection will be available during the workshop to allow participants to download data and ancillary materials from the instructor's website.

THE INSTRUCTOR

Tasha Beretvas is a professor of Quantitative Methods in the Educational Psychology department at the University of Texas (UT) at Austin where she teaches multiple courses in statistics. Tasha was a recipient of the UT Regents' Outstanding Undergraduate Teaching award. Tasha's research focuses on evaluation of statistical models in educational and social science research with a focus on extensions to the conventional multilevel model to handle sources of data structure complexities. Her research has resulted in over 60 articles and over 80 national/international conference presentations. Tasha has taught multiple multilevel modeling workshops at both AERA and APA.