

Multi-level Modelling using Mplus

Who is the course aimed at?

This course is aimed at researchers with a basic competence in Mplus, who ideally also have a basic understanding of multilevel modelling and who wish to combine these skills to open up the possibility of running multilevel CFA, multilevel SEM and the easy (or easier!) testing of indirect effects in multilevel scenarios. This course is not suitable as a complete beginners course in Mplus (see 'Course Prerequisites' below).

Course prerequisites:

Basic competence in Mplus (just the ability to read in data and fit a simple model using the BY, ON and WITH commands, and constrain models using @ or ()s will do). Ideally participants will also have at least a basic understanding of multilevel modelling (the idea of partitioning variance in the DV, and of fixed and random effects), though the first lecture will offer a thorough introduction to the method.

Course content and aims:

The course will cover the following topics:

- Introduction to Multilevel Modelling
- Reading in and defining the data as multilevel
- Specifying and testing a simple (random intercepts) multilevel model
- Modelling and explaining variation in slopes
- Exploring the different types of, and options for centering
- Testing a cross-level interaction effect
- Multilevel CFA: comparing potential multilevel measurement models
- Multilevel mediation models: 1-1-1 mediation, 2-2-1 mediation and 2-1-1 mediation
- Fitting a multilevel SEM to test for mediation

The course comprises of a mixture of short lectures on the basic theory behind multi-level models, teaching via examples worked through by the trainer on real data sets which participants can follow, and exercises to practice the skills just learned. You will also receive a 80-page coursebook containing all the notes and worked examples, providing an easy reference and reminder for the techniques you have learned.

Equipment/Software:

Participants need to bring their own laptop with the full (i.e., paid for) version of Mplus installed - either the multilevel or 'combination' add-on will do. For information on the versions of Mplus see the Mplus website www.statmodel.com. If you have already installed Mplus but you are not sure which version you have, open up Mplus, and click 'Help' - 'About Mplus'.

Course timings:

The course fits into a full day, starting at 9.15am and finishing at around 5.30pm, with an hour lunch break, and short mid-morning and afternoon coffee breaks. I am always willing to stay on for a while after the end of the course to answer questions pertinent to participants' own data sets.

The teacher:

Dr Chris Stride has been using Mplus in his work as a statistician and data manager for the last 15 years. He has particular experience and expertise in teaching non-statisticians from the fields of psychology, HR, management and the social sciences. He is a member of the ASSESS (*UK SPSS Users Group*) Committee, and runs courses for ASSESS, inhouse courses at UK Universities and public sector institutions and public training courses based at the University of Sheffield.

