Latent Variable Modeling with R

Instructors: Prof. Dr. Ulrich Schroeders
Time: Wednesday, 10:15 – 11:45
Place: MG2/01.09
Note: This course will be held in English language upon request. Please express your wish for the course to be held in English during the first meeting.
Registration: Please send a mail to Marc Scheibner (marc.scheibner@uni-bamberg.de)

About this course

This seminar deals with latent variable modeling, a class of popular methods used in psychology, educational research, and the social sciences when examining constructs that are not directly observable such as intelligence, students' self-concept, and democracy. First, a comprehensive introduction to the theory and basic concepts of latent variable modeling is offered. We discuss advantages and limitations of latent variable modeling in comparison to traditional methods such as regression analysis with manifest variables. More precisely, the course covers item response theory (IRT) and structural equation modeling (SEM). Among others, the following topics are covered: item and test reliability, dimensionality, model fit evaluation, measurement invariance and validity aspects. The overall aim of the course is to acquire hands-on skills to specify, estimate, and interpret latent variable models. All analyses will be done with R statistics, mainly with the R packages TAM and lavaan.