

Introduction to structural equation modeling

Basic modelling

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Introduction of the Swiss SEM team

- Dr. Frank Pennekamp (main instructor)
- Dr. James Grace (advanced topics and model clinic)
- Dr. Rachel Korn (course development)
- Dr. Noémie Pichon, Dr. Fletcher Halliday, Dr. Eliane Meier, Dr. Hugo Saiz, Dr. Debra Zuppinger-Dingley, Rebecca Oester, Annabelle Constance, Fabienne Wiederkehr (course development)

Schedule

- Day 1:
 - General introduction to SEM to model ecological systems
 - Fitting SEMs to data
 - Model pruning, visualization and reporting
 - Discussion with James Grace
- Day 2:
 - Latent and composite variables
 - Interactions
 - Complex sampling designs
 - Spatial autocorrelation
 - Discussion with James Grace
- Day 3:
 - Self-study with possibility to meet with instructor(s)

Overview

- What the course is about:
 - Global estimation with R package lavaan
 - Hands on exercises and live coding
 - We will work (mostly) with a single, ecological dataset
- What will not be covered
 - Local estimation of SEMs (with piecewiseSEM)
 - Advanced topics like incorporating random effects, feedbacks, temporal autocorrelation

Learning objectives

- Participants understand the benefits and limits of SEMs
- Participants are able to fit, interpret and visualize a SEM
- Participants are able to apply SEM to their own dataset

Questions?