

STRUCTURAL EQUATION MODELING WITH R

Structural equation modeling (SEM) is a technique to test hypothesized models with observed and latent variables. It encompasses many techniques, such as linear regression, multivariate regression, and factor analysis as special cases. This course provides a practical introduction of structural equation modeling using the open source R statistical platform.



PROF. MIKE CHEUNG
NUS PROFESSOR



Course Outline

- Introduction to structural equation modeling with R
- Special cases of SEM: regression, path model, confirmatory factor analysis
- Model specification
- Model evaluation
- Using the lavaan package in R
- Testing measurement invariance with multiple group analysis
- Latent growth model
- Testing mediation effect with bootstrapping
- Testing moderation effect with latent variables
- Handling missing data
- Handling non-normal data robust statistics
- Handling binary and ordinal variables



Who Should Attend?

This course is designed for individuals with knowledge in regression and would like to extend it to handle more complex research questions involving observed and latent variables.



Prerequisites

Participants are expected to have basic knowledge in regression analysis. Knowledge in R is not required. We will introduce R in the workshop.

ABOUT THE INSTRUCTOR

Prof. Mike Cheung is a Professor at the Department of Psychology, National University of Singapore (NUS). His research expertise is in the areas of meta-analysis, structural equation modeling (SEM), and multilevel modeling.

He has published more than 80 papers in international journals and a book on integrating meta-analysis with SEM by Wiley. He received the Award for Excellent Researcher from the Faculty of Arts and Social Sciences, NUS in 2012.

Prof. Cheung teaches undergraduate and graduate research methods and statistics at NUS and regularly gives workshops on statistics.

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