



BAMBERG
GRADUATE SCHOOL
OF SOCIAL SCIENCES



FURTHER EDUCATION | WORKSHOP

Group Comparisons with Structural Equation Models

- Instructor:** Dr. Marie-Ann Sengewald
- Date & Time:** Wednesday, January 25, & Friday, January 27, 2023,
09:00 a.m. to 12:45 p.m. (s.t.) & 01:45 p.m. to 05:00 p.m. (s.t.)
- Place:** LifBi, Wilhelmsplatz 3, 96047 Bamberg, Room 02.20
- Registration:** To register, please send an email to weiterbildung@lifbi.de by December 20, 2022. Registration is mandatory. The number of participants is limited to 16.

Short Outline

Structural Equation Models (SEM) are a comprehensive framework for modelling different kinds of multivariate analysis that allow complex hypotheses to be specified and tested. The first part of the two-day workshop will focus on the general SEM framework and its strength for modelling measurement error corrected latent variables. Specifically, the theoretical basis, the specification of measurement models, as well as the implementation of SEM with the R package lavaan (latent variable analysis) will be introduced.

The second part extends the theory for multivariate models and focuses on applications for comparing respondent groups (e.g., intervention conditions, school types), while controlling for covariates. For this purpose, the instructor provides corresponding exercises that are processed with the R package EffectLiteR. EffectLiteR specifies lavaan syntax for group comparisons with latent variables and provides helpful features like a graphical user interface. At the end of the workshop, there will be an outlook on the use of the software for analyzing educational large-scale assessment data, like the National education panel study (NEPS).

PREREQUISITES

A basic knowledge on the software R and on linear regression analysis are very helpful for following the workshop. Please note, that all participants require their own laptop with an actual version of the software R and an editor (e.g., RStudio). If possible, please install the packages lavaan and EffectLiteR in advance.





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The workshop is mainly aimed at doctoral members of LifBi and BAGSS. In case of any vacant places, it is open to anyone interested.

About the Trainer

Dr. Marie-Ann Sengewald is a postdoctoral researcher at the Leibniz Institute for Educational Trajectories and is the project leader of Conceptual Replications. In addition, she is a lecturer at the Otto Friedrich University Bamberg in the master program psychology and educational research. After her graduation in psychology, she specialized in methodology and received her doctorate on the topic of "Latent Covariates" from the Freie Universität Berlin in 2019. In addition to latent variable modeling, her research interests include causality, applied evaluation research, longitudinal analysis as well as methods for replication studies.