

Pre-Conference Workshop 2022:
Analyzing PIAAC data
with structural equation modeling in Mplus
March 22-23, 2022/ GESIS Mannheim

Lecturer: Ronny Scherer (Centre for Educational Measurement at the University of Oslo)

Date: March 22-23, 2022

Place: GESIS, B6, 4-5, 68159 Mannheim

Content: Structural equation modeling (SEM) represents a statistical approach to disentangle the relationships among latent and/or manifest variables, across groups, over time, and at different analytical levels. The potential of SEM has been recognized in many areas, including educational sciences, sociology, psychology, and business. This workshop provides an introduction to the principles and procedures of basic and more advanced SEM in the context of the international large-scale assessment PIAAC. Specifically, the following topics are covered: (a) Principles of structural equation modeling (model specification, identification, estimation, and evaluation), (b) Measurement models and confirmatory factor analysis, (c) Measurement invariance testing with few and many groups (including multi-group CFA, multilevel CFA, and the alignment method), and (d) Structural regression and indirect effects models (including multi-group and multilevel SEM). In a second part of the workshop, participants can present their own research or research ideas using PIAAC data and receive feedback on how to improve the analysis.

Data: PIAAC Public Use Files

Software: SPSS and Mplus

Recommended reading: Maehler, D. & Rammstedt, B. (2020). *Large-scale cognitive assessment: Analyzing PIAAC data*. Series: Methodology of Educational Measurement and Assessment (MEMA). Springer: Cham. *Open access*

Procedure & Application

The PIAAC workshop welcome researchers from different disciplines interested to work or already working with PIAAC data. It is expected that the participants have good empirical knowledge and experience in the respective statistical software. The workshop comprises lectures and practical sessions covering the following elements: (a) Theoretical and methodological input from the lecturers (see description of contents above); (b) Opportunity for participants to present their own research or research ideas with PIAAC data; (c) Discussion of the questions outlined in the workshop regarding the data used and methods as well as specific feedback from the lecturers.

Interested researchers are asked to apply with a short exposé (max. 1000 words) of their research questions based on the PIAAC data. The application also should include whether PIAAC data are used, name, institute/ university affiliation, and contact information. Please send your application with the respective subject “Workshop 2022 Analyzing PIAAC data with SEM” to the Research Data Center PIAAC and register by **October 30, 2021**. Applications with an exposé have priority for participation in the workshop.

There will be no participation fees. The workshop will be limited to a maximum of 15 participants. In cases that workshop cannot take place at GESIS Mannheim, they will be conducted virtually. The confirmation of participation will be sent by November 30, 2021.

For any questions please contact the RDC PIAAC (fdz-piaac@gesis.org).