



Multilevel Linear Modeling (MLM) with Large-Scale Assessment Data

Workshop in Hamburg, Germany, November 29 – December 1, 2017

Background and Objective

Multilevel modeling (MLM) can be used to reflect the hierarchical structure of education systems and the clustered structure of the data. Individual observations and cluster level observations can be modeled in a joint two-level model, but the results are obtained separately for each level. Three-level models incorporate an additional level, such as the country level. MLM usually provides more reliable and less biased results than traditional analysis methods for clustered data.

This workshop is designed to provide knowledge on theory and applications of multilevel linear modeling (MLM), especially those features that are particular to Large-scale Assessment data. Participants will also gain basic practical experience of the application of two-level models to Large-scale Assessment data.

Description

The workshop begins with a methodological introduction to MLM and its underlying assumptions. Further, hands-on-trainings offer opportunities to practice multilevel analysis with Mplus (Muthén & Muthén, 2012) using IEA data. Methodological concepts related to the complex study and sampling design of Large-scale Assessments are presented and discussed providing recommendations on optimal implementation of multilevel models with data from Large-scale Assessments.

Expected outcomes for participants

After the workshop participants will be able to:

- ✓ Understand the theoretical principals and assumptions associated with MLM;
- ✓ Understand the methodological implications related to the complex study design of Large-scale Assessments;
- ✓ Specify appropriate MLM models, considering the complex design of IEA studies;
- ✓ Conduct two-level and three-level model analyses using the Mplus software;
- ✓ Interpret and present results of MLM analyses, with a focus on educational research and policy.

Target audience and requirements

Workshop participants will require some prior knowledge of inferential statistics (such as regression, correlation, and variance analysis). Familiarity with SPSS or other statistical software, and their application to large-scale data, is expected. Mplus knowledge and familiarity with syntax based analysis is an advantage.

Software used:	SPSS and Mplus
Language of Instruction:	English, or German
Duration:	2.5 days
Course Level:	Advanced
Topics:¹	Methodological foundations of HLM Two-level modeling Random slopes and random intercepts models Weighting and centering in HLM Three-level models Tutorials and hands-on training

Registration and fees

Registration should exclusively be made via our registration website

meeting.iea-hamburg.de/mlm-workshop

An early bird discount will be granted if the completed registration and payment are received on (or before) October 2, 2017. **Registration is open until November 10th, 2017.**

General Registration: € 525.00 / € 475.00 (early bird discount)

Student Registration* € 465.00 / € 415.00 (early bird discount)

All payments should be effected via PayPal using the PayPal button on the registration gateway. It may take a few days until the updated payment status can be seen online on your personal registration page. Payments from Eurozone countries (Single Euro Payments Area) can be also done via bank transfer. This option is not recommended for countries outside Eurozone due to additional bank charges.

Due to "no-shows" at previous workshops, cash payments will not be accepted. Please contact us if you need an alternative form of payment.

*Evidence of the student status must be provided at the time of registration. Please email a scanned copy of your student ID to seminar@iea-hamburg.de.

¹ Listed here are tentative topics for the workshop

Travel information and accommodation

Sign-in: November 29, 2017 9:00 - 9:30 a.m.

Start: November 29, 2017 9:30 a.m.

End: December 1, 2017 12:30 p.m.

A detailed agenda will be made available to the participants before November 15, 2017.

Venue: IEA Hamburg
Conference Center
Überseering 27
22297 Hamburg / Germany
tel: +49 (0) 40 48 500 666
fax: +49 (0) 40 48 500 515
email: seminar@iea-hamburg.de
web: www.iea.nl

Accommodation

A limited number of rooms has been blocked for MLM Workshop participants at the Leonardo Hotel Hamburg City Nord, which is within walking distance (5 minutes) to the IEA Hamburg Conference Center. Single rooms are at € 94.00/night, double rooms at € 104.00/night (breakfast and tax included). Cancellation free of charge is possible until three days prior to arrival. Please note that there is a city tourist tax applicable in case you have not provided an employer confirmation that your stay is due to a business trip.

Bookings should be made either by telephone, fax or email, indicating the booking code mentioned below.

Leonardo Hotel Hamburg City Nord
Mexikoring 1
22297 Hamburg / Germany
tel: +49 (0) 30 688 322 422
fax: +49 (0) 30 688 322 444
email: reservations.hamburg@leonardo-hotels.com
Booking code: **"MLM Workshop"**

Further information

For content-related information, please contact randa@iea-hamburg.de.

For information on administrative issues, please contact seminar@iea-hamburg.de.