GESIS Summer School in Survey Methodology 2023

Syllabus for course:
“Mixed-Mode Surveys”

Lecturers: Sven Stadtmüller
Henning Silber
Yannick Diehl
Peter Schmidt
E-mail: sven.stadtmueller@gesis.org
henning.silber@gesis.org
diehly@students.uni-marburg.de
peter.schmidt@sowi.uni-giessen.de

Website: https://www.gesis.org/institut/mitarbeiterverzeichnis/person/Sven.Stadtmueller
https://www.gesis.org/institut/mitarbeiterverzeichnis/person/henning.silber
https://www.researchgate.net/profile/Yannick-Diehl
https://www.uni-giessen.de/fbz/fb03/institutefb03/ifp/Lehrende_Team/ehemalige_Profs/schmidt

Date: 02-04 August 2023
Time: 10 am to 3 pm CEST
Venue: Online via Zoom

About the Lecturers:

Sven Stadtmüller is deputy professor for quantitative methods, statistics, and data literacy at the Frankfurt University of Applied Sciences (FRA-UAS). At GESIS – Leibniz Institute for the Social Sciences, he works as a senior researcher for the probability-based mixed-mode GESIS Panel. Sven studied Political Science, Sociology and Economics and received his doctorate in Political Sciences from the University of Mainz. His research interests include survey methodology (especially self-administered mixed-mode surveys), political attitudes and social and health inequalities in youth.

Henning Silber studied Sociology and German Philology at the University of Göttingen and Abo Akademi University. In 2015, he received his doctorate in social sciences from the University of Göttingen. His PhD studies were funded by the German Academic Scholarship Foundation and the FAZIT Foundation. Henning was a Visiting Scholar at Stanford University, The University of Texas at Austin, Utrecht University, and the University of Chicago. From 2019 to 2020, he was a Fulbright Research Fellow at the University of Illinois at Chicago. He is Scientific Team Leader of the Survey Operations Team at the Department of Survey Design and Methodology at GESIS – Leibniz Institute for the Social Sciences. Since 2018, he has been an elected Council Member of the World Association of Public Opinion Research (WAPOR) and currently serves as the Publications Chair. His research interests include survey methodology, political sociology, and the experimental social sciences.

Yannick Diehl is a PhD candidate at the University of Marburg at the Chair for Political Science Methods and Empirical Democracy Research in the Institute for Political Science. The focus of his work is currently the application of reasoned action approaches and the transfer of social science theories into statistically testable models, including the application of comparative perspectives using structural equation models. A special focus of his work is the investigation of suitable model translations and subsequent exploration of existing limitations and further development possibilities of advanced statistical methods.
Peter Schmidt studied Sociology, Statistics and Philosophy of Science at the Universities in Cologne and Mannheim and received his doctorate at the University of Mannheim. He has been project director and program director at ZUMA Mannheim (predecessor of GESIS) and Professor of social science methodology at the department of political science at the University of Giessen. Presently he is a member of the centre for international development and environment (ZEU) at the University of Giessen and Principal Investigator and Research Supervisor at the department of Psychosomatics at the University of Mainz. He has been principal investigator in 12 DFG projects and was part of teams for the migration module of the ESS, the refugee module and the privacy module of the GESIS panel study. His research interests include survey methodology especially measurement invariance, structural equation modelling and theories of reasoned action.

Selected Publications:


Course Description:
Due to decreasing response rates around the world, survey designers must explore new ways of recruiting respondents for their surveys. One popular option is to offer different modes for survey participation, thus allowing target persons to participate in the survey mode that suits them best. While mixing survey modes for data collection can have positive effects on response rates, sample balance, and survey costs, the question arises of whether the data from different survey modes can be easily pooled and compared. This question also applies to data from long-standing survey programs that, in the course of the pandemic, had to refrain from face-to-face surveys and to collect data in other (mostly self-administered) survey modes.
In this short course, we provide an overview of empirical evidence related to the benefits and drawbacks of using multiple modes for data collection and outline some recommendations for the implementation of mixed-mode surveys. Specifically, we will cover topics such as mixed-mode-specific questionnaire design considerations, experimental evidence on comparing mixed-mode surveys with single-mode surveys, and optimal strategies of how to implement them. The practical part of the course provides an introduction on statistical methods for testing measurement equivalence of multi-item scales for mixed-mode and mixed-device survey data employing confirmatory factor analysis with multiple groups representing different modes. Furthermore, we demonstrate its use with prepared examples using the programs R-lavaan, Mplus Automation, and Mplus.

Keywords:
survey mode, survey design, survey implementation, questionnaire design, measurement equivalence, confirmatory factor analysis with multiple groups, R-Lavaan, Mplus.

Course Prerequisites:
- Basic knowledge in quantitative social sciences; practical experience in conducting surveys will be beneficial
- Basic knowledge of multivariate statistics, esp. factor analysis
- Experiences with R/R Studio and/or MPlus

Target Group:
Participants will find the course useful if:
- they plan or conduct their own mixed-mode survey.
- they plan or use data from mixed-mode surveys.
- they aim for a better understanding of the peculiarities of mixed-mode surveys.

Course and Learning Objectives:
By the end of the course participants will:
- have a general understanding of advantages and disadvantages of survey modes and of mixing them within a data collection.
- have a general understanding of the peculiarities of mixed-mode surveys regarding nonresponse and measurement error as well as questionnaire design.
- have a general understanding of procedures for testing measurement equivalence of survey data collected via different survey modes/devices and its implementation in R-lavaan and Mplus.

Organizational Structure of the Course:
This is a three-day short course with a total amount of 12 hours of class time. The course structure includes a mix of teaching and exercises. Exercises will be divided in group and individual exercises. During the exercises, lecturers will be available to support the learning process.

Software and Hardware Requirements:
You should have access to R or Mplus to perform individual exercises. Specifically, for the structural equation models used to test for measurement equivalence, you will need R-lavaan or Mplus version 8.7 and upwards and Mplus Automation. Please note that the free version of Mplus meets the requirements of our course in terms of the number of observed variables used.
### Day-to-day Schedule and Literature:

<table>
<thead>
<tr>
<th>Day</th>
<th>Topic(s)</th>
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| 1   | 10:00 - 10:30  
Introduction and course outline  
10:30 - 12:00  
Mixing survey modes: An Introduction  
12:00 - 13:00  
Lunch break  
13:00 - 14:00  
Questionnaire design in mixed-mode and mixed-device surveys  
14:00 - 15:00  
Exercises 1 |
| Suggested reading (suggested, yet do not have to be read before class):  
| 2   | 10:00 - 12:00  
Self-administered mixed-mode surveys: The future of survey data collection?  
12:00 - 13:00  
Lunch break  
13:00 - 14:00  
Mode and mode selection effects: Conceptualization and empirical evidence  
14:00 - 15:00  
Exercises 2 |
| Suggested reading:  
| 3   | 10:00 - 11:30  
Traditional and approximate methods for testing measurement invariance for mixed mode survey data using multiple group CFA |
11:30 - 12:00
Exercises 3 – Code Writing for R/MPlus (Example 1: Classic Measurement Invariance)

12:00 - 13:00
Lunch break

13:00 - 14:00
Exercises 3 – Data Analysis with R/MPlus and Discussion

14:00 - 15:00
Exercises 4 – Code Writing, Data Analysis, and Discussion (Example 2: Approximate Alignment)

Suggested reading:

Preparatory Reading:

Additional Recommended Literature: