METHOD TRAINING

BAMBERG GRADUATE SCHOOL OF SOCIAL SCIENCES

LIfBi LEIBNIZ INSTITUTE FOR EDUCATIONAL TRAJECTORIES

ANNOUNCEMENT

JOINT WORKSHOP OF BAGSS AND LIfBi

WORKSHOP

Introduction to Working with Longitudinal Data in Stata

Instructor	Dr. Anika Schenck-Fontaine, Leibniz-Institut für Bildungsverläufe (LIfBi)
Time	Thursday, 27.02.2020: 10:00-12:30 (s.t.) & 13:30-17:00 (s.t.) Friday, 28.02.2020: 09:00-12:30 (s.t.)
Place	Leibniz-Institut für Bildungsverläufe (LIfBi), Wilhelmsplatz 3, 96047 Bamberg room: 109A

Registration To register, please send an email to weiterbildung@lifbi.de
Registration is mandatory. The number of participants is limited to 16. Deadline for registration: 16.01.2019.

PREREQUISITES

- Prior experience with Stata is required
- Participants need to have an understanding of elementary statistics and basic knowledge of empirical research design (e.g. descriptive statistics, basics of regression analysis). If you are unsure of your level of knowledge please get in touch with the instructor

SHORT OUTLINE

In a longitudinal (panel) study, data has been collected on the same person over time. Since the repeated measures taken on the same person are not independent from each other, this is a type of multi-level data and special care needs to be taken during the analysis to account for this non-independence.

This course provides an introduction to the issues and opportunities which arise with longitudinal data and to the main statistical techniques for its analysis. It aims to the communicate the skills necessary to understand and assess the applications of longitudinal data analysis reported in the social science literature and to provide skills which could be applied to analyze a variety of research and policy problems.

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The first day of the course will begin by discussing the advantages and limitations of panel data and introduce a framework for research using longitudinal data. Next, we explore how to handle and describe a panel dataset. Understanding how to correctly work with longitudinal data is the primary purpose of this course. Finally, the course will provide an introduction to the linear multilevel model for estimating change using longitudinal data and discuss implications for missing data. Though this course will provide an initial introduction into multilevel modelling to provide students with a starting point for further learning, this course is not designed to provide comprehensive instruction in this topic.

The second day of the course will be structured as a lab session in which students will be guided to apply the basic skills learned on the first day using NEPS Starting Cohort 1 (birth cohort) data.

TOPICS COVERED

- Advantages and limitations of panel data
- Longitudinal data research
  - Individual change over time
  - Differences in change across people
  - Data requirements
- Handling longitudinal data
  - Data structure and notation
  - Reshaping data
  - “Setting” longitudinal data
- Describing longitudinal data
  - Summary statistics
  - Using graphs to explore data
  - Stem-and-leaf plots
  - Exploring correlation structure
- Linear multilevel model models to address dependence in longitudinal data
  - Level 1 model for individual change
  - Level 2 model for heterogeneity in change
  - Time-variant vs. time-invariant predictors
  - Implications for missing data