Content:
The course provides an overview of methods to analyze individual, contextual and longitudinal data and how theories can be tested using these methods with a focus on the analysis of survey data. Terms discussed during the BA studies, such as reliability, validity, standardized and unstandardized coefficients, regression, measurement and index construction, or experimental design will be either partly repeated or deepened and expanded. We discuss how regression models and the analysis of cross-sectional data may be expanded to analyze longitudinal and panel data, data on different levels of analysis (individual and societal-level data), and data from several countries or cultural groups. Special attention is also given to the differentiation between manifest and latent variables and to the problem of missing values. It is shown how these methods are applied to survey and experimental data in empirical theoretically-driven contemporary sociological studies. The course is thus application-oriented rather than technical.

Goals: Providing an overview of various methods of data analysis beyond regression analysis. Being able to read, understand and interpret substantive studies that apply various advanced methods. A deep understanding of some of the methods discussed will require at least a full semester course. Thus, it becomes obvious that the goal cannot be a full command of each method, but a basic understanding of what it is good for, and how to interpret its estimates in substantive studies.

Requirements: Written exam and Referat plus active participation in the discussion.

Detailed Program:

18.09. Organization, overview, division of topics for presentation among participants

25.09. Repetition: Variance, correlation, covariance, type of scales (Datler)

02.10. Repetition: OLS regression, logistic regression, discussion which types of analyses cannot be performed with OLS and logistic regression (Seddig)

09.10. Path analysis (Seddig)

16.10. Exploratory and confirmatory factor analysis (EFA, CFA) (Datler)

23.10. Full structural equation modeling (SEM) including the topics model fit, model testing (Seddig)
  Methodological literature: Schumacker and Lomax (2004), pp. 195-229; Reinecke (2005),
pp. 225-262.

30.10. **Multiple group analysis** (Datler)
Methodological literature: Davidov, Meuleman, Cieciuch, Schmidt and Billiet (2014).

06.11. **Panel data analysis: Autoregressive cross-lagged models** (ARCL) (Seddig)

13.11. **Panel data analysis: Latent growth curve modeling (LGM) and LGM mixture modeling** (Seddig)
Methodological literature: Duncan, Duncan and Strycker (2006), pp. 1-79.
Substantive study: Schlüter, Davidov and Schmidt (2007).

20.11. **Multilevel analysis** (Datler)

27.11. **Experimental designs** (Seddig)

04.12. **Repetition** (Datler/Seddig)

11.12. **Guest speaker**: Tenko Raykov

18.12. **Exam**

**References:**


