



## A Three-Day Advanced Training Course on Sequence Analysis

Dr. Christian Brzinsky-Fay, WZB, Germany

20<sup>th</sup> to 22<sup>nd</sup> of March, 2023

At TLU Centre of Excellence in Interdisciplinary Lifecourse Studies

### Course description

The course will teach students to apply one of the central quantitative methods of life course research, namely sequence analysis. For example, labour market entry transitions, employment careers, social mobility processes or partnership histories develop over time and represent ‘sequences’ of statuses and their changes. The inclusion of the time dimension always increases complexity of data analysis, and sequence analysis provides tools to describe, visualize and compare sequentially ordered categorical variables while allowing the meaningful reduction of complex information at the same time.

If participants already have own data they like to work on, this can be included during the course. We will work mainly with Stata, but I also provide the examples in R.

20 <sup>th</sup> of March – Room M-649	
09:00 – 10:30	Introduction
10:30 – 10:45	Coffee break
10:45 – 12:15	Sequence Description I: Visualization
12:15 – 13:00	Lunch break/coffee break
13:00 – 14:30	Sequence Description II: Indicators
14:30 – 14:45	Break
14:45 – 16:15	Exercises

21 <sup>st</sup> of March – Room A-006	
09:00 – 10:30	Sequence Comparison
10:30 – 10:45	Coffee break
10:45 – 12:15	Sequence Grouping
12:15 – 13:00	Lunch break/coffee break
13:00 – 14:30	Exercises
14:30 – 14:45	Break
14:45 – 16:15	Individual consultations

22 <sup>nd</sup> of March – Room M-649	
09:00 – 10:30	Multidimensional Sequence Analysis
10:30 – 10:45	Coffee Break
10:45 – 12:15	Sequence Analysis and Explanatory Methods
12:15 – 13:00	Lunch break/coffee break
13:00 – 15:00	Reflection, Discussion
15:00 – 16:00	Break
16:00 – 17:30	Public lecture (M-648)



## Learning outcomes

By the end of this course, students will:

- be able to operationalize longitudinal life-course processes into sequence data
- know how to organize and handle sequence data
- be able to visualize sequences in different ways
- use tools to calculate indicators that measure properties of sequences
- know how to compare and group sequences using different algorithms
- be able to connect sequence types to other statistical methods

**Target group:** Researchers and PhD students from social sciences

**Group size:** Max. 20 persons

## About the instructor

Dr. Christian Brzinsky-Fay is senior researcher at the Berlin Social Science Center (WZB). He studied Political Science at Free University Berlin and did his PhD in Social Policy at University of Tampere, Finland. His research interests are school-to-work transitions, life course research, comparative social science and quantitative methods. Together with his colleagues Prof. Ulrich Kohler and Magdalena Luniak, he implemented sequence analysis in the statistical software Stata.

## Course readings

- Dlouhy, K. and T. Biemann (2015). "Optimal Matching Analysis in Career Research: A Review and Some Best-Practice Recommendations." Journal of Vocational Behavior **90**: 163-173.
- Liao, T. F., D. Bolano, C. Brzinsky-Fay, B. Cornwell, A. E. Fasang, S. Helske, R. Piccarreta, M. Raab, G. Ritschard, E. Struffolino and M. Studer (2022). "Sequence Analysis. Its Past, Present, and Future." Social Science Research **107**.
- Raab, M. and E. Struffolino (2023). *Sequence Analysis*. Thousand Oaks / London / New Dehli / Singapore, Sage.

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