Sequence Analysis in the Social Sciences

Instructor: Dr. Marcel Raab, State Institute for Family Research

Ass.-Prof. Dr. Emanuela Struffolino, University of Milan

Date & Time: Monday, June 23, 9:00 a.m. to 5:00 p.m. and

Tuesday, June 24 2025, 12:00 a.m. to 5:00 p.m. (s.t.)

Place: LIfBi, Wilhelmsplatz 3, 96047 Bamberg, Room 01.13

Registration: To register, please send an email to weiterbildung@lifbi.de by June 09, 2025. Registration is mandatory. The number of participants is limited to 25.

Short Outline

This workshop introduces sequence analysis (SA) for social science research. Originally developed in biology and computer science, SA has gained traction in the social sciences for analyzing longitudinal data. Most applications study life course processes such as labor market careers, transitions to adulthood, or family formation. The workshop covers core SA techniques in depth and briefly introduces recent methodological advances. Topics include distance measures, cluster analysis, sequence visualization, and techniques for analyzing multidimensional sequences. All methods are demonstrated with hands-on examples using R.

Learning objective

By the end of the course participants should be able to apply a robust sequence analysis on their own, i.e. they should:

- know how to describe and visualize sequences with the TraMineR & ggseqplot packages in R
- know how to use the outcomes from sequence analysis (distance matrices, measures of turbulence and complexity) in further analyses (e.g., cluster and regression analysis)

Requirements for participation

- basic knowledge in handling (longitudinal) data
- basic knowledge of quantitative methods (e.g., regression analysis)
- basic knowledge of R not necessary but helpful (e.g., inspecting, visualizing, transforming your data, extracting values from a table, sub-setting tables, calculating summary statistics, and deriving new variables). For an introduction to the basics, you might consider consulting Posit Recipes, the website of the book R for Data Science, or any other of the abundant free introductory material for R & RStudio on the web

You will find the course useful if:

- you work with longitudinal categorical data
- you are interested in describing temporal patterns of social phenomena

About the Trainer

Dr. Marcel Raab

Marcel Raab is Senior Researcher at the State Institute for Family Research at the University of Bamberg, Editor and Deputy Managing Director of the Journal of Family Research, and Member of the Editorial Board of the Journal of Marriage and Family. Previously, he worked as a research assistant at the National Educational Panel Study and the Professorship of Demography at the University of Bamberg, as a research fellow at the WZB Berlin, and as Assistant Professor for Sociology at the University of Mannheim. He is a member of the Advisory Board of the Sequence Analysis Association, author of the QASS book "Sequence Analysis" co-authored with Emanuela Struffolino, and developer of the R package "ggseqplot" for sequence data visualization.

Prof. Dr. Emanuela Struffolino

Emanuela Struffolino is Associate Professor of Economic Sociology at the University of Milan. After receiving her PhD from the University of Milano-Bicocca, she was a postdoctoral fellow at the University of Lausanne and at the WZB Berlin Social Science Center. She was then Guest Professor at the Freie Universität Berlin and at the Humboldt-Universität zu Berlin. Since 2024 she is President of the SAA-Sequence Analysis Association. Her research interests include social inequality, life-course sociology, family demography, and methods for longitudinal data analysis. She has published in - among others - Sociological Methodology, Demography, Research in Social Stratification and Mobility, and Advances in Life Course Research.