Longitudinal Data and Research (Online Delivery)

Thursday 13th October & Friday 14th October

Course Trainer: Professor Vernon Gayle

Description:

Across the social sciences there is widespread agreement that longitudinal data (e.g. studies that repeatedly contact participants) provides powerful research resources to examine both social change and social stability. There is now a broad portfolio of longitudinal data available to social science researchers. Many social science research questions can be adequately answered without longitudinal data.Most research projects will benefit from the addition of longitudinal data analysis however, and some research questions can only feasibly be answered using longitudinal data.

This is a two-day workshop on longitudinal data and research using statistical methods.

The workshop is specifically designed for social scientists, and social science data and examples will be showcased throughout the workshop. The workshop will focus on the research value of longitudinal data and explore sources of longitudinal data. Participants will be introduced to the analysis of repeated cross-sectional data, duration models and models for panel data. The emphasis will be on interpreting outputs (e.g. from data analysis software packages) and understanding results (e.g. in published papers).

The event is intended to be engaging and informative and there will be audience participation and opportunities to asks questions.

This is **not** a practical workshop and it **does not** provide training in the use of data analysis software. It will however provide a strong theoretical foundation for future engagement at practical workshops that are designed to provide hands-on training in data analysis.

A high level of mathematical ability is not required, but participants should ideally have undertaken an introductory statistics and data analysis course (e.g. a semester long module as part of a Masters degree) or have attended an NCRM workshop on Statistical Modelling.

Topics:

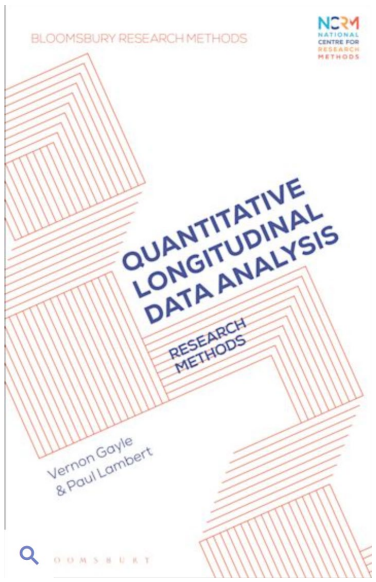
The research value of longitudinal data
Sources of longitudinal data
Analysing repeated cross-sectional data
Duration models
Panel data models
The workflow in longitudinal data analysis

Core Text:

The course will be supported by

Gayle, V. and Lambert, P., 2021. Quantitative Longitudinal Data Analysis. Bloomsbury Publishing.

https://www.bloomsbury.com/uk/quantitative-longitudinal-data-analysis-9781350188853/



Links to Longitudinal Studies:

British Household Panel Study https://www.iser.essex.ac.uk/bhps/
Understanding Society - The UK Household Longitudinal Study https://www.understandingsociety.ac.uk/
CLOSER https://www.closer.ac.uk/
US Panel Study of Income Dynamics https://psidonline.isr.umich.edu/
The Cross National Equivalence Files https://cnef.ehe.osu.edu/
The Household, Income and Labour Dynamics in Australia (HILDA) https://melbourneinstitute.unimelb.edu.au/hilda

Reading List:

General

Davies, R. and Dale, A., 1994. Analyzing social and political change: a casebook of methods. Analyzing Social and Political Change, pp.1-240.
An excellent book (although a little old).

Gayle, V. and Lambert, P. (2021). Quantitative Longitudinal Data Analysis. Bloomsbury Publishing.https://www.bloomsbury.com/uk/quantitative-longitudinal-data-analysis-9781350188853/
My recent book on longitudinal data analysis (using Stata).

Kohler, U. and Kreuter, F., 2012. Data analysis using Stata. Stata press.
This is a first class text book. It is clearly written and very comprehensive and has successfully been used as a core textbook on several courses that I have taught.

Mehmetoglu, M. and Jakobsen, T.G., 2022. Applied statistics using Stata: a guide for the social sciences. Sage.
This is a fabulous text. The first edition 2016 is excellent, it has now been updated.

Skrondal, A. and Rabe-Hesketh, S., 2004. Generalized latent variable modeling: Multilevel, longitudinal, and structural equation models. Chapman and Hall/CRC.
A very advanced, dense text which summarizes a wide array of statistical models which may be used for longitudinal analyses, highlighting the technical connections between them.

Willett, J.B. and Singer, J.D., 2003. *Applied longitudinal data analysis: Modeling change and event occurrence*. New York, NY, USA: Oxford University Press.
Wide coverage illustrating a selection of relatively advanced analytical strategies, although with less applied guidance than the title might suggest.

Workflow

Gayle, V., & Connelly, R., 2022. The Stark realities of reproducible statistically orientated sociological research: Some newer rules of the sociological method. Methodological Innovations, 0(0). https://doi.org/10.1177/20597991221111681
Our recent paper on transparent and reproducible statistically orientated research.

Gayle, V.J. and Lambert, P.S., 2017. The Workflow: A Practical Guide to Producing Accurate, Efficient, Transparent and Reproducible Social Survey Data Analysis. NCRM Working Paper. NCRM. http://eprints.ncrm.ac.uk/4000/
A practical guide to the data analysis workflow.

Long, J.S. and Long, J.S., 2009. The workflow of data analysis using Stata. College Station, TX: Stata Press.
A fantastic book. This is the 'bible' of good data analysis workflow practices.