Ph.D. in "Life Course Research" – Socio-demographic curriculum

Academic Year 2023-2024

Introduction to the empirical analysis of socio-demographic phenomena (consolidation)

Prof. Raffaele Guetto
University of Florence
raffaele.guetto@unifi.it

Objectives
The course aims to consolidate students' knowledge of how to formulate research questions and test them empirically through applications of the generalized linear model. Methods are presented and discussed through a worked example to give students the basic tools to apply quantitative methods to answer socio-demographic research questions. Students will be introduced to using the Stata software for implementing empirical analyses with the techniques discussed in the lectures.

Program
Monday morning (Instructor: R. Guetto):
– Theory-driven empirical research: formulating a research hypothesis.
– Definition of the analytical sample, operationalization, and description of variables.
Monday afternoon (Instructor: R. Guetto):
– Bivariate associations (cross-tabs, odds-ratios, chi-square test, correlation, and simple linear regression).

Tuesday morning (Instructor: R. Guetto):
– The logic of multivariate analysis, multiple linear regression.

Wednesday morning (Instructor: R. Guetto):
– Introduction to factor analysis, the assumptions of multiple linear regression.

Thursday morning (Instructor: R. Guetto):
– Model's specification: non-linearity, interaction effects, and mediation.

Monday morning (Instructor: M. Cozzani):
– Logistic regression.

Tuesday morning (Instructor: D. Vignoli):
– Interpretation and Causation in Social Demography.

Suggested lecture
Agresti, A. and Finlay, B. (2017) *Statistical Methods for the Social Sciences, fifth edition*, Pearson.
Corbetta, P., Gasperoni, G. and Pisati, M. (2001) Statistica per la ricerca sociale, Bologna: Il Mulino.

Suggested readings for causation and experiments in population studies:
- M. Kreyenfeld (2021). Causal modelling in fertility research: A review of the literature and an application to a parental leave policy reform. *Comparative Population Studies*, 46.

- R. Guetto, G. Alderotti, D. Vignoli (2023). Can Policy Reforms Enhance Fertility? An Ex-Ante Evaluation through Factorial Survey Experiments. *wp_disia_2023_08*
- D. Vignoli, A. Minello, G. Bazzani, C. Matera, C. Rapallini (2022). Narratives of the Future Affect Fertility: Evidence from a Laboratory Experiment. *European Journal of Population*, 38: 93-124.
- R. Guetto, G. Bazzani, D. Vignoli (2022). Narratives of the future and fertility decision-making in uncertain times. An application to the COVID-19 pandemic. *Vienna Yearbook of Population Research*, 20: 223-260.

Requirements

Levels of measurement of variables, descriptive statistics. Some knowledge of sample surveys, statistical hypothesis testing, and Stata software is helpful.