

SO5041 Unit 0: Course Outline

Brendan Halpin, Sociology

Autumn 2019/0



Course outline

- Lecture: CG058 Mon 10h00-12h00
- PC Lab: A00600a Mon 13h00-15h00
- Lecturer: Dr Brendan Halpin
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 - extension 3147
 - Office hours: Tuesday 14h00–17h00, F1-007 (or e-mail for appointment)

Course focus:

- The role of empirical reasoning in sociology, especially using quantitative data
- Quantitative social science data collection, especially the survey
- Handling quantitative data: coding it onto a computer, organising it, presenting it
- Statistical analysis: making claims about the world using quantitative data –
sampling and **inference**

Practical focus:

- Using software to analyse data and prepare findings
 - Stata: statistical software package
 - Microsoft Excel: spreadsheet
- Carrying out questionnaire-based research
- Becoming a critical consumer of quantitative research

Planned outline

- Introduction to quantitative method – using number to represent information, simple descriptive statistics and presentations. Using Stata to enter data and report it
- Samples, surveys and probability – *theory* of how a sample can be used to describe a population, elementary probability theory, basic questionnaire design and survey implementation. Manipulating data in Stata, more presentation.
- Statistical inference – the *practice* of using a sample to describe a population. Statistically informed use of Stata: testing difference of means, analysing association in tables.
- Linear regression and correlation
- Regression analysis with multiple explanatory variables?
- In parallel, reading and discussion of a small number of quantitative research reports

Assessment

- Assessment: three assignments (due ends of weeks 5, 9 and 13) totalling 60%
- Final exam 40%
- Repeat assessment: All assignments plus repeat exam August 2020

Detailed lecture sequence

- Week 1 General introduction
- Week 2 (1) Introducing Quantitative Social Research, (2) Surveys, Questionnaires and Sampling
- Week 3 (3) Numbers as Information – Data, (4) Bivariate analyses
- Week 4 (4) Bivariate analyses continued, (5) More on types of variables
- Week 5 (6) Sampling, (7) Distributions
- Week 6 (8) More on Distributions, (9) Sampling Distributions and the Central Limit Theorem
- Week 7 (10) Sampling and confidence intervals, (11) Two new distributions: t and χ^2
- Week 8 Bank Holiday
- Week 9 (12) Questionnaire Design
- Week 10 (13) Hypothesis testing, (14) More t -tests,
- Week 11 (15) Correlation, (16) Regression
- Week 12 (16) Regression continued, (17) Review

Lab sequence (subject to change)

- Week 1 Logging on, running Stata, general intro (short lab)
- Week 2 Simple data entry, plus some univariate analysis
- Week 3 Bivariate analysis
- Week 4 Editing data in Stata, missing values
- Week 5 Using the Normal Distribution (by hand, spreadsheet)
- Week 6 Confidence intervals for means and proportions (by hand, Stata)
- Week 7 Understanding the standard deviation (spreadsheet exercises)
- Week 8 Bank Holiday
- Week 9 Chi-squared test (spreadsheet and Stata)
- Week 10 Hypothesis test on a mean (spreadsheet and Stata)
- Week 11 More hypothesis tests; correlation
- Week 12 Regression analysis using Stata

Note on assignments

- Cooperation between students is encouraged but assignments must be the student's own work
- Please refer to Dept Plagiarism Policy at <http://www.ul.ie/sociology/> (under "Student Resources")
- Please use the Dept Assignment Declaration form with all assignments <http://www.ul.ie/sociology/> (under "Student Resources")
- Note the Dept's policy on deadlines <http://www.ul.ie/sociology/> (under "Student Resources")

Texts

- Main text: Agresti and Finlay, *Statistical Methods for the Social Sciences* – good introduction to formal statistical methods, very clear and accessible (will use more extensively in second semester course)
- For Stata:
 - Robson and Pevalin, *The Stata Survival Manual*
 - Kohler and Kreuter, *Data Analysis using Stata*
 - Acock, *A Gentle Introduction to Stata*
- Dip into Alan Bryman, *Social Research Methods*
- Also David de Vaus, *Surveys in Social Research*: good on survey methodology
- Other occasional readings

Some resources on the web (local)

- Examples and data to download for lab sessions
- All accessible from <http://teaching.sociology.ul.ie/so5041/>
- Course SULIS site (especially for assignments, see also course outline)