

Faculty of Human, Social and Political Science HSPS Tripos

Soc 5 / Crim 2: Statistics and Methods

Teaching Staff:

Dr Maria Iacovou (mi305@cam.ac.uk) [quantitative and survey methods lectures; course organiser]

Professor Brendan Burchell (bb101@cam.ac.uk) [qualitative methods lectures for Soc 5 students]

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About the paper

This paper is divided into three sections, each relating to one area of research methods. 12 lectures are devoted to quantitative methods and statistics, and 4 lectures each to survey methods and qualitative methods.

The course is designed not only to teach you about the theoretical aspects of sociological research, but also to give you hands-on practice in carrying out the research. You'll use the statistical package STATA to analyse data from some of the same data sets that professional researchers might use. You'll learn how to design an online survey and to collect responses using the Qualtrics computer package. And you'll learn how to conduct in-depth interviews with respondents (this year, of course, all interviews will be done remotely).

Some students are slightly apprehensive about taking Soc 5 / Crim 2 because they are worried it will be too mathematical. In fact, the course does not assume any knowledge of maths beyond the basics that you will have learned at GCSE level. It's taught in a very interactive way, with a lot more fun and laughter than you might expect.

The course will enable you to read and understand published research based on quantitative methods in your own field of interest - an extremely useful skill, even if you don't propose to do quantitative research yourself. In addition, a working understanding of statistics and quantitative research is extremely marketable and can greatly enhance your employment prospects in a range of areas.

Structure of the course

In comparison with other papers in the Tripos, Soc 5 requires much less reading and writing, but you will attend more lectures, and there are also lab sessions where you will learn data analysis techniques.

The material in Soc 5 / Crim 2 is taught in a progressive way – you will only be able to understand each lecture if you have attended the previous lectures and lab sessions.

So please, before registering for this paper, check the timetable carefully, and ensure that you are able to attend all the lectures and lab sessions. We'll provide support if you need to catch up, but attendance is really important.

Aims and Objectives

After completing this paper, students will:

- Have learned about a range of quantitative and qualitative methods used in empirical research
- Be able to read critically, and comment on, published research using these methods
- Know how to apply these methods correctly using appropriate software packages, and how to apply statistical tests to assess the validity of results
- Appreciate the limitations of the methods taught, and common mistakes which may be made in empirical research
- Understand the importance of documentation and replicability
- Have experience of writing up the results of empirical research
- Know where to go to find information on more complex research methods

Paper content

The course is organised into three sections. The first covers **statistical methods**: descriptive statistics; bivariate correlation; multivariate linear regression, and factor analysis. Students will read published work employing each of the methods; learn how to implement the method in STATA with “real” data, and how to test whether results are statistically valid.

The second module covers **sampling and survey design**: it will provide an insight into the process by which surveys large and small are designed and implemented; how errors may arise, and ways to minimize error; the importance of careful sample selection; different ways in which a sample may be selected; how survey questions are selected, tested and validated; and weighting and imputation.

The third module covers topics in **qualitative research methods**. The content is different for Soc 5 and Crim 2 students. Soc 5 will cover the purpose and principles of qualitative research, different types of qualitative research, including ethnographies, focus groups, interviewing, using internet-based material, and how to analyse qualitative data. Crim 2 students will select seminars on a range of criminological topics (see page 5).

Prerequisites: No prior knowledge is needed. You will need your own computer to access the course materials and statistical packages.

Mode of assessment

A 3-hour examination

(Optional) An empirical research project (2000-5000 words) using any of the methods taught in the course, to be submitted by 4 May 2021.

The final mark for students not submitting a project will be their exam mark.

The final mark for students who submit a research project will be the higher of:

- Their exam mark
- A weighted average of their exam mark (75%) and their project mark (25%)

Mode of teaching

Quantitative methods	12 two-hour lectures 8 two-hour lab sessions 2 one-hour supervisions
Survey methods	4 90-minute lectures 1 one-hour supervision
Qualitative methods	4 90-minute lectures 1 one-hour supervision
Project work	2 supervisions (students not doing a project may request additional revision supervisions)
Exam revision	2 supervisions

COVID adjustments

All activities will be online in the Michaelmas term. Pre-recorded lectures will be available on Moodle, though you should also attend the “live” lectures, which will be more interactive.

You’ll be able to access the packages STATA and Qualtrics from your own laptop, and the workshops will be taught in Zoom rooms with plenty of breakout areas, where you can ask instructors about any problems you’re having.

We’ll review the arrangements for Lent term in the light of the latest advice on safety.

Lecture List

Quantitative methods			
1	MT, Week 1	Dr M Iacovou	Background to statistical inference and hypothesis testing
2	MT, Week 2	Dr M Iacovou	Variables, and variable types; graphical tools for describing distributions
3	MT, Week 3	Dr M Iacovou	Measures of central tendency & dispersion; summary statistics
4	MT, Week 4	Dr M Iacovou	Working with the normal distribution
5	MT, Week 5	Dr M Iacovou	Bivariate analysis – cross-tabulations
6	MT, Week 6	Dr M Iacovou	Bivariate analysis II
7	MT, Week 7	Dr M Iacovou	OLS regression
8	MT, Week 8	Dr M Iacovou	Logistic regression
9	LT, Week 1	Dr M Iacovou	More on regressions
10	LT, Week 2	Dr M Iacovou	Even more on regressions
11	LT, Week 3	Dr M Iacovou	Factor Analysis
12	LT, Week 4	Dr M Iacovou	Final considerations
Survey design and methods			
1	LT, Week 1	Dr M Iacovou	Stages in the survey design process
2	LT, Week 2	Dr M Iacovou	Sampling
3	LT, Week 3	Dr M Iacovou	Testing and Validation
4	LT, Week 4	Dr M Iacovou	Weighting and imputation
Qualitative methods			
1	LT, Week 5	Prof B Burchell	The nature of Qualitative Research
2	LT, Week 6	Prof B Burchell	Interviewing and Focus Groups for Qualitative data
3	LT, Week 7	Prof B Burchell	Ethnographies and Participant Observation
4	LT, Week 8	Prof B Burchell	Using Online Data and analysing Qualitative Data.

Reading list

Quantitative Methods

The course does not rely heavily on reading; most of what you need to know will come from the lectures, and you'll also receive handouts for the tutorials and practical sessions. The following sources are helpful:

Field, A. (2013) *Discovering Statistics Using IBM SPSS Statistics* There are many older editions of this book, which are also fine to use.

Bryman, A. (2015) 'Social Research Methods'

Smithson, M. (2000) 'Statistics with confidence'

Levin, J. & Fox, J.A. (2003) 'Elementary Statistics in Social Research'

Acock, A. (2016) *A gentle introduction to Stata*

The course requires NO mathematical knowledge. But if you're good at maths and want to read up on the maths behind the techniques we use on this course, please just ask.

Survey design and methods

de Vaus, D. A. (2014) *Surveys in Social Research* (6th ed). London: Routledge (chs. 1-2, 6-8).

Best, S. & Kruger, B. (2004) "Internet Data Collection", *Quantitative Applications in the Social Sciences*, 141. Thousand Oaks: SAGE.

Kara, H. (2018) "Write a Questionnaire", *Little Quick Fix*, London: Sage.

Schuman, H. (2002) "Sense and nonsense about surveys", *Contexts*, 1(2): 40-47. Online: http://users.soc.umn.edu/~uggen/Schuman_Contexts_02.pdf

Converse, J. M. & S. Presser (1986) "Survey Questions: handcrafting the standardized questionnaire", *Quantitative Applications in the Social Sciences*, 63. London: Sage.

Smith, E. (2008) "Pitfalls and promises: the use of secondary data analysis in educational research", *British Journal of Education*, 56(3): 323-339.

Qualitative Methods (Soc 5)

Bryman, A. (2012/15) *Social Research Methods* 4th/5th Edn. Oxford University Press.

Elliott, J (2005) *Using Narrative in Social Research*. London: Sage.

Flick, U. (2009) *An Introduction to Qualitative Research*. London: Sage

Hammersley, M. *What is Qualitative Research?* (2013). London: Bloomsbury.

Qualitative methods for CRIM 2 students: Criminological Research Methods

Students taking CRIM 2 should choose 4 of the sessions described below (from the qualitative methods lectures in particular). The lectures will be online this coming term, but you will be invited to join an in-person discussion group (45 minutes) on a Tuesday morning. Two different time slots will be offered, and you should choose one of them. The lectures will include examples from criminological research. The discussions will take place in the Institute of Criminology on the Sidgwick Site. Reading will be provided once you have chosen the four sessions. One supervision will be offered (date and time to be arranged with Loraine Gelsthorpe).

If you have any questions, please contact Loraine Gelsthorpe lrg10@crim.ac.uk

Criminological Research Methods; 2020-21

Course Convenor: Maria M. Ttofi

All pre-recorded seminars will be uploaded online on the Friday ahead of the allocated Q&A sessions. Q&A sessions will be face-to-face and will take place on Tuesdays (unless otherwise indicated). Students in Group A and Group B are expected to attend face-to-face meetings based on indicated time slots shown in the Student Handbook. Meetings take place in seminar rooms B3/B4 unless otherwise indicated

NOTE—time slots for Q&A not shown on this document; update will follow soon

Tuesday 13 October		
1. Introduction to research – questions and their answers	09:00-12:30	Caroline Lanskey, Maria Ttofi
Tuesday 20 October		
2. Sampling and surveys	09:00-10:30	Maria Ttofi
3. Experimental research	11:00-12:30	Maria Ttofi
Tuesday 27 October		
4. Quantitative data analysis: Basic principles	09:00-10:30	Maria Ttofi
5. Systematic reviews and meta-analysis	11:00-12:30	Maria Ttofi
Tuesday 3 November		
6. Qualitative Systematic Reviews	09:00-10:30	Katherine Auty
7. Qualitative Systematic reviews: Practical workshop	11:00-12:30	Katherine Auty
Thursday 12 November		
8. Ethnographic and observational research	09:00-10:30	Ben Crewe
9. Interviewing	11:00-12:30	Ben Crewe
Tuesday 17 November		
10. Documents and discourse analysis	09:00-10:30	Loraine Gelsthorpe
11. Qualitative data analysis	11:00-12:30	Ben Laws
Tuesday 24 November		
12. Mixed methods research	09:00-10:30	Ben Crewe
13. Research ethics	11:00-12:30	Loraine Gelsthorpe
Tuesday 1 December		
14. Critiquing qualitative and quantitative methods research workshop	09:00-12:30	Ben Laws
15. Practical workshop: writing a research proposal	11:00-12:30	Maria Ttofi

More on the Project

Until this year, this paper has been assessed by examination alone. We have introduced an optional project component in response to requests from students. The project is entirely optional, but you may want to undertake a project for the following reasons:

- In a course which is primarily based on empirical methods, the best way of learning is by actually applying these methods
- It gives you the chance to improve your overall mark for the course, and cannot lower your mark
- It can be extremely interesting and great fun
- If you are planning on doing an empirical dissertation in your third year, and/or progressing to a higher degree, doing a project in your second year may help you hit the ground running. Please note that under the University's rules, you cannot submit the same material for two degrees, or for two papers in the same degree; however, the insights and skills you develop from a project will be extremely helpful.

The project itself can be on any topic, but it should showcase one of the methods taught in the course. The expectation is that your work will be to some extent original, although it is also acceptable to attempt to replicate the work in a published paper.

When assessing your work, the examiners will look for

- A well-defined and well-motivated research question
- A good account of the literature in the area, and how your project fits into the literature
- A good account of the methods used
- Clear reporting of the results, and an assessment of their implication
- Evidence that you have adhered to an appropriate ethical framework
- Clear writing and a good narrative structure

The word limit is 2000-5000 words. In addition to this, you will be expected to submit as appendices:

- For projects based on quantitative analysis, please submit your Stata code
- For projects based on survey methods, please submit your survey protocol, including any versions you used in the development of a final protocol
- For projects based on qualitative methods, please submit the framework for your interview, plus the text of any standard communications sent to interviewees.

You will need to apply for ethical approval and risk assessment via your Department's standard procedures – please ensure that you allow enough time for this.