

# Faculty of Human, Social and Political Science

## PPS Tripos

### Int 2: Inquiry and Analysis II

2014-2015

#### Course Organiser:

Prof Jacqueline Scott (email: [jls1004@cam.ac.uk](mailto:jls1004@cam.ac.uk))

*During Michaelmas term 2014, Dr Maria Iacovou ([mi305@cam.ac.uk](mailto:mi305@cam.ac.uk)) will deputise for Prof Scott*

#### Aims and Objectives

- Understanding the theory underlying important statistical techniques utilised by social scientists.
- Choosing and applying multivariate analysis techniques appropriately.
- Understanding the role and limitations of software packages for the analysis of qualitative data
- Familiarising students with analysis packages for qualitative and quantitative data
- Developing IT, computer literacy, and numeracy skills.
- Fostering a critical understanding of the empirical research process, as well as the possibilities and limits of data and analysis.

#### Paper Content

This paper introduces students to an understanding of contemporary theory and application of empirical social scientific inquiry and analysis. Students will learn how to make effective use of software packages which support quantitative and qualitative data analysis. They will also learn how to access quantitative secondary data. The theoretical complexity and conceptual underpinnings of both qualitative and quantitative research will be addressed. Finally, students will be encouraged to develop an understanding of the tension between the ideal and practical use of statistics in social research. Upon completion of this course, students will be equipped to critically evaluate empirical “facts” and to conceive of, as well as execute, statistically sound research. Various data sets will be used to achieve these goals, on issues of relevance to social science research.

#### Prerequisites

This course assumes that participants have a basic level of statistical and methodological knowledge. To assure this, students should have either completed INT1 in the previous year or be familiar with basic statistical principles. Please contact the paper organiser for further information, if you have not completed INT1.

## Mode of Teaching

The paper will be taught through lectures, demonstrations, and supervisions. Lectures tend to be interactive and the lecturers will often demonstrate the use of computer packages. Lecturers will set coursework, for which students will use computers and can attend demonstration classes. Course lecturers will offer a choice of supervision topics on their modules, from which students are expected to select six in all. If any supervision problems arise then students should contact the course organiser. {Directors of Studies may, of course, make their own arrangements for supervision, and should inform the course organiser by the start of the Michaelmas full term if they wish to do so.} For supervision, students will usually tackle a data-analysis problem or write an essay on a particular issue in data analysis. Supervision topics are listed below for some topics; for others, past exam papers provide the best supervision material.

## Mode of Assessment

One 3-hour examination.

## Suggestions for Background and Remedial Reading

Field, A. (2009). *Discovering statistics: using SPSS*. Sage. 3<sup>rd</sup> edition  
Fielding, J., & Gilbert, N. (2000). *Understanding social statistics*. Sage.

There are lots of good methods and statistics books both in the SPS library and in the Criminology library. Sage does a green series of books on different aspects of quantitative analysis and a blue series of books on different aspects of qualitative research.

## Lecture List

See the lecture list on the PPS Tripos website for the full details of times and places. Full details will also be available at the first introductory lecture.

## Paper Overview: Dr M Iacovou ([mi305@cam.ac.uk](mailto:mi305@cam.ac.uk))

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Week 1: Introduction to and overview of the paper.

## Regression and Logistic Regression: Dr Mark Ramsden ([mjr60@cam.ac.uk](mailto:mjr60@cam.ac.uk))

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Michaelmas, weeks 1-4

*Readings: main text*

Field, A. (2009). *Discovering statistics: using SPSS*. Sage. 3<sup>rd</sup> edition

*Supplementary reading*

Tabachnick, B.G., & Fidell, L.S. (2000). *Using Multivariate Statistics* (4th ed.) New York: Allyn & Bacon.

Chen, W., Lin, N., and Liu, J. (2010) Maternal age as a crucial factor between low birth weight and crime: Evidence from Taiwan's National Data – A research note, *Social Science Research* 39: 1047–1058.

Garasky, S., Stewart, S.D., Gundersen, C., Lohman, B.J., and Eisenmann, J.C. (2010), Family stressors and child obesity, *Social Science Research* 38: 755–766.

Giordano, P.C., Soto, D.A., Manning, W.D., and Longmore, M.A. (2010), The characteristics of romantic relationships associated with teen dating violence, *Social Science Research* 39: 863–874.

Henderson, M. (2012) A Test of Parenting Strategies, *Sociology* 47(3): 542–559.

Lampard, R. (2012) Parental Characteristics, Family Structure and Occupational Attainment in Britain, *Sociology* 46(6) 1020–1038.

*Lectures:*

- Week 1 Relationships between variables: sampling, scatterplots, covariance, partial and semi-partial correlation
- Week 2 Regression part 1: bivariate regression, multiple regression, OLS, assumptions, residuals
- Week 3 Regression part 2: different types of variables, dummy variables, non-linearity
- Week 4 Logistic regression: logit and probit functions, maximum likelihood, odds ratios

**Computer-Assisted Qualitative Data Analysis:** Dr Anna Bagnoli ab246@cam.ac.uk

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Lent, weeks 1-2

*Key readings:*

Fielding, N.G. and Lee, R.M. (1998): *Computer Analysis and Qualitative Research*. London: Sage

Mason, J. (2002): *Qualitative Researching*. London: Sage

Miles, M.B., & Huberman, A.M. (1994). *Qualitative Data Analysis: an Expanded Sourcebook*. Thousand Oaks: Sage

Seale, C.F. (2000) Using Computers to Analyse Qualitative Data. In D. Silverman (ed.), *Doing Qualitative Research: a Practical Handbook*. London: Sage.

*Key debates:*

The online journal FQS 'Forum: Qualitative Social Research' <http://www.qualitative-research.net/fqs> has a special edition on Using Technology in the qualitative research process, May 2002, 3(2).

Gibbs, G, Friese, S. and Mangabeira, W. (2002). The Use of New Technology in Qualitative Research. Introduction to Issue 3(2) of *FQS*, *FQS* 3(2).

The journal 'Sociological Research Online' [www.socresonline.org.uk](http://www.socresonline.org.uk) has a set of articles debating the appropriateness of CAQDAS:

Coffey, A., Holbrook, B. and Atkinson, P. (1996). Qualitative Data Analysis: Technologies and Representations, *Sociological Research Online*, 1(1).

Lee, R. And Fielding, N. (1996) Qualitative Data Analysis: Representations of a Technology: A comment on Coffey, Holbrook and Atkinson, *Sociological Research Online*, 1(4).

Catterall, M. & Maclaran, P. (1997). Focus Group Data and Qualitative Analysis Programs: Coding the Moving Picture as Well as the Snapshots, *Sociological Research Online*, 2(1).

Kelle, U. (1997). Theory Building in Qualitative Research and Computer Programs for the Management of Textual Data, *Sociological Research Online*, 2(2).

Kelle, U. (ed.) (1995). *Computer-aided Qualitative Data Analysis. Theory, Methods and Practice*. London: Sage

Lonkila, M. (1995). Grounded Theory as an Emerging Paradigm for Computer-assisted Qualitative Data Analysis, in U. Kelle (ed) *Computer-Aided Qualitative Data Analysis*, London: Sage.

*Supplementary readings:*

Barry, C.A. (1998). Choosing Qualitative Data Analysis Software: ATLAS.ti and Nudist Compared, *Sociological Research Online*, 3(3).

Bauer, M. and Gaskell, G. (eds) (2000). *Qualitative Researching with Text, Image and Sound: a Practical Handbook for Social Research*. London : Sage.

Denzin, N.K., and Lincoln, Y.S. (1994). *Handbook of Qualitative Research*. London: Sage.

Lewins, A. and Silver, C. (2007). *Using Software in Qualitative Research. A Step by Step Guide*. London: Sage

Lieblich, A., Tuval-Mashiach, R., and Zilber, T. (1998). *Narrative Research: Reading, Analysis and Interpretation*. London: Sage.

Richardson, L. (1994). Writing: a Method of Inquiry, in N.K. Denzin, and Y.S. Lincoln (1994), *Handbook of Qualitative Research*. London: Sage, pp. 516-529.

*Online resources:*

The CAQDAS networking project contains useful resources including a bibliography and list of online articles. <http://caqdas.soc.surrey.ac.uk>

See also Online QDA on <http://onlineqda.hud.ac.uk>

*Lectures:*

The lectures will make an overview of the process of qualitative data analysis, introducing CAQDAS and the debates that have originated from the use of software in qualitative analysis practice. The second hour of each lecture will be dedicated to a practical introduction to the use of the Atlas.ti software.

Lecture 1 outline: Diversity of approaches, grounded theory, data management, data preparation, coding, CAQDAS

Lecture 2 outline: CAQDAS debate, holistic data organisation, diagrams and charts, writing, validity and reliability, generalising from qualitative research

**Secondary Data Analysis:** Prof J Scott (jls1004@cam.ac.uk)

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Lent, weeks 3-4

*Reading List:*

- Dale, A. Arber, S & Procter (1988). Doing secondary analysis. Unwin.
- Thomas, R. (1996). Statistical sources and databases. In R. Sapsford & V. Jupp (Eds.), Data collection and analysis. Sage.

*Case Studies (select one or two):*

- Dale, A., Fieldhouse, E., & Holdsworth, C (Eds.) (2000). Analyzing census microdata. Oxford University Press.
- Buck, N, Gershuny, J., Rose, D., & Scott, J. (Eds.) (1994). Changing households: the British Household Panel Survey 1990-1992. ESRC Research Centre on Micro-Social Change.
- Ferri, et al. (1993). The fifth follow-up of the National Child Development Study. National Children's Bureau.
- Jowell, R. et al. (Eds.) (1998). British and European social attitudes: how Britain differs. Ashgate.
- Elder, G. (Ed.) (1985). Life course dynamics: trajectories and transitions, 1968-1980. Cornell University Press.

*Lectures:*

- Lecture 1: Why do secondary analysis? Finding out about data resources (BIRON).
- Lecture 2: Challenges of using secondary data; issues of comparability.

*Supervision Topics:*

- Drawing on at least two examples, discuss the way secondary analysis has contributed to social theory or social policy.
- Why are large-scale social science data sets so under-utilised?

**Factor Analysis:** Dr Mark Ramsden (mjr60@cam.ac.uk)

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Lent, weeks 5-6

*Reading List: main text*

- Field, A. (2009). Discovering statistics: using SPSS. Sage. 3rd edition

*Supplementary reading*

- Beaumont, R. (2012) An introduction to Principal Component Analysis & Factor Analysis Using SPSS 19 and R (psych package)  
Robin
- Brown, T.A., Cash T.F., and Mikulka, P.J. (1990) Attitudinal body image assessment: factor analysis of the body-self relations questionnaire, *Journal of Personality Assessment*, 55(1&2): 135-144.
- Child, D. (1970). The essentials of factor analysis.
- Kim, J-O & Mueller, C.W. (1978) Factor analysis: statistical methods and practical issues. Sage.
- Kline, P. (1994). An easy guide to factor analysis. Routledge.
- Henderson, M. (2012) A Test of Parenting Strategies, *Sociology* 47(3): 542–559.

Hojat, M., Mangione, S., Nasca, T.J., Cohen, M.J.M., Gonnella, J.S., Erdmann, J.B., Veloski, J., and Magee, M. (2001) The Jefferson Scale of Physician Empathy: Development and Preliminary Psychometric Data, *Educational and Psychological Measurement*, 61: 349.

Tabachnick, B.G., & Fidell, L.S. (2000). Using Multivariate Statistics (4th ed.). New York: Allyn & Bacon.

Vodanovich, S.J. and Kass, S.J. (1990) A factor analytic study of the boredom of proneness scale, *Journal of Personality Assessment*, 55(1&2): 115-123.

Williams, B. (2010) Exploratory factor analysis: A five-step guide for Novices, *Australasian Journal of Paramedicine*, 8(3): 1-13.

*Lectures:*

Lecture 1: A straightforward exploratory factor analysis.

Lecture 2: Variations on extraction, rotation, missing cases

**Exploratory Data & Time Series Analysis: Dr B Burchell ([bb101@cam.ac.uk](mailto:bb101@cam.ac.uk))**

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Lent: weeks 7-8

*Reading List:*

Burchell, B.J. (1995). Exploratory data analysis. Pharmacy Practice Research Resource Centre Bulletin, 4(3), 9-12.

Hardwig, F., & Dearing, B.E. (1979). Exploratory data analysis. Sage.

Hunt, M. (1997). How science takes stock: the story of meta-analysis. Russell Sage Foundation.

Marsh, C. (1988). Exploring data: an introduction to data analysis for social scientists. Polity Press.

Moore, D.S. (1997). Statistics: concepts and controversies (4<sup>th</sup> ed.). Freeman.

Tukey, J. W. (1977). Exploratory data analysis. Addison-Wesley.

Velleman, P.F., & Hoaglin, D.C. (1981). Applications, basics and computing of exploratory data analysis. Duxbury.

*Lectures:*

Lecture 1: The philosophy of EDA, re-expressing data, and meta-analysis.

Lecture 2: The logic of drawing inferences from time-series data and smoothing time series.

**Lab sessions:**

The lectures will be supplemented with the following practical sessions:

Three two-hour sessions in Weeks 5-7, Michaelmas term (Fridays 2-4pm on 7<sup>th</sup>, 14<sup>th</sup> and 21<sup>st</sup> November), Cathie Marsh Computing Room

The sessions on computer-assisted qualitative data analysis will take place in the Titan Computer Suite and will involve practical work.

The second lecture on Factor Analysis will be a practical session, taking place in the Cathie Marsh Computing Room (19<sup>th</sup> February 2015, 10-12am)

### **Student Feedback:**

Your chance to put forward your opinions on the papers you take!

For Sociology Papers, student feed-back is collected via hard-copy anonymous questionnaires distributed at various points in the academic year. It is crucial that you fill these out and give feedback on your papers. Getting good feedback from students makes the course better and shows the outside world how Cambridge degrees consider their students views.

Course organisers take students' concerns and suggestions into consideration each year when preparing their paper outlines and selecting supervisors for the year. So please remember to fill out a form.

September 2014