Research Design and Statistics

Module Organiser: Dr Karla Evans

Overview

The course as a whole is an advanced ‘refresher’ course. It assumes a basic knowledge of statistics and experimental design, but starts from first principles. In this sense no common background is assumed. By the end of the course, you will be proficient in the more common univariate statistical techniques used in experimental psychology, and for those techniques that we are unable to cover in detail, you will develop the confidence to find out about them through reading those parts of the Andy Field’s book "Discovering Statistics Using SPSS" which won't be covered on the course.

Learning Objectives

After completing this module students should be able to:

- understand the basic statistical theory underlying statistical inference and statistical models
- understand a range of research designs
- carry out relevant statistical tests using SPSS
- interpret empirical data

Topics Covered

- Introduction to Statistical models
- Confidence Intervals and Logic Of Hypothesis Testing
- Bivariate Correlation and Regression
- Multiple Regression
- Comparing Two or Several Means
- Factorial Independent ANOVA & ANCOVA
- Within-Subject/Repeated Measures ANOVA and Mixed Model ANOVA
- Categorical Data and Nonparametric Statistics

Teaching Methods

This course is composed of three different teaching methods (lectures, independent practicals and workshops).

Each week there is a two-hour lecture session given by module organizer Dr Karla Evans. At the lecture students are given an assignment related to that weeks lecture to complete on the VLE in the form of a practical exercise that the students are to do independently following instructions and using SPSS. Students are also asked to complete independently by a given time a VLE quiz that is on the material covered in the lecture and practical. Lastly at the end of the week there is an hour and half long small group workshop (there are 4 different times offered) run by Dr Adam Goody. The workshop reviews with the students the material that was covered in the lecture, practical’s and VLE quiz in that week. The students will also have an opportunity to ask additional questions about the material covered.

Sample Reading

Key Reading

and if you have a choice, get the 4th Edition. But there’s not a huge difference.

Further Reading