

Melanie Bell: Statistics

Synopsis

The course assumes no previous experience of statistics or statistical software. It will provide a basic introduction to statistical principles and methods, with a view to building participants' confidence in reading and understanding linguistic studies that use such methods. Topics covered will include: types of data, sampling, patterns of distribution, describing data, testing hypotheses, levels of significance, comparing groups for significant differences, and identifying significant relationships between variables. All examples will use data and problems related to linguistics, and will be presented using the statistical software R. Students will be expected to undertake set reading in support of the classes.

Lecture topics

- Describing information
- Taking samples and testing hypotheses
- Comparing groups and investigating relationships

Syllabus

| Lecture | Topics | Reading |
|---------|-----------------------------------|--|
| 1 | Basic concepts Describing data | chapter 01_fundamental_concepts chapter 02_frequency_distributions chapter 03_central_tendency_and_variability chapter 04_normal_distribution |
| 2 | Sampling Testing hypotheses | chapter 05_sampling_and_estimation chapter 06_hypothesis_testing |
| 3 | Comparing groups Correlation | chapter 07_parametric_tests_of_significance chapter 11_correlation |

The reading listed above, which is available on the summer school server, comes from the following textbook:

Butler, Christopher. 1985. Statistics in linguistics. Oxford: Blackwell.
<http://www.uwe.ac.uk/hlss/llas/statistics-in-linguistics/bkindex.shtml>

This book assumes no prior knowledge of statistics and presents the necessary mathematical concepts without assuming knowledge of any computer software. As far as possible, please read the chapters indicated before each session.

Additional material and a more extensive bibliography will be provided in class.