Faculty of Economic, Social and Political Sciences

SOC2136   Methods of quantitative analysis in sociology

[45h] 6 credits

This course is taught in the 1st and 2nd semester

Teacher(s):   Bruno Schoumaker
Language: French
Level: Second cycle

Aims

By the end of the course, students will be able to:
carry out a critical analysis of articles and books by using a number of (mostly bivariate and multivariate) statistical methods and techniques;
~ process quantitative data (e.g. administrative files, and surveys) themselves by making
use of the same methods and techniques.

Main themes

The course will provide a broad overview of the main statistical methods available, by structuring them in a unified presentation (e.g. methods of analysing dependences, inter-dependences and resemblances) with a view to providing students with the ability to make a reasoned choice of these methods of critically evaluating the uses made in scientific research and literature. Teaching will not focus solely on technical aspects of the statistical tools presented, and the teacher will ensure that they are re situated in a methodological even a much broader, epistemological approach by stressing questions that are sometimes ignored, or referred to in insufficient detail in classical statistical handbooks (e.g. probabilistic sampling versus reasoned sampling, statistical error and errors in observation, the relevance of the closure clause in observation systems, and the debate on the reality of social causes).
Attention will be carefully drawn to the operationalisation aspect and the practical use
of the methods and techniques by not according too much importance to the underlying formalism, and the students will have to become intelligent users of the tools presented, and not seasoned statisticians.

Content and teaching methods

1. Statistical and epistemological review:
problems of observation and experimentation;
real and false hazards;
probabilistic samples and reasoned samples (quotas);
describing, classifying and explaining: a typology of multivariate methods;
measurements of association and of correlation;
analysis of contingency tables;
the variance decomposition equation.
2. Descriptive or dimensional analysis: factoral methods.
3. Classificatory or typological analysis: methods of classifying and clustering.
4. Causal or 'explanatory' analysis: methods of multiple regression, variance covariance
analysis, and analysis of causal dependence.
5. Integration of the various multivariate methods of analysis: multi level research
plans, and contextual analysis.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

The pre requirements are a good understanding of measurement in social sciences (e.g.
Course SESP1242), of the basic concepts of analysis and statistical inference (e.g. Course
SESP1240), and of the use of statistical analysis software to social sciences (e.g. Course SESP1223).
The assessment will include at least a summary of empirical data measuring a technical and
methodological understanding of the methods taught. In general terms, this work can be
done collectively by small groups of 3 5 people who choose a theme of treatable sociological
interest based on a data set (e.g. a survey on the values of Europeans), and apply techniques and methods appropriate to the
theme. They will then hand in a collective analysis report that they will be invited to defend individually in the course of an
oral examination.
Course syllabus (in the form of copies of transparencies) + reference books.
Because of the individual support given to students when acquiring this know how, some degree-level supervision has been
allocated to this course, particularly for monitoring practical work. Some of the sessions will also be devoted to learning about
SPSS software (4 6 hours).

Other credits in programs

SOC21	Première licence en sociologie		
SOC2M1/SO	Master en sociologie et anthropologie (option sociologie)	(6 credits)	Mandatory