UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Statistical Methods for Clinical and Healthcare Psychology

2425-1-F5107P001

Learning area

Models and techniques for treatment and rehabilitation

Learning objectives

Knowledge and understanding

· Statistics for correlational data

· Statistics for experimental data

· Simple and complex relationships among different types of variables

· Basics of measurement in psychology

· Psychological measures properties

Applying knowledge and understanding

· Ability to analyze data collected in different research designs

· Understanding and evaluating third-party statistics and their quality

· Estimating and understanding simple and complex relationships among variables.

· Employing and evaluating different types of psychological measures

· Mastering of Jamovi software

Contents

An overview of several statistical techniques and methodological concepts is provided, giving the student the ability to collect and analyze data in a wide range of research situations. Univariate and multivariate statistical techniques are presented, with emphasis on the interpretation of results. Fundamental concepts related with measurement in psychology are also discussed.

Detailed program

Class activities

· Statistical models and inferential statistics

· The general linear model

· Mediation and moderation

· Statistics for repeated-measures designs

· Generalized linear model

· Measurement theory

· Validity and reliability

· Factor analysis

Practice Labs

Practice with Jamovi statistical software and hands-on exercises with real data.

Prerequisites

Descriptives statistics (measures of central tendency and dispersion); Basics of inferential statistics; t-test, correlation, simple linear regression.

Teaching methods

Both theoretical lectures (42 hours) and practical lab sessions (18 hours). The lectures and lab sessions will be taught in presence.

In the theoretical lessons the foundations of the statistical techniques are presented and discussed, their applicability, with special focus on the interpretation of the results. Using several examples found in the psychological literature, students with different backgrounds should be able to understand what is needed to carry out and interpreting the statistical analyses discussed in the course. The discussion of data-analysis examples is an important part of the lectures.

Practice sections in the computer labs with data-analyses.

Although this course is held in Italian, for Erasmus students, the course material is available also in English, and students can take the exam in English if they wish to do so.

Assessment methods

Written final test with multiple-choice questions (18 questions - 1 point each) and open-end questions (3 to 5, 15 points overall) based on data analyses. Scores above 30 correspond "30 and praise". Only those who answer to at least 9 multiple-choice questions will be allowed to attempt to answer open-end questions.

Multiple-choice questions will assess particularly the understanding of the theoretical models underlying psychometric and data analysis techniques.

Open-ended questionswill assess the ability to apply this knowledge for developing research projects and for analyzing data. The student will be assessed on their ability to understand a research design, select the statistical techniques useful to answer the researcher questions, execute them with the statistical software, interpret and report the results following international standard (APA)

Textbooks and Reading Materials

Learning materials is available consists of the lectures slides and the textbook. Papers regarding specific topics can be also indicated. Lecture slides and papers will be made available in the University’s online elearning platform.

Textbook 1: Gallucci, M. Leone L Berlingeri, M (2017). Modelli statistiche per le scienze sociali. Milano: Pearson Education.

Sustainable Development Goals