UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Quantitative Methods for Developmental Psychology

2425-1-F5103P107

Learning area

Area of experiential learning

Learning objectives

Knowledge and understanding
Know and understand what Analysis of Variance (ANOVA) and linear regression models are, have a basic knowledge of more advanced techniques such as generalized linear models
Identify when and why the above statistical techniques can be used to answer which theoretical questions
Ability to apply knowledge and understanding
Choose the appropriate ANOVA model for the data at hand and run it with the software
Choose and run the appropriate linear regression model for the data at hand
Be able to interpret the results and the inferences they allow
Understand which type of advanced statistical model applies to different data types

Contents

Using the statistical software JAMOVI, we will focus in particular on various ANOVA models and multiple linear regression models. During the laboratory meetings, students will learn to perform statistical analyzes on different data and interpret the results.

Detailed program

Brief introduction to JAMOVI
Analysis of Variance models (between-subjects, within-subjects, mixed design)
Regression analysis (simple and multiple – mediation and moderation)
Notes on generalized linear models

Prerequisites

Students should have a basic knowledge of software for creating and managing empirical data (e.g., Excel, SPSS, or similar), in order to be able to perform simple operations (data entry, variable creation,…). The main theoretical notions regarding the different statistical techniques used will be provided in the laboratory meetings.

Teaching methods

Presentation of the main notions of the statistical techniques addressed, examples of analysis, and individual performance by the students of similar exercises. Around 50% of the hours (14 hours) will be of traditional teaching and the remaining 50% (14 hours) will be of interactive teaching (practical sessions/exercises). The laboratory will be held in Italian and entirely in presence.

Assessment methods

During the meetings, students will carry out specific exercises on the two main topics studied (Analysis of Variance and Multiple Linear Regression) to evaluate their skills in examining the validity of some hypotheses by performing appropriate analyses and adequately interpreting results. Students are expected to participate to at least 70% of the total hours (24 hours) of the laboratory.

Textbooks and Reading Materials

Gallucci, M., Leone, L., & Berlingeri, M. (2017). Modelli statistici per le scienze sociali. Pearson
Navarro DJ and Foxcroft DR (2022). Learning statistics with Jamovi: a tutorial for psychology students and other beginners. (Version 0.75). DOI: 10.24384/hgc3-7p15 (https://www.learnstatswithjamovi.com/)

Sustainable Development Goals

QUALITY EDUCATION