Statistics-I. Continuous Evaluation (16 December 2024)

Note: The data files are in JASP format (.jasp)—just in case, they are also in SPSS format (.sav).

First. A researcher wants to examine whether the presence of an audience improves the performance of 3-year-old children in a simple task. She recruited 50 children. Each child participates in two separate sessions: one where they perform the task with an audience (with adults observing) and another without an audience. The task involves retrieving an object from a transparent box, and the time taken to complete it is measured in both scenarios. The order of the sessions was counterbalanced, with half of the children starting with the audience and the other half starting without. The questions are: A) Which is the number of rows and columns in JASP to analyze the data?; B) If the children perform the task faster with an audience, what ideas could you explore in future studies to examine how social factors like the presence of an audience affect task performance?

(For question 2) We have the following dataset (JASP: <http://www.uv.es/mperea/iperson.jasp>; SPSS: <http://www.uv.es/mperea/iperson.sav>) in which we have data from a number of individuals: Gender, Age, Neuroticism, Extraversion, Agreeableness, Conscientiousness, and Sincerity (for sincerity: higher scores, less sincerity)

Second. We want to examine whether extraversion differs between men and women, but before doing this analysis, we want to exclude from the sample all those individuals with a sincerity score higher than 1. Summarize the findings with the appropriate graph and stats—also copy/paste from the JASP output.

(For questions 3 and 4) We have the database (JASP: <http://www.uv.es/mperea/RosenbergScale.jasp>; SPSS: <http://www.uv.es/mperea/RosenbergScale.sav>) that is composed of the following variables: A) Score\_P in Rosenberg’s self-esteem questionnaire; B) Score\_S in Rosenberg’s self-esteem questionnaire; C) Age; Gender(man, woman), and D) Smoking (yes, no)

Third. In the sample, indicate an index of the relationship between Score\_P and Score-S in Rosenberg’s self-esteem questionnaire when controlling for Age. What does it mean? (Copy/paste the appropriate tables from JASP)

Fourth. We want to predict IQ using a regression equation with Score\_P, Score\_S, and Age as predictors. A) What is the percentage of IQ that can be explained by the regression equation?; B) Are there any collinearity problems? (Copy/paste the appropriate tables from JASP)

Fifth. What percentage of people have an IQ greater than 120? (The average IQ is 100, with a standard deviation of 15; you can assume that IQ follows the normal distribution.) (Copy/paste from JASP and indicate the response in a short sentence)