**Exercise 1, 2024. Statistics-I**

We want to find out if increasing the number of friends of a person in a social network make them more “socially attractive”. The researchers presented exactly the same Facebook profile to five different groups (you can think of more recent social networks…this was from a 2008 paper…the logic is similar, anyways), the only difference being the number of friends of the profile (102, 302, 502, 702, or 902 friends). The assignment of the participants to each of the groups was at random.

***Which is the independent variable?***

***Which is the dependent variable?***

***Is this an experiment or a quasi-experiment?***

***How many rows are necessary to analyze the data?***

***And how many columns?***

***Is this a "between-subjects" or a "within-subjects" design? Why?***

***What type of plots can you use to describe to analyze the data? What would be your preference?***

***What conclusions could you draw from this research with the following data (<https://www.uv.es/mperea/facebook.csv>)? (Remember that the file must be saved as .csv and then opened from JASP or SPSS; please, add the labels of the values ​​where appropriate)***

***Can you think of a way to improve this study? Do you think the employed design was the best choice? Could you improve the procedure?***

***What is the appropriate plot for the variable Sex? Is it balanced in the sample?***

***Idem for Educational level. Is it balanced in the sample?***

***Idem for IQ. Also, does it show how an approximately normal distribution would be expected?***

***Select only the women and plot the graph for educational level.***

References (taken from JASP, but they are **not** in APA format ...):

D. S. Moore, G. P. McCabe, and B A. Craig. Introduction to the practice of statistics (7th. ed). New York: Freeman.

Stephanie Tom Tong, Brandon Van Der Heide, Lindsey Langwell, Joseph B. Walther; Too Much of a Good Thing? The Relationship between Number of Friends and Interpersonal Impressions on Facebook, Journal of Computer-Mediated Communication, 13(3), 2008.