**Continuous Evaluation (November, 2020), Statistics-I**

A group of researchers wanted to examine whether thinking avoid COVID has a detrimental impact on cognition (in particular, on problem solving). They recruited 200 university students. Randomly, half of them was asked to comment on a short story about a coronavirus outbreak, and the other half of participants was asked to comment on a short story about climate change. Then, all participants were presented with a number of insight thinking problems. The experimenter measured the overall number of correct responses to the problems. For potential exploratory analyses, the researchers also collected the age and the preferred gender of the participants.

1. (a) From the information above, did the authors choose an experimental approach or a correlational approach? Why?

1. (b) How would you organize the above data in JASP? (# rows, # columns)

2. (a) Is this study an example of a between-subjects or a within-subject design? Why?

2. (b) Let’s assume that the researchers did not obtain any (significant) differences in problem solving between the COVID and control groups, although a post hoc analysis showed a small difference for men but not from women? What would you do to pursue this topic further?

We have the following data file (<https://www.uv.es/mperea/iVanity.jasp>) in which we collected several psychological and demographic variables of a large sample of participants (distress, vanity, age, sex).

3. Does the variable “vanity” follow a normal distribution? Justify your answer with plots and/or descriptive stats. (Copy/paste tables/graphs from JASP) [There is no need to run the Shapiro-Wilk test; it may confuse you rather than help you.]

4. Let’s categorize the individuals of 29 y.o. or younger as “young adults” (1) and the rest of people as “older adults” (2) in a new column (“Age\_categories”)—you may want to use the *ifElse* function to that end. Please, use the above labels when you create the new column. We want to find out if there are differences between the groups of young and older adults in distress. Please write down your conclusions in one or two sentences. (Copy/paste tables/graphs from JASP.)