**Exercise #1. Are women more talkative than men?**

In the link <http://www.uv.es/mperea/Talk.sav>, we have the number of utterances (in a given day) from a sample of men and women. The source is:

Moore, McCabe, Craig (2012). Introduction to the Practice of Statistics (7th ed.). New York, NY: W.H. Freeman and Company, Chapter 1, p. 69

Taken from:

Mehl, M.R., Vazire, S., Ramirez-Esparza, N., Slatcher, R.B., & Pennebaker, J.W. (2007). Are women really more talkative than men? *Science, 317*, 82. <http://www.sciencemag.org/content/317/5834/82.short>

The question of interest: Whether the average number of words spoken per day is higher for women then for men.

--How can we organize the data in SPSS? (number of rows, columns)

--Is this an experiment? Why? Is this a between-subject or a within-subject design?

--Can you think of a better alternative?

--What types of graphs can be use with the current dataset?

--Which graph/s would you prefer?

--In one or two sentences, what are your conclusions—take into account the graphs and the statistical indexes (central tendency, variability, and perhaps also skewness).

**Exercise #2. The effect of the moon on aggressive behavior**

In the link <http://www.uv.es/mperea/Moon.sav>, we have average number of disruptive behaviors in three-day period centered at the day of the full moon measured during a 12-week period. We have a group of patients with dementia and we measure the number their disruptive behavior when there is full moon (three day period) vs. the other days—all this was measured for 3 months. The source is:

Moore, McCabe, Craig (2012). Introduction to the Practice of Statistics (7th ed.). New York, NY: W.H. Freeman and Company, Chapter 7, p. 410; data collected as part of a large-scale study by Nancy Edwards (School of Nursing, Purdue University) and Alan Beck (School of Veterinary Medicine, Purdue University)

The question of interest is whether the average number of disruptive behaviors on full moon days differs from the average number of disruptive behaviors on other days in dementia patients.

--How can we organize the data in SPSS? (number of rows, columns)

--Is this an experiment? Why? Is this a between-subject or a within-subject design?

--Can you think of a better alternative?

--What types of graphs can be use with the current dataset?

--Which graph/s would you prefer?

--In one or two sentences, what are your conclusions—take into account the graphs and the statistical indexes (central tendency, variability, and perhaps also skewness).

**Exercise 3. Are tall individuals more likely to win elections?**

Here, the research question is whether presidential candidates are more likely to win if they are taller than their opponents. To that end, we obtained (from all the elections in the US in historical order): 1) The height ratio (Ratio of height between US president and his most successful opponent) and 2) The popular vote (proportion of the popular vote.)

The source is: Stulp, G., Buunk, A. P., Verhulst, S., & Pollet, T. V. (2013). Tall claims? Sense and nonsense about the importance of height of US presidents. *The Leadership Quarterly, 24*, 159-171.

--How can we organize the data in SPSS? (number of rows, columns)

--Is this an experiment? Why?

--Can you think of another alternative to study this question?

--What types of graphs can be used with the current dataset?

--In one or two sentences, what are your conclusions?