**PRACTICAL Week 4 - Correlation**

1. Open dataset students.sav
2. Paste all calculations and answers to syntax file and save it regularly!
3. Test whether there is statistically significant correlation between **Height and Weight**. Before you start:
   1. Find out whether data of Height and Weight are approximately normally distributed.
   2. Generate a scatterplot of these variables. Answer the following questions:
      1. Is there potentially a linear and/or monotonic relationship between variables? If so, is it positive or negative correlation?
      2. Are there some substantial outliers?
   3. If the assumptions are met, test the linear relationship between the studying variables using Pearson and Spearman correlation coefficients.
4. Answer the following questions:
   1. What is the correlation coefficient of this relationship?
   2. Can you interpret the coefficient regarding to strength and type of the correlation?
   3. Is the correlation between Height and Weight significant? What is the *p-value*?
   4. Is there some difference between Pearson and Spearman coefficients? Which of these tests provide better results?
   5. Can you assume some potential confounders of this relationship?
   6. Write-up the results.
5. Test whether there is statistically significant correlation between three variables: **Sleep hours, Sleep problems and Hours spent on internet** using Spearman rank correlation.
6. Answer the following questions:
   1. What are the correlation coefficients of the relationships?
   2. Can you interpret the coefficients regarding to strength and type of the correlation?
      1. Sleep hours and Sleep problems
      2. Sleep hours and Hours spent on internet
      3. Hours spent on internet and Sleep problems
   3. Are the correlations statistically significant? What are the *p-values*?
   4. Can you assume some potential confounders of this relationship?
   5. Write-up the results.

**Submit your practical:**

1. Save your syntax file to Homework Vaults