

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:
 - a. Find out whether data of Height and Weight are approximately normally distributed.
 - b. Generate a scatterplot of these variables. Answer the following questions:
 - i. Is there potentially a linear and/or monotonic relationship between variables? If so, is it positive or negative correlation?
 - ii. Are there some substantial outliers?
 - c. If the assumptions are met, test the linear relationship between the studying variables using Pearson and Spearman correlation coefficients.
4. Answer the following questions:
 - a. What is the correlation coefficient of this relationship?
 - b. Can you interpret the coefficient regarding to strength and type of the correlation?
 - c. Is the correlation between Height and Weight significant? What is the *p-value*?
 - d. Is there some difference between Pearson and Spearman coefficients? Which of these tests provide better results?
 - e. Can you assume some potential confounders of this relationship?
 - f. 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:
 - a. What are the correlation coefficients of the relationships?
 - b. Can you interpret the coefficients regarding to strength and type of the correlation?
 - i. Sleep hours and Sleep problems
 - ii. Sleep hours and Hours spent on internet
 - iii. Hours spent on internet and Sleep problems
 - c. Are the correlations statistically significant? What are the *p-values*?
 - d. Can you assume some potential confounders of this relationship?
 - e. Write-up the results.

Submit your practical:

1. Save your syntax file to Homework Vaults