DATA ANALYSIS AND INTERPRETATION

Assignment: research project (40% final grade)

Choose a data set which should include **a few variables** (for multiple regression analysis). You can choose data that you use in your thesis. Your sample size should be at least 30 observations.

For data ideas you could consult: https://guides.emich.edu/data/free-data

Describe your data (e.g., if it is survey data, describe how it was collected) and indicate the data source. Describe your topic. Think of **the question you will analyze with your data** (e.g. relationships between variables of interest). Form one or two hypothesis you want to test with your work (derived from your research question). [10%]

Do **initial data analysis** of the variables that you use for hypothesis testing and main analysis: measure descriptive statistics (interpret the values of all relevant indicators), draw conclusions about the distribution of your data (histograms, boxplots), comment on possible outliers in your data and indicate your actions regarding them. [20%]

Test at least one hypothesis (not part of regression analysis) using your data (means, proportions; one sample or two samples). Clearly describe your hypothesis (why the specific conjecture/argument you want to test) and why you choose a specific statistical test. After testing the hypothesis make your conclusions and give an interpretation of the result. [15%]

Do your main analysis (correlation, regression etc.) where you'll answer your question(s) you raised in the intro part of your work.

- ✓ Clearly describe your variables and why you choose specifically this set of variables (including the dependent variable) for your analysis.
- ✓ Do correlation analysis, comment on the values and statistical significance of the coefficients. [10%]

- ✓ Do regression model estimation, interpret the coefficients, comment on the goodness of fit and the significance. [20%]
- ✓ Comment on the validity of the assumptions of linear regression. If one or more assumptions are not valid, comment on possible reasons why and possible next steps to solve this problem (you can try those steps or you can only give arguments why they might work and you can stop at that). [20%]
- ✓ Make conclusions of your main analysis and give interpretation of your results. [5%]

You have to hand in two files: word/pdf file where you write a report on your analysis and SPSS output file (.spv file). Notice that I plan to read only your report, so you have to include SPSS results in your text. The output file is simply a proof you did the work. Your report should be clear – I should not look for hidden meaning in your sentences. Simply imagine your reader is not the lecturer, but rather your friend who is only barely familiar with the methods.

Good luck!