

Lab 2

Measures of Central Tendency and Measures of Variability Assignment

1 Objective

Objective: To assess students' understanding of measures of central tendency and measures of variability and their ability to use jamovi for data analysis.

2 Instructions

- Open [Jamovi](#) and create a new data set with the following variables: Gender and Reaction Time (ms).
- Enter the [provided data](#) set into the Jamovi data spreadsheet.
- Click on “Descriptives” under the “Exploration” tab in the top menu.
- Select the “Reaction Time (ms)” variable and drag it into the “Variables” box.
- Select the “Gender” variable and drag it into the “Split by” box.
- Under “Statistics” and “Plots”, select all checked items depicted in [Figure 1](#).
- Review the generated table and graphs to ensure that the output is accurate and complete.
- Export the output as PDF and choose the desired destination to save the PDF file.
- Name the file with your first initial and last name and submit the file via Canvas (Lab 2 - Part 1).

- Complete Part 2 on Canvas - 2-question quiz

Warning

Remember that this assignment must be completed individually, and that plagiarism is prohibited. Review the plagiarism policy posted on the CSUN website before submitting your assignment. Note: The generated PDF file should contain the Descriptives Table (variables across columns) and the relevant graphs. Be sure to review the file before submitting it to ensure it contains all the required information.


3 Grading rubric

Total points available: 90

| Component | Points |
|--|--------|
| File submission (Part 1) containing the following: | 50 |
| <ul style="list-style-type: none"> • the Descriptives Table (Variables across columns) • bar blot comparing gender • single graph with both histograms - w/ density curves (males, females) • single graph with both boxplots (males, females) • single graph with both QQ Plots (males, females) | |
| 20-question quiz | 40 |

4 Data

Copy the data below and paste it to jamovi, or [download](#) it as .csv.

Descriptives **Variables across columns** ☐ Frequency tables 

Statistics

Sample Size
☒ N ☐ Missing

Percentile Values
☐ Cut points for equal groups
☒ Percentiles

Dispersion
☒ Std. deviation ☐ Minimum
☒ Variance ☐ Maximum
☒ Range ☒ IQR

Mean Dispersion
☐ Std. error of Mean
☒ Confidence interval for Mean %

Central Tendency
☒ Mean
☒ Median
☒ Mode
☐ Sum

Distribution
☒ Skewness
☒ Kurtosis

Normality
☒ Shapiro-Wilk

Plots

Histograms
☒ Histogram
☒ Density

Box Plots
☒ Box plot
☒ Label outliers
☐ Violin
☐ Data

☐ Mean

Bar Plots
☒ Bar plot

Q-Q Plots
☒ Q-Q

Figure 1: Screenshot jamovi

| Gender | Reaction Time (ms) |
|--------|--------------------|
| Male | 215 |
| Male | 203 |
| Male | 197 |
| Male | 208 |
| Male | 222 |
| Male | 212 |
| Male | 194 |
| Male | 219 |
| Male | 201 |
| Male | 214 |
| Female | 185 |
| Female | 172 |
| Female | 190 |
| Female | 165 |
| Female | 150 |
| Female | 180 |
| Female | 195 |
| Female | 170 |
| Female | 210 |
| Female | 148 |