

MATH 262 - Applied Statistics

Lab 1: General Health Survey

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A survey was conducted on adults 18 years and older who were asked to rate their **general health** by choosing one of the following statements:

1. Excellent
2. Very good
3. Good
4. Fair
5. Poor

In addition to their self-reported general health rating, participants were asked their **gender** (Male = 1, Female = 2) and **age**. The results of the survey are contained in the file `lab1_general_health.csv`.

1. What are the appropriate measurement scales for the variables age, gender, and general health in the data set?
2. What variable(s) is (are) naturally classified as the predictor variable(s) and which is (are) the outcome variable(s)?
3. How many adults participated in the survey?
4. For the **age** variable, perform a descriptive analysis and compute all the statistics that we have covered thus far. What is the mean, minimum, and maximum age of the participants?
5. Create a histogram of the variable **age**. Comment on the shape of the histogram and justify your answer with a numerical statistic. At this point, make sure to save your work; name your file appropriately.

6. For the **general health** variable, use the “Frequency tables” option in the “Descriptive” menu to create a frequency table. Describe how the majority of respondents in the survey feel about their general state of health. As always, use numerical statistics to justify your answer.
7. Now you would like to compare how men and women rate their general state of health. To do so, you’ll create a **contingency table**. A contingency table is used to present categorical data in terms of frequency/percentage counts and can be used to summarize the relationship between categorical variables. For our data set, the variables are gender and general health. As an example, consider the following contingency table that displays a data set of favorite desserts split by gender:

gender\dessert	cup	cone	sundae	milk shake	other	total
Male	592	300	204	24	80	1200
Female	410	335	180	20	55	1000
Total	1002	635	384	44	135	2200

To create a contingency table in *jamovi*, do the following:

- (a) Under the “Analysis” menu, select “Frequencies” and then select “Independent Samples” under the “Contingency Tables” group.
 - (b) Select **gender** as the row variable and **general health** as the column variable.
 - (c) Uncheck all boxes in the Statistics section of the analysis.
 - (d) Under the Cells section, select the Row and Column percentage boxes.
 - (e) Under the Plots section, check the Bar Plot box to produce two separate bar plots, one for male and one for female. Experiment with the Y-axis scale of the bar plots and choose the most appropriate setting (you may need to change this to answer subsequent questions).
8. How many females and males participated in the survey?
 9. Using your contingency table and bar plots, compare and contrast how men and women rate their general state of health. Are there any differences between the two groups? If so, what are they?