

Project 1: Descriptive Statistics

Objective: Learn the basics of descriptive statistics for categorical and quantitative data through exploration of a topic of interest. Recognize the importance of carefully drawn graphs and the danger of misleading graphs. Use appropriate numerical and graphical summaries for each data type. Establish a foundation for analyzing, presenting and discussing data in future projects.

Procedure: You may work alone, or in groups of up to four people. Everybody must participate and contribute to the project. Class time will be allotted for this project, but you may also spend time outside of class as necessary.

Requirements:

1. Find a source of previously collected data of a topic of interest and briefly justify why you think this source is valid. Specifically, state *who* collected the data, *what* individuals does the data describe, *why* was the data collected, and *when, where* and *how* the data collection took place. If you cannot find answers to all these questions, give reasonable assumptions about them.
2. The data you choose must include at least one categorical variable and at least two quantitative variables: one discrete and one continuous. Describe in what *units* each variable is recorded.
3. Using Google sheets, Excel, Fathom or Minitab (statistical software packages), or draw by hand (and these MUST be neat and to scale!!!) present at least one graphical summary for each variable you selected.
4. Present at least one numerical summary for each variable in the list and give a brief sentence in context about it (mean, standard deviation, median, range, proportion, etc.)
5. Summarize your findings with a paragraph describing, in context, the characteristics of interest of the data you selected. Include: why did you select these data? (Why is it interesting to you? What are you curious about?) What findings do the data suggest?

Due: Friday 9/12/14

Students will present their projects to the class. Class will provide feedback about a) the content and b) the project presentation. Feedback will be used to improve projects and as useful suggestions for future projects.

Project 1 Rubric:

Description of Project Presented	Grade
<p>All the requirements of the project are met beyond the minimum. Final result shows clear evidence of additional effort to expand on the project in keeping with the project objective. Final result shows evidence of thoughtfulness and clear attempt to produce an academically sound project. Evidence of extra care for precision, accuracy and clarity are also apparent.</p>	A
<p>All the minimum requirements of the project are met, with additional effort to expand on the project in keeping with the project objective. Final result shows evidence of thoughtfulness and clear attempt to produce an academically sound project. Evidence of extra care for precision, accuracy or clarity is also apparent.</p>	B
<p>At least the minimum requirements of the project are met. Final result shows evidence of thoughtfulness and clear attempt to produce an academically sound project.</p>	C
<p>Not all requirements met to at least the minimum level, and/or final result shows evidence of careless work, or lack of thoughtfulness, or lack of academic sincerity.</p>	D
<p>Project not submitted, or submitted with a majority of the requirements lacking.</p>	E