Homework 1: Key terms and Frequency Distributions

1. Take a selfie with your laptop showing that you have successfully downloaded SPSS in the background of the photo. Attach the selfie to your homework.
2. A recently conducted study showed that Connecticut drivers change lanes on the highway without using their signal 1.46 times per mile. What kind of statistic is cited in the previous sentence?
3. That same study determined that Connecticut drivers are much more likely to change lanes without signaling when compared to the national average. Does that conclusion rest on an inferential or a descriptive statistic?
4. I recently read a study designed to determine if exercise reduced depression in college students. A group of students was selected randomly from the campus directory. They rated their mood on a 10-point scale and indicated how many hours a week they went to the gym. The researchers found that, in general, people who spent more time in the gym reported being in better moods than people who spent less time in the gym. For the described study:
   1. Please identify the independent and dependent variables along with the operational definition for each.
   2. What type of scale of measurement are the IV and DV in?
   3. Was the study correlational or experimental?
   4. Can the researchers draw a cause-and-effect relationship between the variables of interest? If not, propose an alternative explanation for the reported results.
5. Make a frequency distribution table for the following data that includes the frequency and the relative frequency for scores:

74 103 95 98 81 117 105 99 63 86 94 107 96 100 98 118 107 82 84 71 91 107 84 77

1. Answer the questions below on the basis of this figure:
   1. Is this figure a bar graph or a histogram? Explain your answer.
   2. How many modes does the figure include?
   3. Is the figure positively-skewed, negatively-skewed or symmetrical?