Lab Report 1: Describing and Visualizing Data
Do Human Rights Treaties Work?
(DUE October 5, 11:59 PM)

You are a researcher at the U.S. State Department, and the Secretary of State comes to you asking your opinion on whether the State Department should push Congress to ratify a new human rights treaty. The Secretary needs information about global patterns in democracy, human rights violations, and treaty ratification. You have a dataset that contains data on human rights practices across the world in 2010.

Open a new RScript, save it in your PLSC 309 folder, and read in the dataset with the following command:

```
dataset<-
read.csv("https://raw.githubusercontent.com/ilaydaonder/PLSC309/Lab-
Report-1/Fariss2010.csv")
```

(Alternatively, you can download the dataset from CANVAS, save it to your PLSC 309 folder, and import it using the filepath method we have done in class).

Your task is to write a 2 page (double spaced) memo (including graphs) to advise the Secretary of State. The dataset includes the following variables:

COW	Correlates of War country code
YEAR	Year (in this case, 2010)
respectHR	Estimated respect for human rights. Higher scores = better human rights.
polity2	Polity democracy score. Higher scores = more democratic
democracy	Dichotomous indicator of democracy. 1=democracy, 0=nondemocracy
treatyCount	Number of human rights treaties signed.

To advise the Secretary, first collect and organize the following information for yourself:

1. What is the mean polity score in the world? _____
2. What is the median polity score in the world? _____
3. What is the standard deviation of the polity scores? _____
4. Briefly describe the distribution of polity scores: is the distribution skewed? If so, is it right-skewed or left-skewed? (HINT: right-skew means the skinny tail is on the right side, and thus the bulk of the data are on the left. Left-skew means the skinny tail is on the left side, and the bulk of the data are on the right.) _____
5. What is the mean "Respect for Human Rights" score?_____
6. What is the standard deviation of "Respect for Human Rights" scores? _____
7. How many human rights treaties has the average country signed (use the median)?_____
8. What are the minimum and max number of treaties that countries have signed? _____

Then, write a brief report (2 pages or so, including figures) to give the Secretary of State. The primary questions you should answer are do human rights treaties work, or do they only seem to

<u>work in certain countries?</u> Remember, it is often best to visualize data for readers rather than just giving numbers, but providing numbers AS WELL is also useful. In your report, you should do the following:

1. Summarize the descriptive statistics you calculated above.

2. Make a histogram of polity scores across the world. Make it a color other than the default gray.

3. The Secretary has a concern that nondemocracies do not report their data, so conclusions we might make about respect for human rights might be a result of selection bias. Make a bar graph of the number of democracies and nondemocracies (use the dichotomous "democracy" variable) by the number of treaties signed. Describe what you see: one the distribution skewed more heavily for democracies?
   a. Notes:
      i. Treaties should be the x-axis
      ii. You can make two barplots by subsetting the data by democracy vs non-democracies using `subset(dataset, democracy==1)` and `subset(dataset, democracy==0)`
      iii. Or, you can make a single barplot with separate bars for democracies and non-democracies using the `beside=TRUE` in the `barplot()` command. In a basic barplot, the democracy frequency would be the bars in light gray.

4. Find the mean respect for human rights score for democracies and non-democracies. How do these numbers compare to the overall mean respect for human rights score across all countries? (HINT: Subset the data on the democracy variable)

5. Plot the relationship between the polity score (x-axis) and respect for human rights (y-axis). What do you conclude (if anything) about the relationship between democracy and respect for human rights?

6. Plot the relationship between the number of treaties a country has signed (x-axis) and respect for human rights (y-axis). What do you conclude about the number of treaties a country signs and its respect for human rights?
   a. EXTRA CREDIT POINT: Repeat the above plot, but use different colors to represent democracies and non-democracies in the scatterplot. What new patterns do you see? Does this add complexity to your original conclusion?

All of your figures should have a title, which starts with a figure number (for example "Figure 1: Title) as well as clearly labeled axes.

Remember, to export your figures from RStudio, click the Export button in the Plots tab and save the image before importing it into your Word Document.