Lab Report 1: Describing and Visualizing Data

Do Human Rights Treaties Work?

DUE: September 30 at 5 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 POLS 209 folder, and read in the dataset with the following command:

```
dataset <- read.csv("https://raw.githubusercontent.com/ilaydaonder/POLS209/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 you have done in your lab sessions).

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:

- What is the mean polity score in the world?
- What is the median polity score in the world?
- What is the standard deviation of the polity scores?
- 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.)

- What is the mean "Respect for Human Rights" score?
- What is the standard deviation of "Respect for Human Rights" scores?
- How many human rights treaties has the average country signed (use the median)?
- What are the minimum and maximum 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 work in certain countries? 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: Is the distribution skewed more heavily for democracies?
4. Find the mean respect for human rights score for democracies and nondemocracies. 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?
7. **EXTRA CREDIT POINT**: Repeat the above plot but use different colors to represent democracies and nondemocracies 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.