Americans on Climate Change
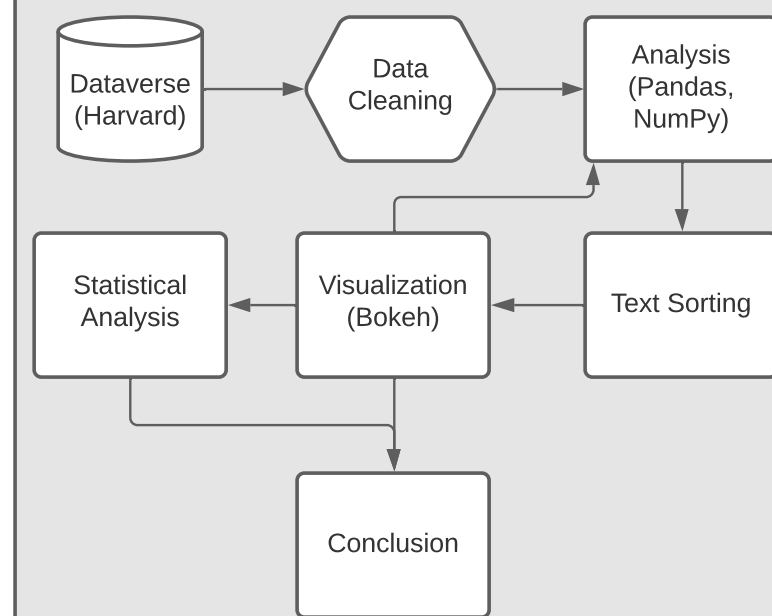
DIGHUM 100 Theory and Methods | Vivian Kim | Jun 6, 2021

Description

How do Americans feel about the ongoing issue of climate change? A survey was given to a sample of people around the world asking them how much of negative emotions they connect to climate change, what they believe about climate change, how they intend to conserve energy, what kind of morals they have behind climate change, and what they believe should be done in terms of environment-related policies, along with a short answer what they think the purpose is behind this survey and about demographics. I focused on respondants from the United States.

Questions to I tried to answer:

1) How do gender, age, and political view affect Americans to feel about the issue of climate change?
2) What are the most popular and least popular actions Americans intend to take to conserve energy?
3) How do Americans feel about current policies regarding to protecting enviroment?
4) Analyze those people who responded "unsure" to the free-responses question asking what they think the purpose of the survey is.

Road Map

Question 2

A section of the survey asks what kind of actions they intend to take to conserve energy and list consists of 11 activitivies: using energy efficient bulbs, setting heater to 65° F or below in winter, setting AC to 75° F or above in summer, waiting for a full load before using a washing machine, using a clothesline and not a dryer, recycling, buying recycled paper, drinking tap water to reduce plastic, using reusable/recycled shopping bags, driving less or not at all, and voting for politicians with environmental policies. I took the average in each category and checked the highest and lowest scores ($1 = $ *no intention*, $7 = $ *definitely*). The least popular activities are giving up on using a dryer and driving less/not at all. The most popular activities are waiting to use a washing machine until a full load and recycling. The table below shows activities in order from the least popular to most popular.

Activities	Average Score
Dryer	3.353234
Drive	3.850746
Winter	4.427861
Summer	4.664179
Paper	4.796020
Vote	5.014963
Bags	5.019900
Water	5.268657
Bulbs	5.485075
Recycling	5.743781
Washing	5.791045

Question 4

Using the responses to the free-response question asking if they can guess what the purpose of the survey is, I selected the respondants who answered "unsure."
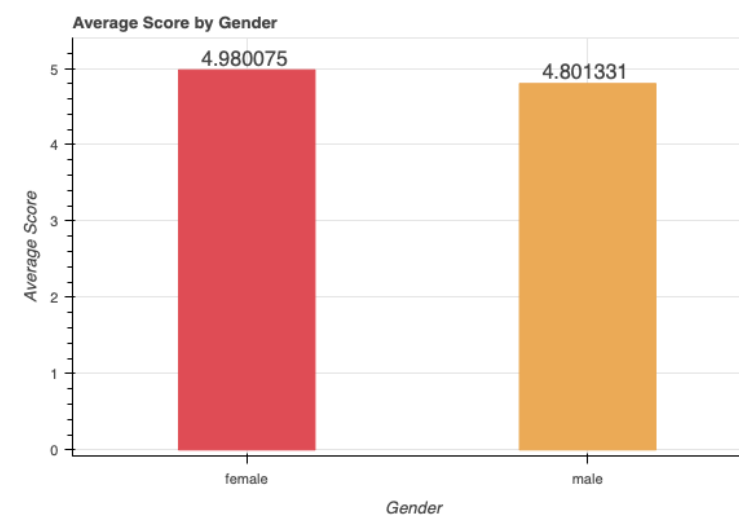
Question 1

I computed the average score and plotted by gender, age, and political standpoint using Bokeh. I grouped the datast by gender and political standpoint and got the average of the total average score. For the graph by age, I plotted average scores of all individuals to see the spread of the graph.
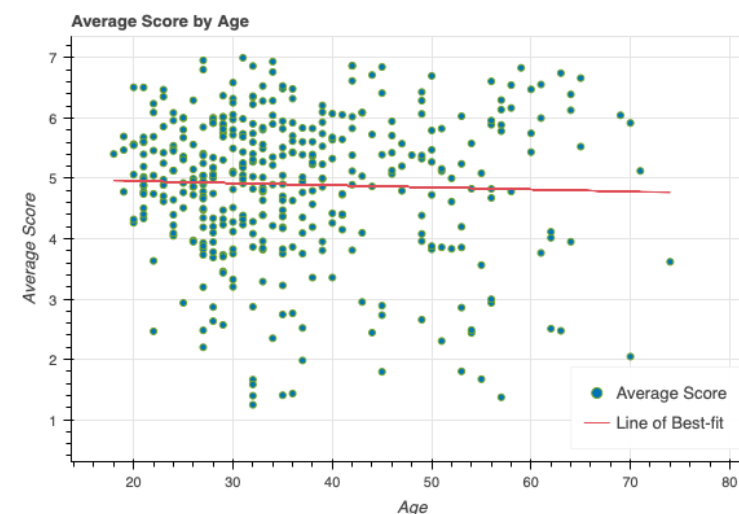
Gender

From the first graph, we can see that the average scores for men and women are about 4.801 and 4.980 respectively, which isn't too far off from each other. Women in this sample answered slightly more empathetic about environmental issues. [STATISTICAL TEST TO BE DONE.]
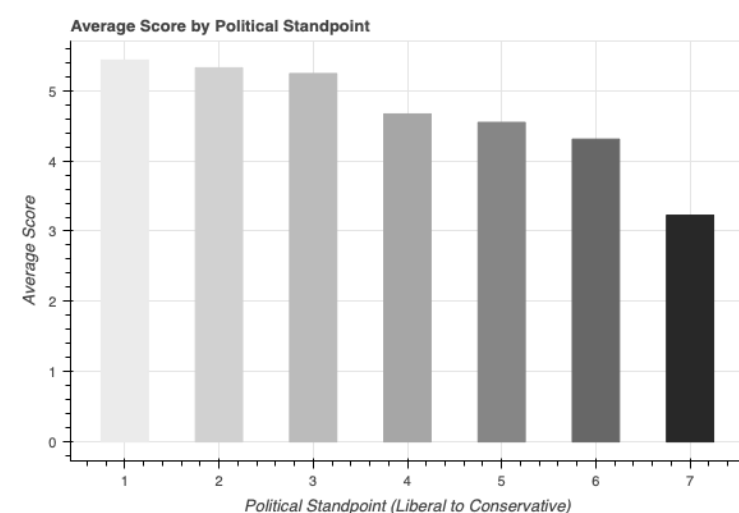
Age

The second graph shows how individuals scored based on their age. We can see that data points in the upper left corner is more clustered than the rest, meaning that younger people (around the age 20 to 40) scored higher than the older people. Interesting to note that the data points are more widely spread in older age groups, yet still more data points in the upper half than the lower half. The regression line is also plotted: the slope is -0.0035. Though very slight, older people are less into environmental issues than younger people. [STATISTICAL TEST TO BE DONE.]

Political Preference

The third graph has the sample grouped by their political standpoint. The more conservative the individual is, the less he or she cared less about problems regarding to climate change. The difference in the average scores between the strongly liberal and strongly conservative is 2.208. [STATISTICAL TEST TO BE DONE.]

Question 3

Part 7 of the survey asked if respondants agreed or disagreed to a certain policy. These questions are answered in Yes or No with Yes being 1 and No being 2. I computed the average of each policy and the table on the right shows the most popular to the least popular in order. The popular policies -- a rebate for a reusable shopping bag, tax credits on hybrid vehicles, and a rebate for a reusable cup -- involved people getting rewarded than punished, like the unpopular ones -- a fee for a plastic bag, a fee for fuel inefficient cars, and a commuter tax for people driving during the rush hours.

Policies	Average Score
Reuse	1.136816
Hybrid	1.166667
Cup	1.194030
Carpool	1.417910
Plastic	1.509950
MPG	1.554726
Commute	1.788557

References:

Data: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/8Z7M4G
Notebook: https://colab.research.google.com/drive/1Y31yjvjINxSN529JSBmEVg1eJHyNXINE?usp=sharing
https://www.nursingcenter.com/ncblog/november-2019/climate-change
https://www.clipartmax.com/middle/m2H7i8G6b1G6b1i8_global-warming-global-warming-clipart/
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