Process Book

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Overview and Motivation

Our motivation for this project was to investigate and tease out any connections between certain demographic and behavioral traits with social media use. We also aim to compare data from 2018 and 2019 to see how attitudes have changed over those two years. Our visualization will be a modular display of a user-specified characteristic plotted with the specified social media networks.

Related Work

We were inspired by the overall changing attitudes towards social media and big tech companies and the paradoxical rise of social media use. We found this Pew study and found the data interesting and thought it would provide us with the insight we were seeking.

Questions

We are trying to answer questions such as “Do people who read more books tend to use certain social media apps less?” and “Which apps get impacted by number of books read or political party?” We are also interested in knowing how social media use among different demographics might have changed from 2018-2019, as we realized later in the project that it would be interesting to analyze and zoom in on a specific sub-group to analyze their social media use. As we continued into the project, we found less correlation between some demographic data and social media changes in usage (for example, little change when considering political party). Due to this, we expanded some of the parameters we were looking at to include income, age, and marital status.

Data

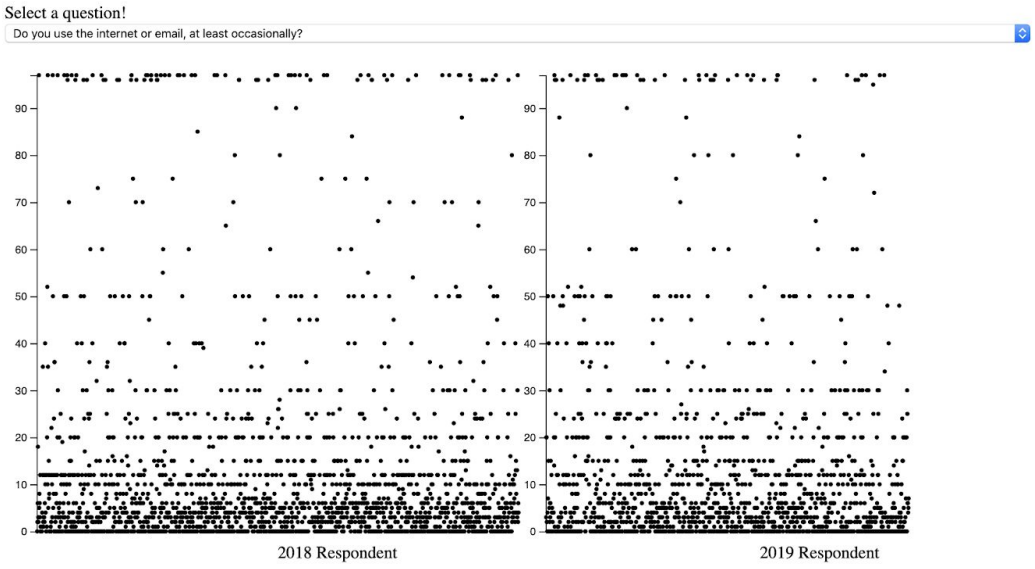
We obtained our data from the Pew website along with the survey questions and data field translations. The data was in csv files, and we directly imported the data in JavsScript and used the array.prototype.filter function to filter the data with empty or

invalid values for any field. We can then join the data on the common respondent IDs to populate our graphs with the appropriate data.

Implementation

Prototype: Due to some technical difficulties and time constraints, we weren't able to get our target visualizations working yet. However, we were able to plot the number of books read for each year for all participants as an initial working visualization. We aim to make this code more modular to allow for each field to be handled individually based on the user input. We would like to implement a grouped stacked bar chart and a line chart for social media use over time.

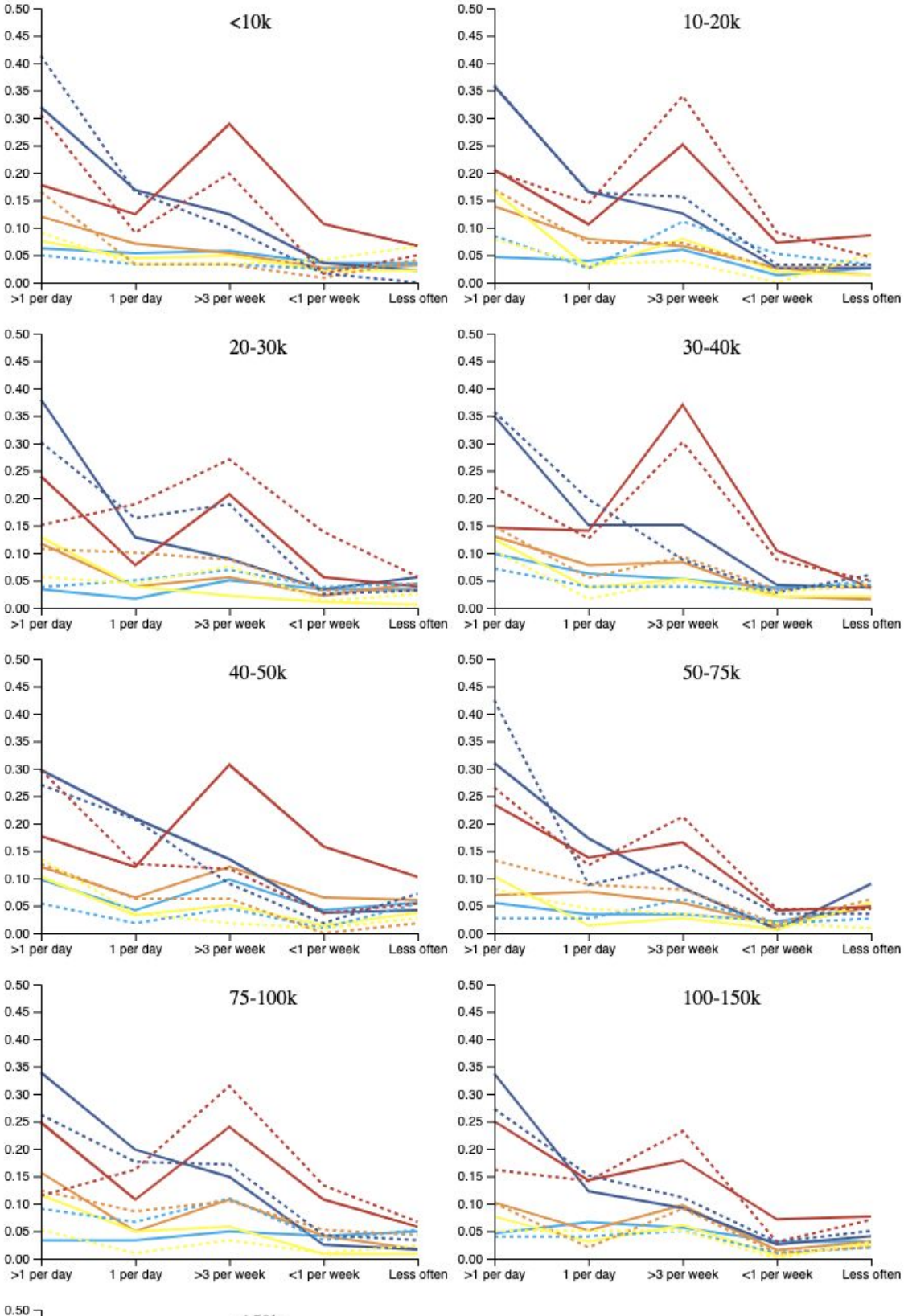
Analyzing the Effects of Demographics and Behaviors on Social Media Use and Changes from 2018 to 2019

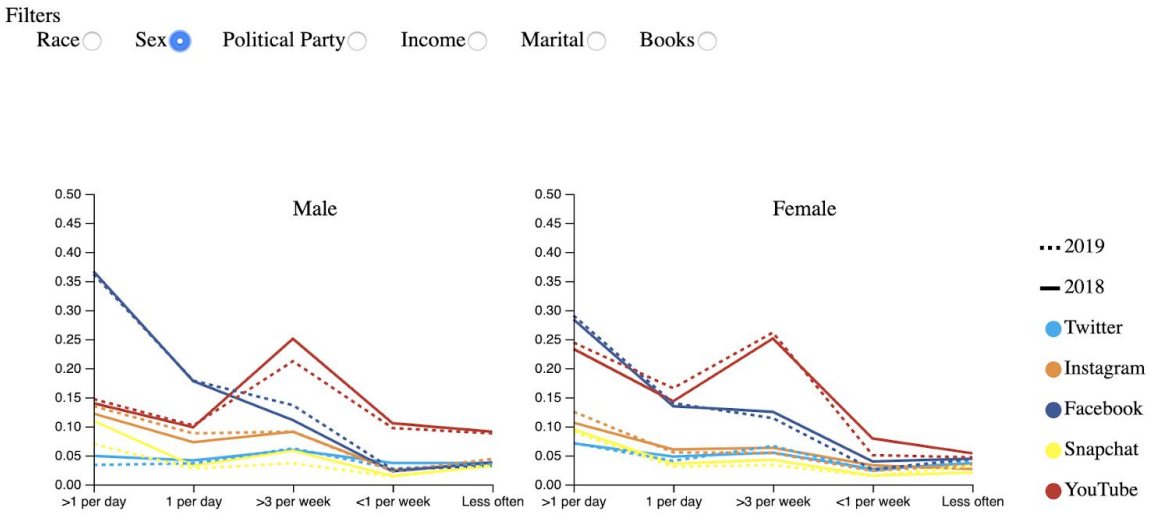


Final Project: The main intent of our first visualization to see if social media usage changed during 2018 among different demographic groups including age, sex, race, political party, marital status, and number of books read. Examples below:

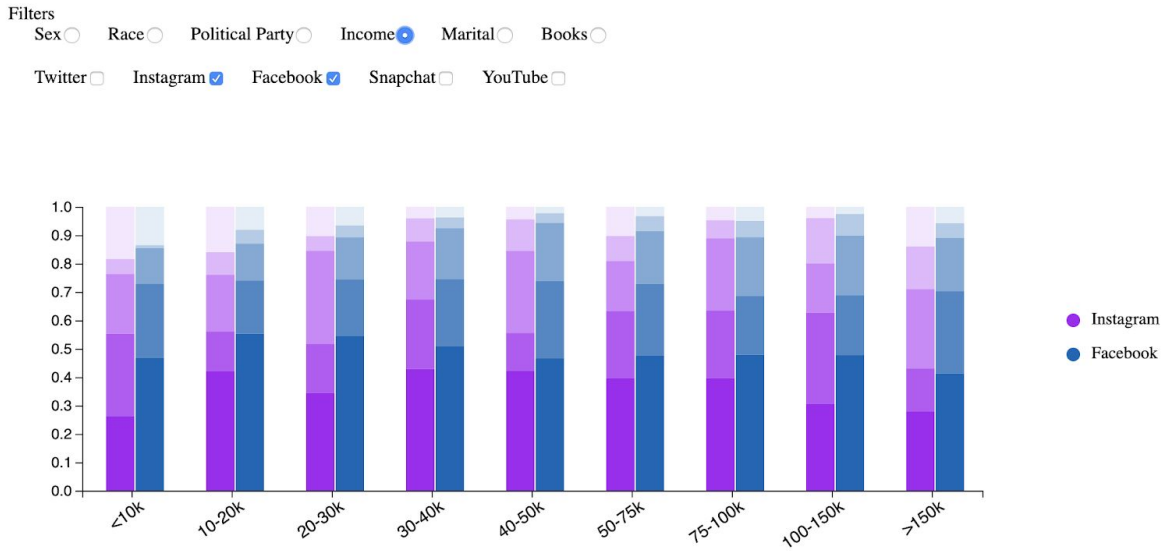
Filters

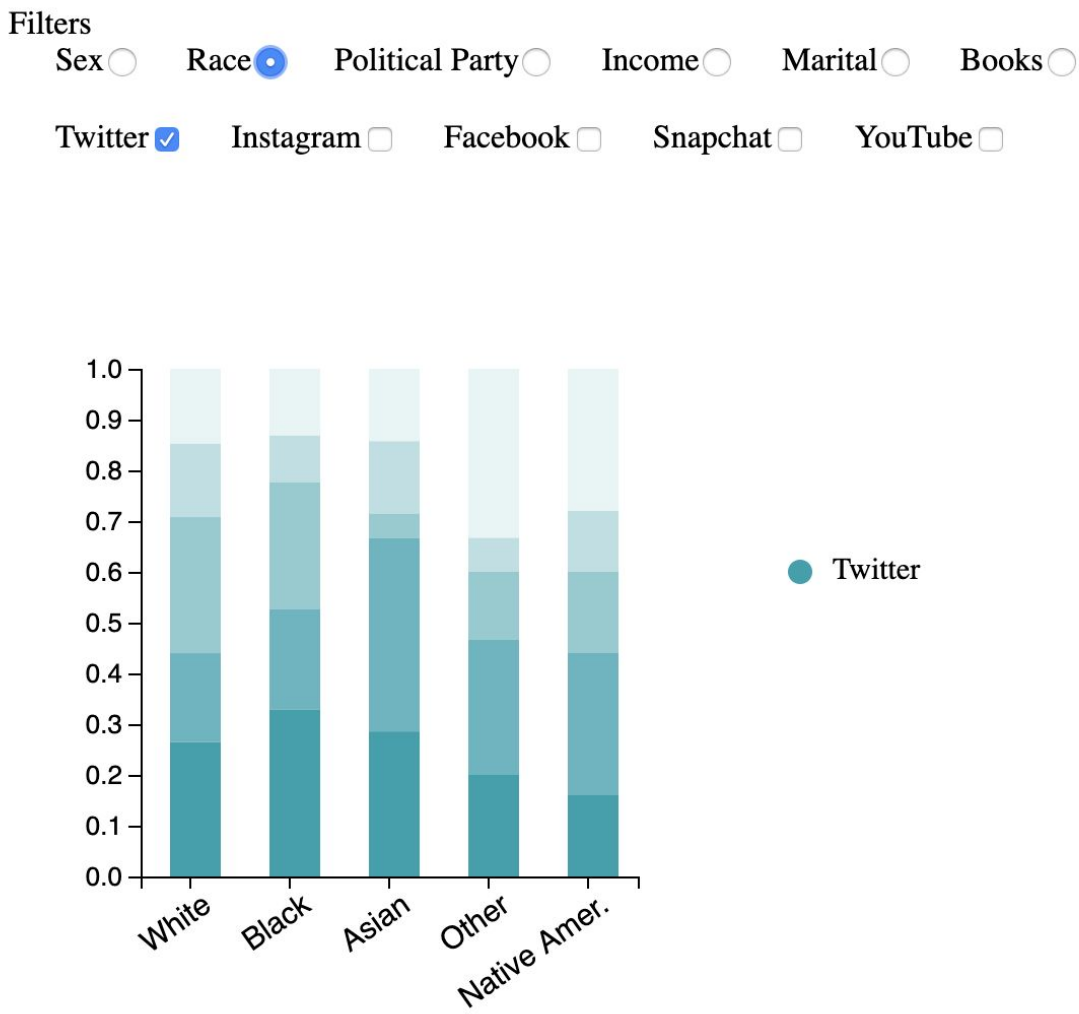
Race ○ Sex ○ Political Party ○ Income ◉ Marital ○ Books ○





Additionally, we wanted to be able to explore trends within specific demographics more easily about social media usage as our line graphs are somewhat difficult to analyze on a minute scale. For this we created dynamic bar charts that show usage by demographics in 2018 for selected social media platforms. Examples below:





Exploratory Data Analysis

The first visualization we encoded looked at the number of books people had read the previous year to get a sense of working with the data. What we found with the thousands of data points provided is that individual data points, especially across multiple questions would be ineffective to answer our questions, so we decided to use averages.

Design Evolution:

For the design, we were initially thinking of doing a grouped stacked bar chart and a line graph with two lines for each social media network -- one for 2018 and one for 2019. We

then considered making a slope graph, but because we don't have paired data for the participants we will probably stick to the original line graph.

Analysis

What was most surprising about the data was the lack of change in usage when looking at political parties. Because much of the news has been driven along party lines surrounding issues with social media and big tech, we expected some change in behavior along party lines. In fact, the only significant changes were among independents, where usage of YouTube and Instagram increased.

Overall, Facebook was by far the most commonly used social media; however, usage did not change significantly during 2018. Another trend of note is that among divorcees, YouTube and Facebook usage grew significantly, possibly indicating transition to spending time on those platforms away from other media.

To improve this visualization, it would be great to have more years of data, especially back to 2015, so we could see if the Cambridge Analytica scandal affected Facebook or other social media platforms. Additionally, we would like to add the social media filter to the line graphs to isolate them more easily and track trends among specific social media platforms. Additionally, some interactions could be helpful to add context to comparison visualizations, for example a vertical line highlighting usage percentages on each line graph on hover.