* Submission as a GitHub link
* Informed color choice
* Strong title, subtitles, chart titles, and chart descriptions
* Minimum 1200 word article about data. (500 of those words should be about your process.)
* Minimum of three chart types. (Charts can be used multiple times and you can use as many chart types as you need)
* Clearly labeled and annotated visualizations
* Interaction (optional)
* References to data with link to original source
* List and links to any other references

Submit as one entry to discussion board by December 5 11:59PM:

* Screenshot of project
* URL to project
* Video recording of presentation

**What goes in the story?**

Think of this like an article or a brief. Start by identifying the storyline. What are you showing in this piece? What is the background information? Who are the key players? How do you consider each side of the story? Show us the proof that you have done research in this field by providing information that shows you are an expert in this field. CITE EVERYTHING. Use quality sources. This is not a paper to explain the charts, rather the charts should support the text. You should use as much scientific rigor and research that you would expect in a quality piece of journalism. Use strong titles that indicate what the charts show or what the information in the following paragraph will tell the user. Your job is to convince us by showing us that you have done the research, considered all sides, and present the information to help us better understand some concept. Note this paper is not to rehash what the charts say. Is there a good story? This is worth 10% of the grade. How well you tell that story is worth an additional 25%.

**What goes in the process section?**

1. Why are you interested in the topic?
2. What were other options for data and why did you choose this data set?
3. Where does the data come from? Include link to their website and where the data was collected.
4. How did you define your story? Any pivots that you made.
5. Is any data missing? Do you have concerns about  data gaps?
6. Any ethical consideration in the story telling or disclosures you would like to make about choices you made while visualizing?
7. Why did you choose the charts you chose? How do they help tell the story?
8. Any coding challenges or takeaways? Etc.

**What is clean code?**

1. Indent
2. Reusable dry functions
3. No extra, unused code
4. Commented code where needed
5. Quality readme explaining directories
6. Reference for code copied from other sources
7. Intelligent file structure

**What is a good layout?**

1. Thought given to the length of text
2. Good headlines that are descriptive of the charts
3. Label axes
4. Annotations/Tooltips
5. Readable text
6. Contained page (do not have your page go full width)
7. Thoughtful color choices (explain these choices in the process section)
8. Thoughtful chart choices (explain these choices in the process section)

**Data source**

Make sure to link to all your data sources (GitHub and your original source of data).

Search entries or author

(1) Try improving your titles, for instance, instead of saying "Distribution breakdown", try something more descriptive like "Voting patterns are consistent across demographics". This will help the user know what to expect from the chart. If one of the charts in the top quad is different, then pull that one out as a separate point with it's own unique title.

(2) Consider choosing color scheme f[rom this link](https://observablehq.com/@d3/color-schemes). If you don't want to use the same colors for different meanings in charts, then you can choose hues from the same category scheme.

(3) You have d3 linked twice on your index (36,39)

(4) on bars.js, since all of your charts use the same id, you don't need to pass the id. Instead, try removing that parameter and adding the id directly to the function.

(5) I like the implementation of the treemap but I am still wondering, why does information matter? How does it work with the story? What insights does it show?

Story (700)

**Introduction:**

Voting plays a pivotal role in upholding democracy in the United States, but 35 - 60% of eligible voters do not vote in a given election.  Especially with recent events, many people are understandably disillusioned and discouraged. It is important to extract the causes underlying this behavior in order to combat dwindling interest in civic duties and boost voter turnout. In this article, I will investigate the current state of voting patterns and the physical, situational, and mental barriers that citizens may be facing that prevents them from going to the polls. The data is in the form of 5,836 surveys from FiveThirtyEight (polling done by Ipsos) conducted in September 2020.

**Demographic Breakdown:**

Looking at the breakdown of demographic information and voting behavior, we can see that nonvoters were more likely to have lower incomes, be young, and have lower levels of education. These are all results that align with what we know about people that are less likely to engage with the political system. Unlike never-voters, those who sometimes vote and always vote are in fact not all that different in terms of demographic breakdown. There is a generally similar distribution across race, gender, income level, and education level for those who sometimes vote and those who always vote. We can infer that these two groups of people are in fact, quite similar. We now take a deeper dive into what factors might be preventing people from voting.

**American Disillusionment:**

The recent history of identity politics and the partisan nature of decisions understandably cause citizens to feel jaded by how the government works (or doesn’t), pushing them to feel disengaged. Out of those who sometimes or rarely vote, a significant portion (40% and higher) stated that they decided not to vote because they disliked the candidates, believed nothing would change for them as a result of the election, or thought none of the candidates talked about that issues that were important to them. These responses once again reinforce the reality that many Americans feel tired of progress or change being promised without tangible impact on their lives.

Most of those who rarely or never vote believed the system was too broken to be fixed by voting, and around 80% of those who rarely or never vote wasn’t sure if they were able to vote. This result corroborates the idea that having infrastructure that allows easy access to digestible information about voting is vital in increasing people’s engagement with the democratic system.

**Barriers to Voting:**

On top of being disillusioned, many citizens face physical and practical barriers to voting. Survey respondents were asked what issues they faced related to voting such as missing the voter registration deadline, not being able to get off work to vote when polls were open, and waiting in line to vote for more than an hour.

The responses to this question gives us a glimpse into the difficulties people face when attempting to vote and give some guidelines on what could be improved to ease the pain of voting for many. As seen in the visualization below, those who sometimes vote were the likeliest to report having stood in line for more than an hour, and the second greatest barrier was the fact that they could not get off work when the polls were open. In order to move the needle in increasing the share of citizens who vote, it is evident that action needs to be taken to address this paint point that people experience when it comes to voting. If more resources could be allocated so that polls are able to be open for longer so that people can come by quickly before or after work or more polling locations could be open so that people don’t have to wait an hour, the voting behavior of a significant portion of Americans could be changed.

**Survey Respondent**

If you are curious about the breakdown of the 5,836 survey respondents from the polling done by FiveThirtyEight, take a look at the tree map below. It breaks down respondents by voting registration status, party affiliation, and voting behavior. There is an even distribution among party affiliation and voting behavior, assuring the reader that the survey attempts to capture as many types of representative Americans as possible in an unbiased way.

**Process**

I went through many iterations of topics before deciding to focus on voting behavior in America and the potential roadblocks behind getting to the polls. I chose this topic since voting is an important part of our democratic process and was genuinely curious what different people found difficult or unattractive about voting. I used survey data from FiveThirtyEight (polling done by Ipsos) conducted in September 2020 because it had a very digestible codebook to go along with the data [LINK]. It has 5,836 respondents and their voting behavior (our labels), which can be characterized as always, sporadic, or rarely/never. The survey asks 110 questions targeting the respondent’s political leanings, sentiment toward the efficacy of government, whether they receive benefits from government programs, and the impact that Covid has had on their lives.

The dataset itself was not difficult to digest, but a lot of data cleaning had to be done in order to prepare the data correctly for my visuals. First, I had to break up the “voter” column that has three types of values - always, sporadic, or rarely/never – into three separate columns in order to create the bar graph that breaks down voter behavior via demographic (series of bar charts). I followed a similar process for the parallel graph, where I renamed a lot of the columns from names like “Q18\_1” to explicit statements like “was told they did not have the correct identification” so that the visualization was more understandable. The tree map in the bottom of the article was a little tricky to tackle at first, but required very few data points. Therefore, I created a json data file to feed into my tree map with information on registration status, party, and voting behavior.

The story that the chart assist telling is that there are roadblocks to voting – both psychologically and physically. Those who sometimes vote and always vote are not entirely different in demographic breakdown, but those who sometimes vote are currently disillusioned by the system and face real barriers when trying to get to the polls (i.e. the wait is too long, the polling site hours don’t align with when they are able to get off work). I looked at the data and results before telling the story and was able to avoid big pivots in my story. Some of the ethical consideration had to be made in my bar graphs when choosing colors. I initially chose blue for always-voters, purple for sometimes-voters, and red for never-voters. However, this color scheme felt too strongly associated with party alignments, and I went for lighter hues to show sequential data from colorbrewer.org. I chose bar graphs to show the breakdown of demographic and reasons behind disillusionment, as this felt like the most straightforward way to digest that information. Parallel graphs were used to show the barriers to voting so that the reader can see clearly in one graph what the biggest roadblock to voting was. Lastly, I used a tree map to show the breakdown of survey respondents so that the reader can see the numbers as well as the relative sizes of the categories.

What limitations did you come up against?

One of the biggest limitations when it came to choosing chart types to tell the story I wanted to was the fact that my data surveyed people at one point in time. This meant that any form of time series was impossible and limited my choices when it came to choosing a type of chart to best explain the story. It took some time to break out the mentality that bar graphs were the easiest for the reader to understand the situation, especially since the partial goal of this project was to expose myself to different types of data visualizations. Some other limitations include time and the reality that we did only have nine weeks of exposure to d3js and some of the loftier goals that I had in mind probably required a bit more expertise and time to complete.

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