

A glimpse into the voters demographics: Democrats vs Republicans

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A little bit about our data

The goal of this project is to look deeper in to voter's background and voting behaviors. using the data from the American National Election Studies (ANES). I worked with the cumulative time series data file (1948-2016). The raw data consists of 59944 obs with 1029 variables. I then cleaned and subset the data for the purpose of this project accordingly. The processed data could be found in the output folder.

Introduction

This report, hopefully, will help you understand what make up the majority of Democratic and Republican voting base, their preference, what they like about their parties of choice. Some other criteria that this report covers including: education background, the voters feelings toward immigration for each different education groups. I also had a special interest in looking at the voting trend in 2016.

There are 3 main questions that I want to answer in this project: - What are the voter' education levels distribution for each party? - Why do one voters like/dislike a particular party? - Trump's immigration agenda-does it make sense?

Question 1: Republican vs Democrats: which party has a “smarter” voting base?

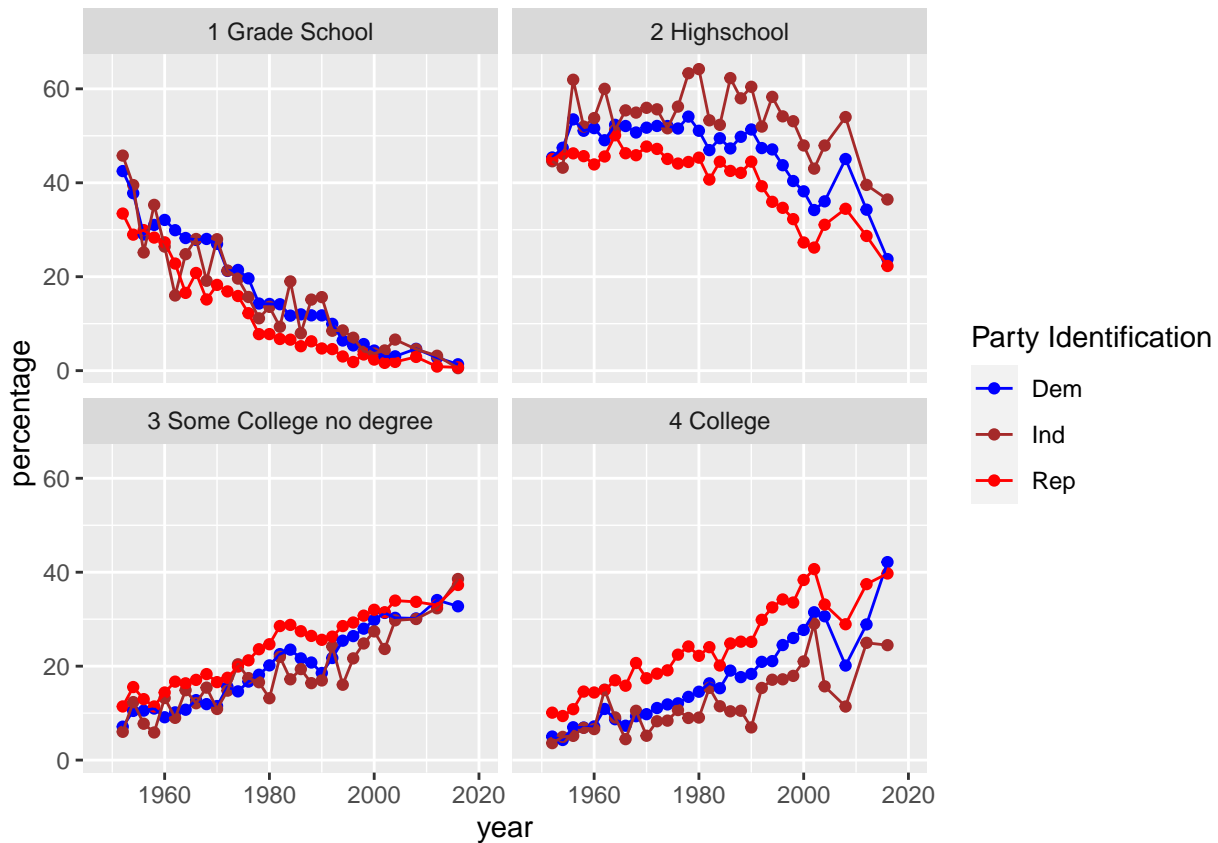
Graduated from a liberal art college in dominantly blue state, Minnesota, I have always believe that people who support Democratic party are smarter, more educated, hence the liberal points of views, in comparison to Republican supporters. At least, that is what my American classmates told me. I wonder if that is true.

To answer this question, I take a look at the education distribution of the voters versus political identification. I started with 2016, which to many people, had the most unexpected election outcomes.

##	Grade School	High School	Some Colleges	no degree	College or higher
## Democrats	1.3513514	23.7526		32.74428	42.15177
## Republican	0.6980803	22.2804		37.28912	39.73240

It seems like so far in 2016, people who have college degrees and higher tend to identify themselves as democrat, though the ratio is not much higher.

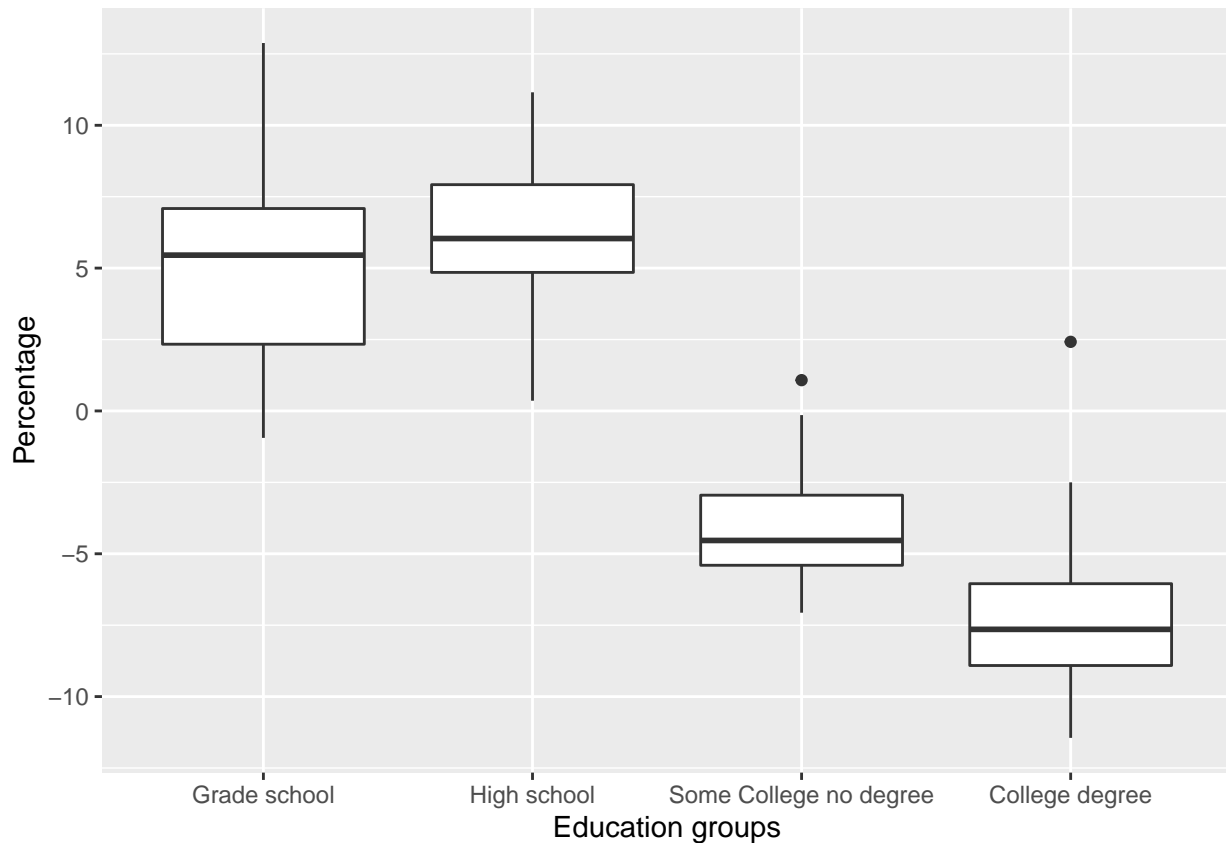
Let us look at the data across the year, to see if this phenomenon still apply over time



Contrary to my beliefs, 2016 is an anomaly. It seems that across the years, Democrats voter base fall mostly into the two categories: (Grade school and High School), while a Republican voters will more likely fall into the other two groups (Some colleges and College or higher).

Across the years, there has been a decline in voters without a college degree. College-educated voters, on the other hand, have increased, according to the analysis. There have been more and more people went to get higher degrees, thus introducing an upward trends in some college and colleges education groups on the graph.

This realization came to me as a total surprise. The stereotype I learned in college, saying that Republicans voters are less educated than Democrats is wrong. To render my analysis more quantitative, I look at percentage difference between the Democrats and Republicans for each of the educational groups



This boxplot indicates two things:

- People with high school degree or lower tend to vote for democrats more. On the other hands, Republicans have a stronger base in higher educational groups (college degree or higher).
- 2016 is an outlier for the **college and higher** category, while 2012 is an outlier for the **some colleges** category. This means that there was a shift in political preference among the higher educational groups in 2016, as more people with college degree vote for democrats than for republicans.

Question 2: What make a person choose one party over the other?

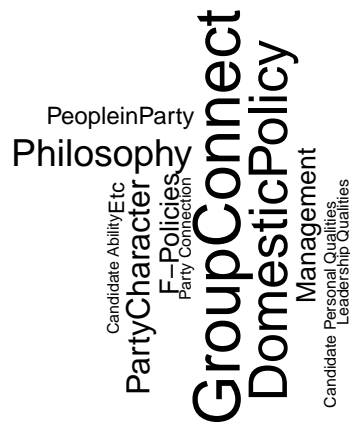
I tried to reason the political preference for each different educational background by looking at voter answers to the questions: what do voters like/don't like about the party? I analyzed their answers, and made word cloud plots based on the frequency that key words popped up. The plots gave some interesting insights on the each party's characteristics.



Democratic party win voters favor with their Group Connection quality, and their Domestic Policies. Voters, on the other hand, resonance with Republican Party on their Domestic Policy, Philosophy, Management skills.

We repeat the same process to answer the question: what does voters hate about each parties:





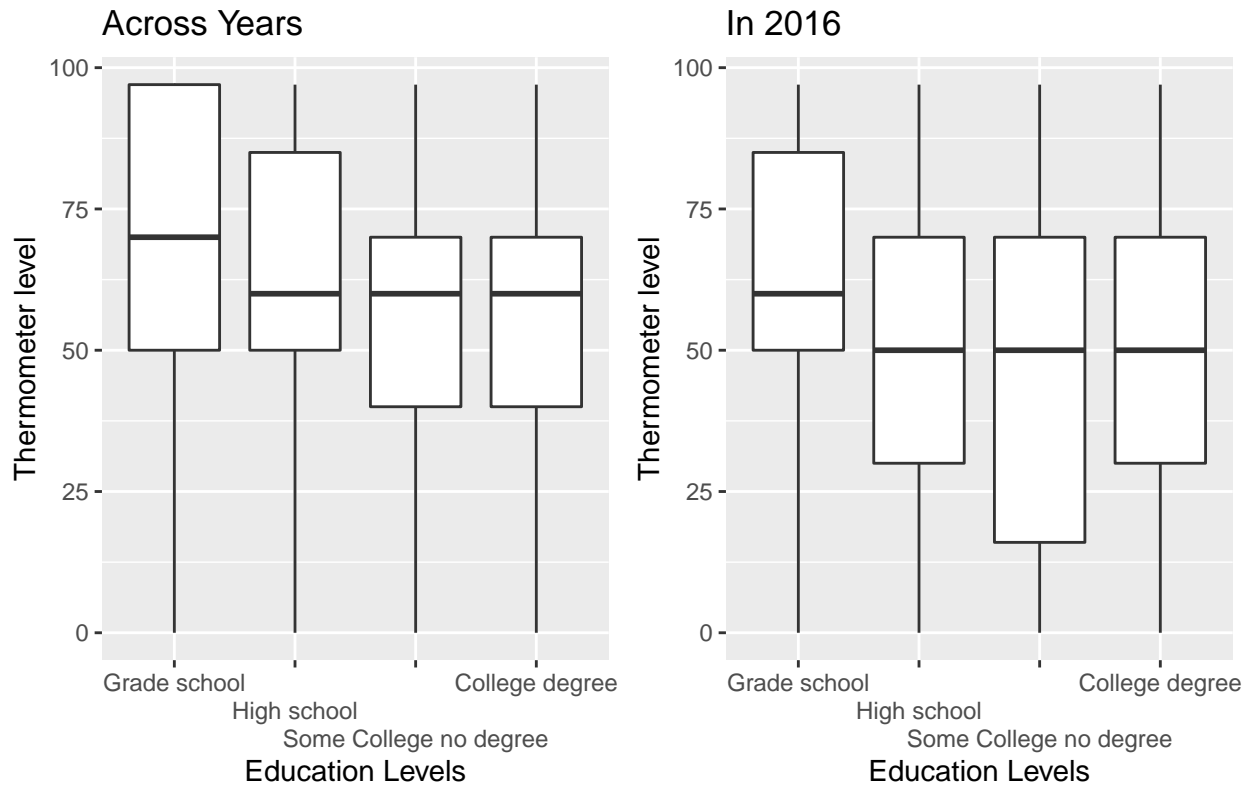
From what the word clouds show, it appears the top common reason that make voters hate one party is Domestic policies. The words “domestic policies”, “philosophy” , “party character” showed up on both democratic and republican graph. This is easy to understand, as people have different opinions on how their countries should be run, as well as their philosophies. One interesting thing that we see is people who disagree with the democratic party’ management skill. This does not happen with the republican party. Apparently, voters across the board think that the democratic party lack credential in their management ability. On the other hand, Group connection quality is among the top reasons why voters don’t like republican party.

Connecting this to our previous finding, that higher educated voters prefer republicans, the word cloud plots make total sense. People who have lower income , correlated with less educated background. These people choose Democrats because the party offer a superior group connection quality, with a promise of equal pay, higher tax on the rich, and most importantly, inclusivity for the poor. The voters who have higher education, enjoyed a higher pay positions, want to maintain their social status, so they resonate more with the Republican’s conservative philosophy. These voters place an emphasis on the party’s management skill in preserving the rich’s benefits.

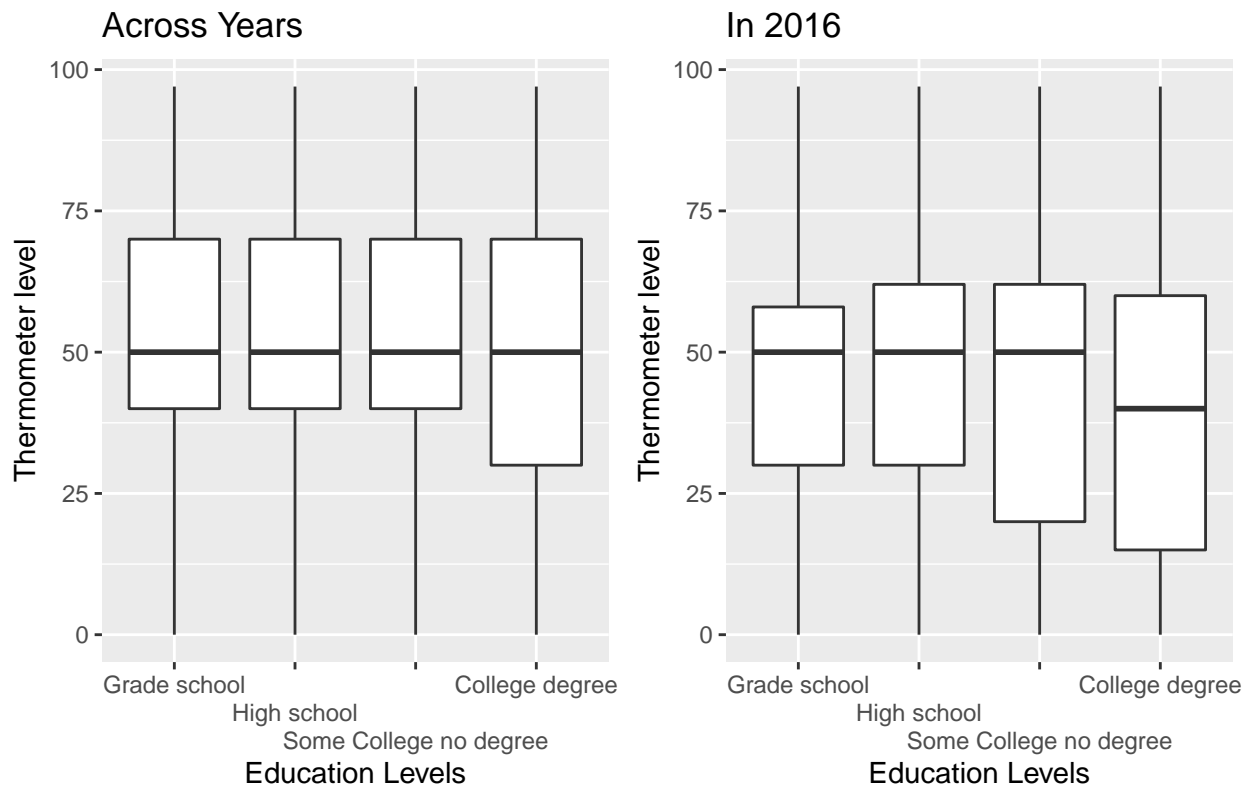
Question 3: Why Donald Trump win? Does his agenda make sense?

I looked at the voter’s feeling thermometer toward Democratic party across the years, and 2016 specifically:

Feelings toward Democratic Party

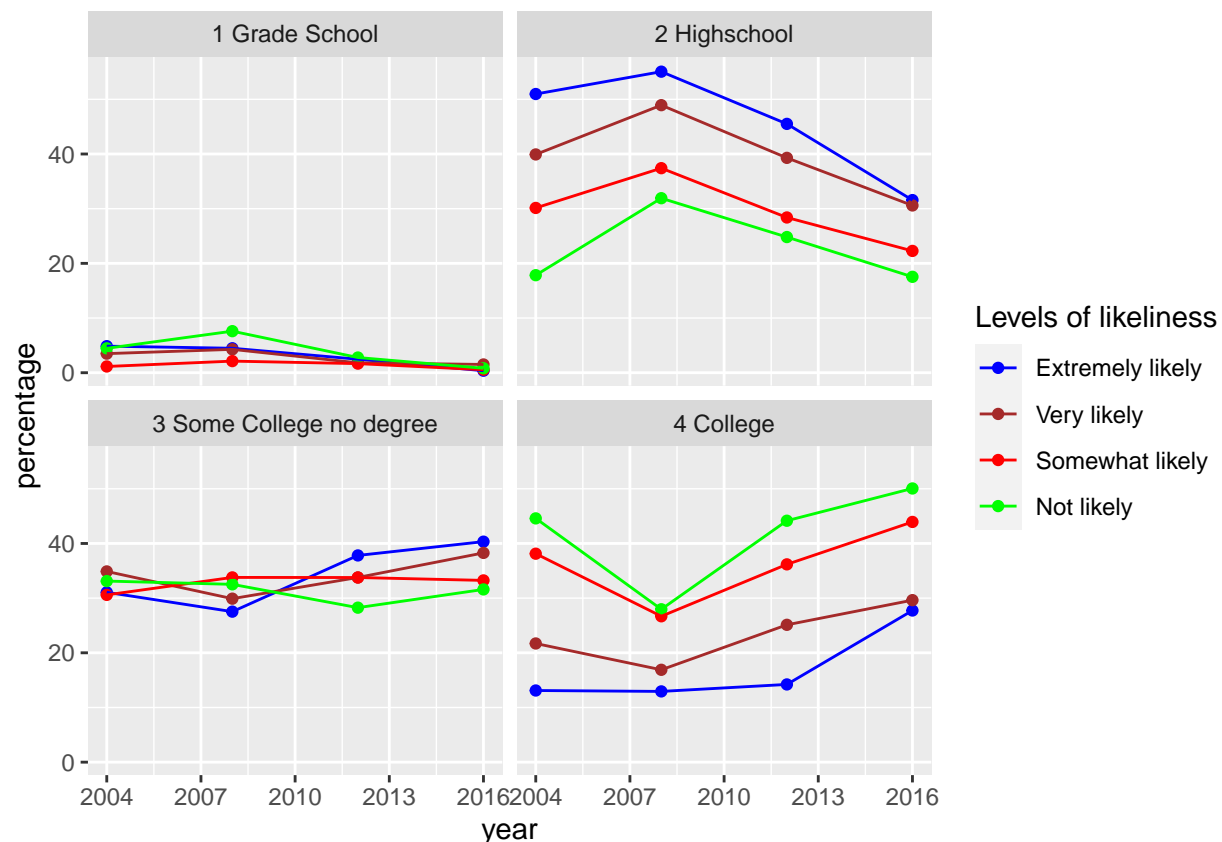


Feelings toward Republican Party



It turns out, that, there was a decrease in favoritism against Democratic party across different education groups, especially within the democratic strongest voting base: grade school and high school voters. On the other hand, people's feeling toward Republican party remains relatively unchanged. This means that somehow in 2016, Donald Trump succeed in attracting voters from the democratic party into his supporting group.

I then analyzed one of Trump's most prominent agenda: Blocking Immigration, and tried to explain the shift in voting base toward Republicans.



Most people who only have high school degrees think that the chances immigrants stealing their jobs are extremely likely. These people used to mainly support Democratic party. In **Some College degrees** educational groups, where republicans lead democratic party, there is an uptrend in voters think negatively about immigrants job wise.

This conclusion explained Trump's aggressive immigration agenda in 2016, where he publicly said that he would build a wall spanning the entirety of the U.S-Mexico border, ban all Muslims from entering the country, deport millions of undocumented immigrants who have lived in the interior of the United States for years, and increase the salary quota and restrictions on highly skilled worker VISA H1B.

Trump's agenda sounds idiotic, ruthless yet extremely effective

Trump purposely used his immigration agenda to target and attract democratic voting base: people who have high school and grade school degrees and who strongly believe immigrants are stealing there jobs.

Biases

This section mentioned some biases that should be taken into consideration when looking at the outcomes of this report, as well as the survey conducted by ANES. First of all, people were paid to do the survey. Hence

the data may be biased, and not represent the voter population correctly. Secondly, there are difference in sample sizes across years that the survey took place. There was less data recorded in 1990s, compared to, for example 2010-2016. Hence, reader should take analysis related to the volume of voters with a grain of salt. One way to minimize these biases is to utilize error bars. Another potential biases that we should take into account is the effect of the interview administrator. Readers should take in mind the influence of administrator's body language on respondent's answers.

For all the potential biases above, in this project, I tried to minimize the biases, by taking the difference between Democrats voters and Republican voters, and average them across the years, instead of taking the absolute respondent volume.

Conclusion

- People who vote for democratic party are mainly high school and grade school degree holders. On the other hand, Republican party a stronger presence in Higher degree holders (some colleges and higher education).
- Voters commend on Democrats on their group connection quality, domestic policies, while Republicans gain favor through their management skills and also domestic policies.
- Voters hate Democrats for their poor management skills, and Republicans for their lack of group connections.
- People who only have high school degree think that the chances immigrants stealing their jobs are very likely. People have college degrees or higher don't think so (not likely). Although, we observed some upward trend in the number of people with some college degree thinking negatively about immigration levels impact on the job market.