Voting Difficulty as a Rift between Democrats and Republicans

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Importance and Context

A cornerstone of any democracy is voting rights. A person is eligible to vote if they are 18 years old on or before Election Day, a U.S. citizen, and registered to vote, with some states having additional requirements for voter eligibility. However, there is a long history of tactics that have been used to make voting difficult for various groups. Literacy tests, poll taxes, voter disenfranchisement laws, and fraud are all examples of the tactics used by the two major parties, Democratic and Republican.[1] Generally speaking, a voter who identifies as a Republican has conservative social values, prefers a smaller government, and wants to reduce taxes to stimulate the economy, while a voter who identifies as a Democrat tends to have liberal social values, believes that government should be the safety net for all and prefers a progressive tax structure. During the 2020 US Presidential Election, there were claims made by both parties of increased measures to make it more difficult to cast a vote. Efforts to provide safe voting options for all due to the COVID-19 global pandemic, may have been a contributing factor to additional concerns about voting difficulty.[2] This led to voters questioning their voting experience and wondering if the election process was manipulated for political gain. To gain further insight, this analysis aims to address the following research question:

Did Democratic voters or Republican voters experience more difficulty voting in the 2020 election?

The answer to this question can be pivotal in understanding the voter experience during a global pandemic and if claims that a particular party did have a more difficult voting experience compared to the other. Additionally, it would provide more context for accusations of voter suppression and further clarify if a particular party gained a political advantage from these tactics.

Data and Methodology

Our analyses will leverage the data from the 2020 American National Election Studies (ANES), which is a continuation of the series of election studies conducted since 1948 to support analysis of public opinion and voting behavior in U.S. presidential elections. The 2020 study features re-interviews with 2016 ANES respondents, a freshly drawn cross-sectional sample, and post-election surveys with respondents from the General Social Survey (GSS). The study has a total of 8,280 pre-election interviews and 7,449 post-election re-interviews satisfying the criteria of IID.

As previously discussed, there are two major parties in the US; other parties make up a very small percentage and are not considered in this analysis. The respondents are asked for the pre and post-vote party affiliation, as well as questions around the party preference for various offices. Based on the study conducted by Petrocik, voters that initially identified themselves as independent did so to highlight their independent mindedness as opposed to their party affiliation.[3] Further probing with follow-up questions in most cases identified a particular leaning of the respondent toward specific affiliation with varying degree of preference. For our purposes we ignore this and define voter's affiliation as leaning within any degree of preference toward a specific party. This made the variable V201231x in the ANES data, named party_id in our analysis, as the best available method to summarize the respondent's lean. It is an unpaired ordinal scale that relates to party affiliation using a range of 1 (Democrat) to 7 (Republican) with 4 as the neutral Independent Voter. Table 1 gives a summary of participant affiliation, and shows no significant difference between the two major parties.

Table 1: Party ID

Democrat	Independent	Republican	Unknown
3436	858	3052	22

[1] ACLU. "Block the Vote: How Politicians are Trying to Block Voters from the Ballot Box" (2021)
[2] Levinson-King, R. "US election 2020: Why it can be hard to vote in the US" (2020)
[3] Petrocik "Measuring party support: Learners are not independents" (2009)

We identified voting difficulty by analyzing the V202119 (aka voting_difficulty) field that asked the respondent how difficult it was to cast their vote based on an ordinal scale. The survey further expanded the voter difficulty question by asking binary follow up questions (V202120 parts a-j aka practical_difficulty) to identify where the voter had difficulty with: registering to vote, obtaining a voter ID card, obtaining an absentee ballot, confusion about the ballot or machine, work schedule conflicts, bad weather, getting to polling location, issues mailing their ballot, long wait times to vote or other difficulties experienced.

Table 2: Practical Difficulty

variable	description
V202120a	Difficulty Registering to Vote
V202120b	Obtaining an Acceptable Voter ID Card
V202120c	Obtaining an Absentee Ballot
V202120d	Confusion about the Ballot or Machine
V202120e	Difficulty Getting to Polling Locations
V202120f	Long Wait Times
V202120g	Work Schedule
V202120h	Bad Weather
V202120i	Issue Mailing Ballot
V202120j	Other Problem

To complete our analysis we used the variable V202109 that is a binary question that informs if the respondent voted or not. We found that 86.13% voted while 13.87% did not. Since the group of respondents who did not vote did not answer the voting_difficulty question, we wondered if anyone in this subsection experienced such difficulty that they could not or were deterred from casting their vote. To find out we looked at the variables V202123 and V202124 that asked the main reason the respondent did not vote. Given the subjectively evaluated factor of intent, the definition of difficulty applied to our analysis is that respondents made all reasonable efforts to participate in the voting but had difficulty in doing so, we have skipped response options that allude to no intent to vote.

We sought to determine whether those who responded to the survey did encounter difficulty voting and if those who intended to vote also experienced some degree of difficulty based on party affiliation. The One-Sided Wilcoxon Rank-Sum Test was determined to be the best choice based on the assumptions of ordinal, unpaired data and shapes as supported by Figure 1.

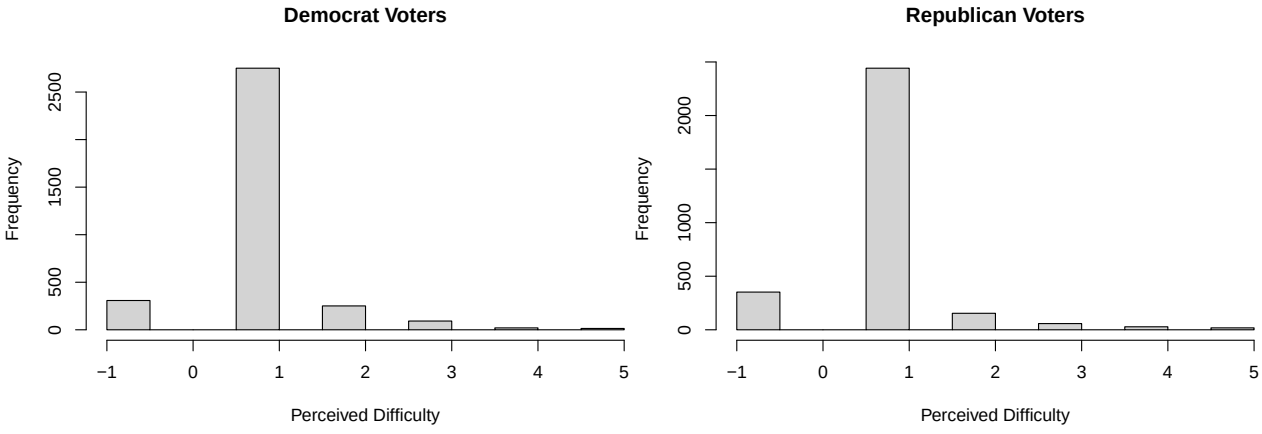

Figure 1: Voting Difficulty by Party ID Distribution Shapes

We defined the following hypotheses for the tests:

Null Hypothesis: *For voters in the 2020 election who identified as Democrats there was no reported difference in voting difficulty compared to Republican voters.*

Alternative Hypothesis: *For voters in the 2020 election who identified as Democrats there was a reported difference in voting difficulty compared to Republican voters.*

In order to try and capture the effect of voting difficulty between parties we conducted the following tests: The first test looked at non-voters and non-voted combined difficulty (aka nvcombined_difficulty), derived through binary calculation as follows:

$$2 \cdot I_{main} + I_{other}$$

The second test was based directly on self-reported (i.e. perceived) voting difficulty (aka voting_difficulty). The third test utilized practical difficulty (aka practical_difficulty) that we defined as the overall count of difficulty indicators the respondent identified in the survey.

Results

Based on the defined hypothesis we ran three tests with the following results:

Non-voted combined difficulty indicator test results: Based on the p-value of 0.3242 we have **failed to reject** the null toward the alternative hypothesis, that it is more difficult to vote for Democrat voters (vs. Republican) for the participants under the unweighted sub-population that did not vote with significance level α of 5%.

Voted (perceived, self-reported) difficulty indicator test results: We obtained a statistically significant test result based on the p-value of 0.00177. As such, we have **rejected** the null toward the alternative hypothesis, that it is more difficult to vote for Democrat voters (vs. Republican) for the participants under the unweighted sub-population that did vote with significance level α of 5%. Further, the effect size based on normal approximation is 3.8% which is small in magnitude. This is also supported by the fact that there is only a 2.5% difference between fraction of Democrats and fraction of Republicans that experienced difficulty.

Voted practical difficulty indicator test results: Based on the p-value of 0.23, though borderline, we have **failed to reject** the null toward the alternative hypothesis that it is more difficult to vote for Democrat voters (vs. Republican) for the participants under the unweighted sub-population that did vote with significance level α of 5%.

Discussion

The analysis performed indicated that there was a statistically significant difference in difficulty voting between respondents who identified as Democrat versus Republicans. However, we could not find any practical significance for the discovered effect.

These results are a strong indicator that voters had equitable access to cast their vote despite the challenges associated with unconventional voting methodologies incorporated due to the unique circumstances at the time. Not enough evidence was found to support the narrative that any party gained a political advantage in the election.

However, it is understood that there is an underlying complexity of difficulty experienced. It may be composed of cognitive, physical, or psychological factors. To improve research method, an instrument similar to the academic persistence scale should be utilized in the future to properly capture voting difficulty experienced by the respondents and improve the power of the test and potentially lead to stronger measure of effect.[4]

[4]Thalib, Tarmizi & Hanafi, Sekar & Asyraf, M Fahmi & Irbah, Shidqi & J.S, Eduardus. (2018). The Academic Persistence Scale.