

# Party Realignment, Education, and the Turnout Advantage: Revisiting the Partisan Effect of Turnout

Spencer Goidel\*  
Thiago M.Q. Moreira†  
Brenna Armstrong‡

## Abstract

Party realignment is occurring along the lines of education in the United States. As college-educated voters increasingly align with the Democratic Party, it is necessary to revisit the partisan effect of turnout. We predict that, since 2016, the Democratic Party no longer benefits from higher turnout. Using validated voter turnout from the Cooperative Election Study (CES), we simulate election results across turnout rates for the 2010, 2012, 2014, 2016, 2018, and 2020 elections. Our findings show that increases in turnout greatly benefit the Democratic Party in the pre-Trump era. However, this pattern has drastically changed. In 2016, 2018, and 2020, the Democratic Party sees a much smaller gain in vote share as simulated turnout increases, but also a large vote share advantage when voter turnout is extremely low. These results indicate that continued party realignment along the lines of education could lead to a persistent reversal in the expected partisan effect of turnout—where Democrats perform better in low-turnout local or primary elections and Republicans perform better in high-turnout general elections.

**Keywords:** turnout, party realignment, education, class cleavages

---

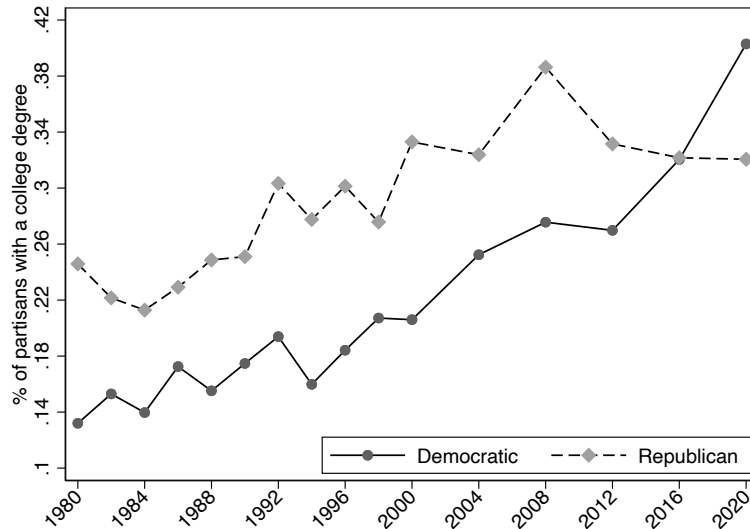
\*Department of Political Science, Auburn University, Auburn, AL 36832, USA, email: [goidel@auburn.edu](mailto:goidel@auburn.edu).

†Department of Political Science, Louisiana State University, Baton Rouge, LA 70803, USA, email: [tmoreira@lsu.edu](mailto:tmoreira@lsu.edu).

‡Department of Political Science, Rice University, Houston, TX 77005, USA, e-mail: [mailto:brenna.armstrong@rice.edu](mailto:mailto:brenna.armstrong@rice.edu).

Consolidated democracies witnessed partisan realignments along the lines of socioeconomic status over the last decades (Dalton 2018). In the US, Donald Trump has accelerated the transition of low-socioeconomic status voters from the Democratic Party to the Republican Party (Kitschelt and Rehm 2019). Specifically, less-educated whites are leading the abandonment of partisan cleavages established in the New Deal era. During the 2016 election, many spectators and analysts noted that Trump’s surge was strongest among less-educated Americans.<sup>1</sup> Based on a study of validated voters from the Pew Research Center, Trump earned more than 60% of the white, non-college votes in the 2016 and 2020 general elections.<sup>2</sup>

Figure 1: Percent of Partisans with a College Degree, 1980-2020



Source: American National Election Studies (ANES).

Concomitantly, support among college-educated voters for the Democratic Party has increased. As Figure 1 depicts, the Republican Party was composed of more college educated identifiers than the Democratic Party from 1980 to 2012.<sup>3</sup> In 2016, both parties had approximately the same share of identifiers with a college degree, and, by 2020, the Demo-

<sup>1</sup>As early as 2015, for example, Janell Ross wrote a [Washington Post](#) headline claiming “Donald Trump’s surge is all about less-educated Americans.” In 2016, Ford Fessenden of the [New York Times](#) argued that Trump’s “big bet” was “on less-educated whites.” Trump himself declared his love for “the poorly educated” in his victory speech following the Nevada Republican primary.

<sup>2</sup>See the [Pew Research Center’s](#) article for more information on validated voters in 2016 and 2020.

<sup>3</sup>The data in Figure 1 are from the American National Election Studies time series.

cratic Party had an eight-point advantage. The Republican Party has witnessed a decline in the percent of college-educated identifiers despite a continual increase in college graduates among the electorate. These trends suggest that education plays a crucial role in the recent realignment observed in American politics. Education is also a strong predictor of political participation: college graduates are more likely to participate than citizens who do not have a college degree (Mayer 2011). Yet, how this new cleavage affects the relationship between turnout and partisan vote share remains unexplored. In this paper, we fill this gap.

Following the strategy proposed by Martinez and Gill (2005), we simulate Democratic vote share across hypothetical turnout rates in the last six federal elections. Since 2016, voter turnout should no longer increase the Democratic vote share as white, less-educated voters are aligning with the Republican Party. Our findings support these expectations. We conclude by discussing (i) if our findings will be persistent, (ii) if these cleavages could cross ethnic lines in the future, and (iii) our findings' implications for reforms that can reduce voter turnout.

## Turnout Advantage and Education

A vast literature looks at the partisan effects of voter turnout. Most findings are suggestive that, on average, Democratic candidates benefit from higher turnout (Hansford and Gomez 2010; Martinez and Hill 2007; Franklin and Grier 1997). Although this Democratic turnout advantage may not be large enough to change the outcomes of most presidential or Senate elections (Brunell and DiNardo 2004; Citrin, Schickler and Sides 2003), changes in turnout rate can be consequential. Fraga (2018) argues, for instance, that full turnout in 2016 would have delivered Hillary Clinton the Electoral College victory over Donald Trump. Other scholars, however, outright reject the presence of a partisan turnout advantage (Shaw and Petrocik 2020) or posit it is conditional on which party has the majority of “core voters” within an electorate (DeNardo 1980; Tucker, Vedlitz and DeNardo 1986) or which party has

the incumbent candidate (Grofman, Owen and Collet 1999).

These mixed findings reflect, in part, two different research questions (Grofman, Owen and Collet 1999). (i) Does the Democratic Party benefit in elections with higher turnout? (ii) Would the Democratic Party benefit if turnout were higher in a given election? Martinez and Gill (2005) answer the latter question by simulating turnout rates using survey data. They find that there was a Democratic turnout advantage in the 1960s and 1970s that disappeared over time. After the New Deal, the working class sorted into the Democratic Party and the middle and upper class into the Republican Party. As the class-based cleavage weakened, so too did the Democratic turnout advantage. Yet, a new cleavage has recently emerged along the lines of socioeconomic status. Specifically, white non-college voters—who, according to the 2020 Census, comprise more than 40% of the total electorate—are more likely to vote for Republican candidates. Meanwhile, the Democratic Party has, for the first time, a larger share of identifiers with a college degree than the Republican Party (per Figure 1).

In this paper, we investigate the partisan turnout advantage in light of this change in the composition of the two parties. Why would an emerging cleavage along educational lines change the partisan turnout advantage? Scholars may disagree on whether there is a turnout advantage, but it is beyond question that education is a strong predictor of voter turnout (Sondheimer and Green 2010), voter registration (Timpone 1998), and a variety of other political activities (Mayer 2011). The more educated citizens are, the more likely they will participate in politics. There is an ongoing debate over the causal relationship between education and participation (Berinsky and Lenz 2011; Tenn 2007). But, it is unquestionable that education is highly correlated with participation (Persson 2015). If educated people participate more, then a migration of the educated into one party should alter the turnout advantage assumptions of the past.

Therefore, we expect to find that higher turnout in the 2016, 2018, and 2020 elections no longer benefits the Democratic Party. As low-propensity voters sort into the Republican Party, higher turnout should not lead to an increase in Democratic vote share. Although the

education realignment may reflect a long-term process of changing voting behavior, Trump’s political emergence has certainly accelerated it (Kitschelt and Rehm 2019). In 2010, 2012, and 2014, the Democratic Party did not have a clear advantage among college graduates. Moreover, Obama’s candidacy propelled the participation of minorities who are historically less likely to turn out. For these reasons, higher turnout should benefit the Democratic Party in these three elections. These expectations lead to our two hypotheses about turnout advantage in recent presidential elections:

**Hypothesis 1** *Higher (lower) voter turnout in the 2010, 2012, and 2014 elections causes an increase (decrease) in Democratic vote share.*

**Hypothesis 2** *Higher (lower) voter turnout in the 2016, 2018, and 2020 elections does not cause an increase (decrease) in Democratic vote share.*

## Research Design

We extend Martinez and Gill’s (2005) analysis and simulate vote share across levels of voter turnout. We estimate multinomial logistic models that predict vote choice (including abstention), then record the predicted probabilities for each respondent. With the predicted probabilities of abstaining, the levels of voter turnout are simulated. For example, to simulate vote share when turnout is 5% lower than observed, the 5% of respondents that voted with the highest probability of abstaining are changed to abstainers. To simulate 5% higher turnout, the 5% of abstainers with the lowest probability of abstaining are counted as voters. These new voters “cast votes” for the party they are more likely to have supported according to the predicted probabilities.

We simulate vote share across levels of voter turnout in the last six federal elections: 2010, 2012, 2014, 2016, 2018, and 2020. However, we use CES data instead of ANES. The CES offers two major advantages. First, it includes validated voter turnout for all elections—eliminating respondent misreports of voter turnout. Second, the CES has many more respondents per election, which increases the accuracy and power of our estimates.

Our dependent variable is constructed using both self-reports and validated voter

turnout. We use self-reports to record whether a respondent voted for the Democratic or Republican Party, but these reports are only counted if the individual’s vote is validated. All validated nonvoters and self-reported nonvoters are recorded as abstainers.<sup>4</sup> We exclude the remaining respondents that could not be matched to the voter files. Our models include a long list of independent variables: party identification, ideology, gender, race, marital status, age, family income, employment status, children, religion, economic evaluations, news interest, education, presidential approval, and vote intention.

Our study replicates analyses conducted nearly two decades ago, and, in the intervening years, political campaigns have drastically changed. Beginning in 2003, states were required to provide databases on registered voters. This change, along with the rise of “big data,” has resulted in a shift to microtargeting voters, where campaigns attempt to turn out specific groups of voters that are more likely to support their party (Ridout et al. 2012). However, we have reasons to believe that the shift to microtargeting has made voter turnout efforts more similar to our simulations. Campaigns now extensively rely on propensity scores to target most likely voters (Stuckelberger and Koedam 2022; Endres and Kelly 2018). By doing so, they activate those who we call marginal abstainers, people “on the fence” to turn out. As the political attachment of marginal abstainers changes, so does the partisan effect of turnout.

## Findings

Figures 2a and 2b show the predicted Democratic vote share across levels of simulated turnout in the 2010-2020 elections. The range of participation in the horizontal axes varies from 5% to 95%. Vote share is estimated using the predicted probabilities from multinomial logistic regressions. These regression results are included in Tables SM1-SM6 of the Supplementary Material. In the 2010, 2012, and 2014 elections, we see a notable increase in Democratic vote share when turnout increases above the observed turnout rate, and a

---

<sup>4</sup>Following Martinez and Gill (2005), we drop self-reported third party or write-in votes.

Figure 2a: Democratic vote share by simulated turnout rate, 2010-2014

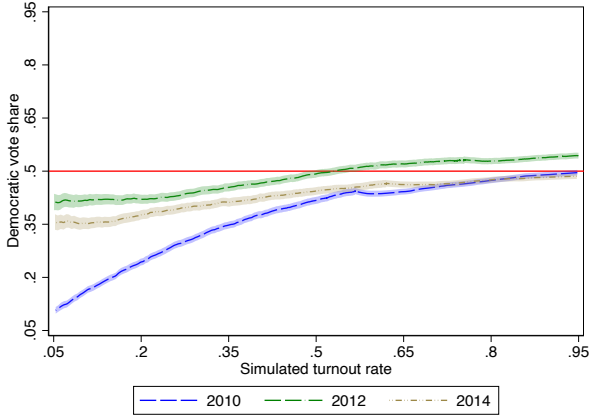
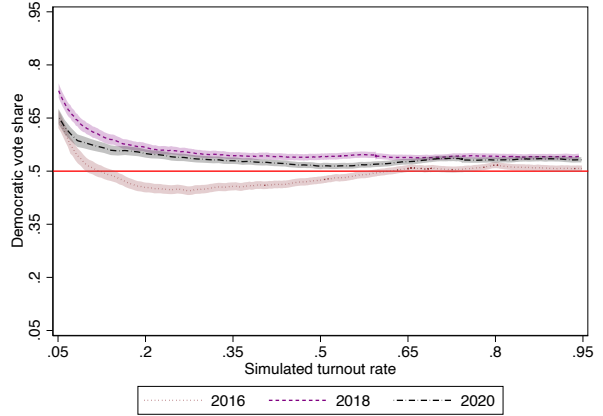


Figure 2b: Democratic vote share by simulated turnout rate, 2016-2020



sharp decrease in Democratic vote share when turnout decreases. These findings support Hypothesis 1, showing that the Democratic vote share would be hurt by low turnout when Obama was the leader of the party. According to Figure 2b, a reversal in the relationship between turnout and Democratic vote share begins to appear in 2016 and continues in 2018 and 2020. In stark contrast with the 2010-2014 elections, the Democratic Party would benefit from extremely low turnout. The Democratic Party would obtain larger advantages in 2018 and 2020 at very low rates of simulated participation—between 5% and 35%.

To make the changes shown in Figures 2a and 2b more clear, we present changes in the Democratic vote share within a more realistic range—after a simulated 15 percent positive and negative shock in voter turnout—in Table 1.<sup>5</sup> The Democratic turnout advantage has noticeably shrunk over time. A 15 percent increase in turnout would have led to a 1.5 percent increase in Democratic votes in 2010, a 1.0 percent increase in 2012, a 0.7 percent increase in 2014, a 0.3 percent increase in 2016, a 0.2 percent increase in 2018, and a 0.4 percent increase

<sup>5</sup>Turnout rates in Table 1 do not mirror the voting-eligible population turnout rates for the same election years. Instead, they reflect the percent of respondents included in our simulations that both (i) turned out to vote and (ii) completed the pre- and post-election waves of the survey. By necessarily limiting our sample to respondents that completed both waves of the survey, we likely have a much more participatory and Democratic sample than the general electorate. Research shows that Republicans are less likely to participate in surveys than their Democratic counterparts (Clinton, Lapinski and Trussler 2022). The Democratic lean of our sample biases our results in the Democratic direction, making it less likely we find support for Hypothesis 2. We show turnout rates by measurement strategy and provide further discussion of our measure in Table SM11 of the Supplementary Material.

Table 1: Democratic Vote Share in High- and Low-Turnout Elections

		Turnout	High turnout (+15%)	Low turnout(-15%)	High-Low
2010	Turnout %	56.6%	71.6%	41.6%	
	Democratic %	44.3%	45.8%	38.2%	7.6%
2012	Turnout %	75.4%	90.4%	60.4%	
	Democratic %	53.1%	54.1%	51.3%	2.8%
2014	Turnout %	62.0%	77.0%	47.0%	
	Democratic %	46.5%	47.2%	43.8%	3.2%
2016	Turnout %	68.9%	83.9%	53.9%	
	Democratic %	50.8%	51.1%	48.2%	2.9%
2018	Turnout %	59.5%	74.5%	44.5%	
	Democratic %	54.1%	54.3%	53.9%	0.4%
2020	Turnout %	74.3%	89.3%	59.3%	
	Democratic %	53.1%	53.5%	51.9%	1.6%

in 2020. Decreases in turnout by 15 percent continue to benefit the Republican Party; however, the gap between Democratic vote share when simulated turnout is high versus when it is low is narrowing over time. The results from Table 1 provide mixed support for Hypothesis 2. Within this more realistic range, higher turnout no longer benefits the Democratic Party, but lower turnout continues to benefit the Republican Party—although Figure 2b shows that Democratic vote share increases when voter turnout is extremely low.

Who is turning out in our simulations of higher turnout? To further understand this process, we investigate whether the marginal abstainers—those abstainers who were most “on the fence” about voting—are increasingly Republican. We define marginal abstainers as the 15% of respondents that did not vote, but were most likely to vote according to our models. The partisanship and educational attainment of marginal abstainers is shown in Figures 3a and 3b respectively. As expected, marginal abstainers are consistently less educated than the general population of voters. But the partisanship of marginal abstainers has changed.

In 2010, marginal abstainers are substantially more Democratic than voters—7.2 percent. The gap in Democratic identification between voters and marginal abstainers shrinks until 2018 when the relationship reverses. In 2018 and 2020, the voters are 0.5 and 0.2 percent more Democratic than the marginal abstainers. At the same time, the share of



Figure 3a: Partisanship of marginal abstainers

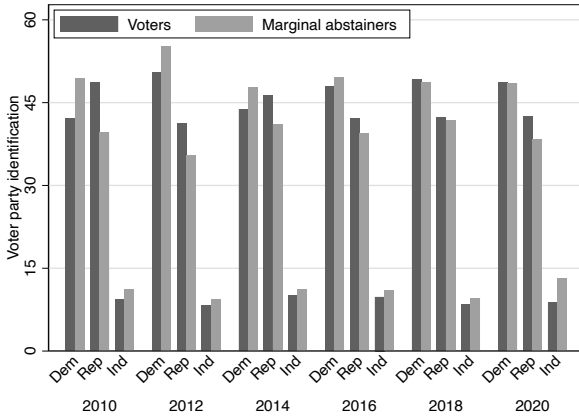
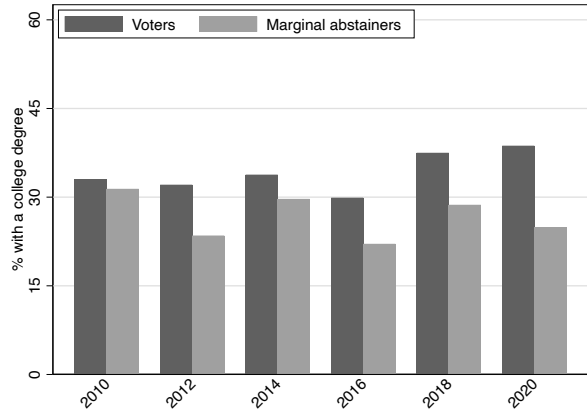


Figure 3b: College education of marginal abstainers



college graduates has increased in the electorate; yet, marginal abstainers have remained consistently less college educated. Consistent with the theory of educational realignment, Figures 3a and 3b show that while the educational attainment of marginal abstainers stays constant, their partisan attachment has moved toward the Republican Party.

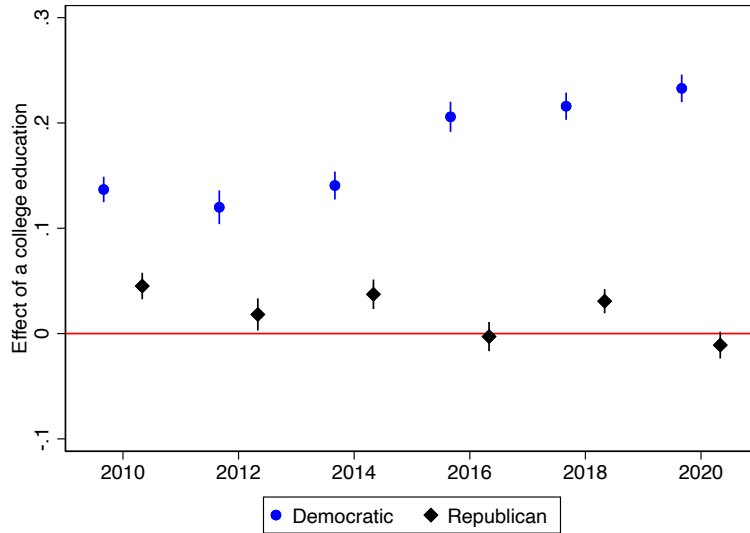
The simulations provide evidence that party realignment has changed the partisan turnout advantage, but they do not show that education is driving this realignment. To further look into this realignment, we plot the average marginal effect of a college education on vote choice across elections in Figure 4. These average marginal effects are taken from a simple multinomial logistic model with vote choice as the dependent variable and an interaction between a college education dummy variable and the year of the survey.<sup>6</sup> Abstention is the baseline category in this model. The results are presented in Table SM7 of the Supplementary Material.<sup>7</sup>

Having a bachelor's degree has a stronger effect on the probability of voting Democratic

<sup>6</sup>The college education variable is coded as 1 if the individual has at least a bachelor's degree, 0 otherwise.

<sup>7</sup>We present results from this simple model to emphasize the changing association between education and vote choice, not to isolate the causal effect of education on vote choice. As such, this simple model does not control for covariates that could create potential post-treatment bias in the relationship between a college education and vote choice. However, these marginal effects are robust to an alternative model that includes all previously used controls in Figures 2a and 2b. This robustness check shows the same relationship developing. The results and marginal effects from the alternative model are presented in Tables SM8 and SM9, and Figure SM10 of the Supplementary Material.

Figure 4: Effect of a College Education on Party Choice



in all 6 elections; however, in 2010, 2012, and 2014, the gap is small and there remains a significant positive effect on the probability of voting Republican. The gap in effect size is much larger in the latter three elections. Plus, the average marginal effect on voting Republican is null in 2016 and 2020. Although they are not evidence of a causal relationship, these results show that educated Americans, precisely those more likely to turn out to vote, are increasingly supporting the Democratic Party.

## Discussion

Given the signs of an education-based party realignment in American politics, we extend Martinez and Gill's (2005) approach to investigate the partisan effect of turnout in recent presidential elections. We predict that higher turnout increases the Democratic vote share in 2010, 2012 and 2014, as Obama mobilized minorities. However, because Trump accelerated the realignment along educational lines, higher turnout no longer clearly advantages the Democratic Party in 2016, 2018, and 2020. Our findings confirm these hypotheses and show that the ongoing realignment could drastically change previous assumptions about the effects

of voter turnout.

Education is not a novel cleavage, but the new partisan attachment across levels of education could redefine the relevance of this cleavage in American politics. For this reason, future research should consider what the arising relevance of the education cleavage means for U.S. politics. Is this a persistent party realignment or just a transitory Trump effect? Only time can answer this question, but trends observed by Kitschelt and Rehm (2019) suggest that the realignment is a long-term process hastened by Trump. Hence, our findings may represent a new and enduring relationship between voter turnout and election results.

Another interesting question concerns whether this realignment can travel across ethnic and racial lines. Would it be limited to white voters? Or can it also influence voting behavior in other groups? The education gap among Hispanic voters in 2020 indicates that it can: Hispanic vote share for Trump jumps from 30% among college graduates to 41% among those without a college degree.<sup>8</sup> Finally, our results also suggest that electoral reforms to reduce voter turnout can trigger unexpected consequences. By making participation more difficult for less-educated voters, reforms such as voter ID legislation may benefit Democratic candidates rather than their Republican sponsors. As such, future research should investigate the implications of education inequality both within and across minority groups and the effects these inequalities may have on the future of U.S. politics.

---

<sup>8</sup>Numbers from the [Pew Research Center's](#) study with validated voters.

## References

- Ansolabehere, Stephen and Eitan Hersh. 2012. "Validation: What big data reveal about survey misreporting and the real electorate." *Political Analysis* 20(4):437–459.
- Berinsky, Adam J and Gabriel S Lenz. 2011. "Education and political participation: Exploring the causal link." *Political Behavior* 33(3):357–373.
- Brunell, Thomas L and John DiNardo. 2004. "A propensity score reweighting approach to estimating the partisan effects of full turnout in American presidential elections." *Political Analysis* 12(1):28–45.
- Citrin, Jack, Eric Schickler and John Sides. 2003. "What if everyone voted? Simulating the impact of increased turnout in senate elections." *American Journal of Political Science* 47(1):75–90.
- Clinton, Joshua D, John S Lapinski and Marc J Trussler. 2022. "Reluctant Republicans, Eager Democrats? Partisan Nonresponse and the Accuracy of 2020 Presidential Pre-election Telephone Polls." *Public Opinion Quarterly* 86(2):247–269.
- Dalton, Russell J. 2018. *Political realignment: economics, culture, and electoral change*. Oxford University Press.
- DeNardo, James. 1980. "Turnout and the Vote: The Joke's on the Democrats." *American Political Science Review* 74(2):406–420.
- Endres, Kyle and Kristin J Kelly. 2018. "Does microtargeting matter? Campaign contact strategies and young voters." *Journal of Elections, Public Opinion and Parties* 28(1):1–18.
- Fraga, Bernard L. 2018. *The turnout gap: Race, ethnicity, and political inequality in a diversifying America*. Cambridge University Press.
- Franklin, Daniel P. and Eric E. Grier. 1997. "Effects of Motor Voter Legislation: Voter Turnout, Registration, and Partisan Advantage in the 1992 Presidential Election." *American Politics Quarterly* 25:104–117.
- Grofman, Bernard, Guillermo Owen and Christian Collet. 1999. "Rethinking the partisan effects of higher turnout: so what's the question?" *Public Choice* 99(3):357–376.
- Hansford, Thomas G and Brad T Gomez. 2010. "Estimating the electoral effects of voter turnout." *American Political Science Review* pp. 268–288.
- Kitschelt, Herbert P and Philipp Rehm. 2019. "Secular partisan realignment in the United States: The socioeconomic reconfiguration of white partisan support since the new Deal era." *Politics & Society* 47(3):425–479.
- Martinez, Michael D and Jeff Gill. 2005. "The effects of turnout on partisan outcomes in US presidential elections 1960–2000." *The Journal of Politics* 67(4):1248–1274.

- Martinez, Michael and David Hill. 2007. "Was the joke on the democrats again? Turnout and partisan choice in the 2004 US election." *American Review of Politics* 28:81–95.
- Mayer, Alexander K. 2011. "Does education increase political participation?" *The Journal of Politics* 73(3):633–645.
- Persson, Mikael. 2015. "Education and political participation." *British Journal of Political Science* 45(3):689–703.
- Ridout, Travis N, Michael Franz, Kenneth M Goldstein and William J Feltus. 2012. "Separation by television program: Understanding the targeting of political advertising in presidential elections." *Political Communication* 29(1):1–23.
- Shaw, Daron and John Petrocik. 2020. *The Turnout Myth: Voting Rates and Partisan Outcomes in American National Elections*. Oxford University Press, USA.
- Sondheimer, Rachel Milstein and Donald P Green. 2010. "Using experiments to estimate the effects of education on voter turnout." *American Journal of Political Science* 54(1):174–189.
- Stuckelberger, Simon and Jelle Koedam. 2022. "Parties' voter targeting strategies: What can facebook ads tell us?" *Electoral Studies* 77:102473.
- Tenn, Steven. 2007. "The effect of education on voter turnout." *Political Analysis* 15(4):446–464.
- Timpone, Richard J. 1998. "Structure, Behavior, and Voter Turnout in the United States." *American Political Science Review* 92:145–158.
- Tucker, Harvey J, Arnold Vedlitz and James DeNardo. 1986. "Does heavy turnout help Democrats in presidential elections?" *American Political Science Review* 80(4):1291–1304.

# Supplementary Material

Table SM1: 2010 CES voter model

	Democratic		Republican	
Party ID				
Democratic	-0.0799	(0.0828)	0.910***	(0.157)
Lean Democratic	-0.125	(0.0855)	0.569**	(0.174)
Independent	-0.821***	(0.107)	1.111***	(0.157)
Lean Republican	-1.565***	(0.162)	1.555***	(0.162)
Republican	-1.283***	(0.147)	1.638***	(0.162)
Strong Republican	-1.828***	(0.203)	1.708***	(0.164)
Ideology				
Liberal	-0.212*	(0.0998)	0.141	(0.218)
Moderate	-0.302**	(0.105)	0.860***	(0.194)
Conservative	-0.692***	(0.131)	1.283***	(0.200)
Very conservative	-1.387***	(0.190)	1.395***	(0.208)
Male	0.237***	(0.0553)	0.0964	(0.0572)
Black	-0.0763	(0.0895)	-0.458**	(0.164)
Hispanic	-0.266*	(0.117)	-0.446***	(0.128)
Married	-0.0240	(0.0601)	0.0417	(0.0654)
Age	0.0260***	(0.00227)	0.0252***	(0.00240)
Income	0.0359***	(0.00942)	0.0505***	(0.00965)
Unemployed	0.0421	(0.108)	-0.114	(0.114)
Has children	-0.0978	(0.0663)	0.0179	(0.0699)
Catholic	0.0752	(0.0743)	0.162*	(0.0826)
Protestant	0.0397	(0.0651)	0.250***	(0.0703)
Economy				
Gotten better	0.0686	(0.218)	0.437	(0.317)
Stayed same	0.141	(0.222)	0.815**	(0.312)
Gotten worse	-0.0945	(0.227)	0.654*	(0.312)
Gotten much worse	-0.332	(0.248)	0.706*	(0.314)
Follow news				
Some of the time	-0.263***	(0.0656)	-0.329***	(0.0721)
Only now and then	-0.750***	(0.104)	-0.822***	(0.115)
Hardly at all	-0.911***	(0.173)	-0.892***	(0.190)
Education				
High school	0.278	(0.169)	0.377*	(0.159)
Some college	0.521**	(0.168)	0.545***	(0.159)
2-year degree	0.662***	(0.185)	0.554**	(0.177)
4-year degree	0.746***	(0.169)	0.593***	(0.162)
Post-grad degree	0.659***	(0.177)	0.405*	(0.171)
Presidential approval				
Somewhat approve	-0.0985	(0.0703)	0.621***	(0.155)
Somewhat disapprove	-0.518***	(0.108)	1.219***	(0.168)
Strongly disapprove	-0.951***	(0.132)	1.784***	(0.168)
Turnout intention	2.345***	(0.0881)	2.744***	(0.110)
Constant	-3.071***	(0.312)	-8.857***	(0.421)
$N$			33449	
pseudo $R^2$			0.461	
Wald $\chi^2$			7929.0	

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Abstention is the baseline category

Table SM2: 2012 CES voter model

	Democratic		Republican	
Party ID				
Democratic	0.00925	(0.102)	0.909***	(0.262)
Lean Democratic	0.146	(0.105)	0.504	(0.271)
Independent	-0.588***	(0.106)	0.838**	(0.259)
Lean Republican	-1.112***	(0.218)	1.611***	(0.265)
Republican	-1.130***	(0.152)	1.768***	(0.264)
Strong Republican	-1.753***	(0.262)	1.661***	(0.262)
Ideology				
Liberal	0.252	(0.136)	0.821**	(0.312)
Moderate	0.0179	(0.139)	1.217***	(0.284)
Conservative	-0.0303	(0.163)	1.783***	(0.286)
Very conservative	-0.293	(0.241)	1.752***	(0.299)
Male	-0.236***	(0.0684)	-0.139	(0.0731)
Black	0.335**	(0.113)	-0.728**	(0.277)
Hispanic	0.00542	(0.120)	-0.242	(0.164)
Married	0.0804	(0.0713)	0.238**	(0.0797)
Age	0.0171***	(0.00253)	0.0118***	(0.00291)
Income	0.0377**	(0.0120)	0.0575***	(0.0140)
Unemployed	0.00825	(0.112)	-0.106	(0.128)
Has children	-0.376***	(0.0844)	-0.250**	(0.0891)
Catholic	-0.129	(0.0865)	0.0468	(0.0977)
Protestant	-0.0992	(0.0792)	0.151	(0.0862)
Economy				
Gotten better	0.423*	(0.207)	-0.560	(0.347)
Stayed same	0.0941	(0.216)	-0.0755	(0.341)
Gotten worse	-0.193	(0.225)	0.0777	(0.342)
Gotten much worse	-0.434	(0.278)	-0.0215	(0.346)
Follow news				
Some of the time	-0.310***	(0.0809)	-0.130	(0.0858)
Only now and then	-0.508***	(0.109)	-0.241*	(0.112)
Hardly at all	-0.543***	(0.140)	-0.762***	(0.158)
Education				
High school	0.222	(0.154)	0.300	(0.166)
Some college	0.480**	(0.160)	0.449**	(0.169)
2-year degree	0.660***	(0.178)	0.400*	(0.201)
4-year degree	0.694***	(0.166)	0.555**	(0.180)
Post-grad degree	0.819***	(0.183)	0.759***	(0.203)
Presidential approval				
Somewhat approve	-0.0646	(0.0820)	1.101***	(0.333)
Somewhat disapprove	-0.924***	(0.134)	2.665***	(0.352)
Strongly disapprove	-2.804***	(0.213)	3.016***	(0.348)
Turnout intention	1.825***	(0.0741)	2.011***	(0.0833)
Constant	-1.401***	(0.298)	-7.441***	(0.504)
<i>N</i>			31378	
pseudo $R^2$			0.540	
Wald $\chi^2$			5108.0	

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ 

Abstention is the baseline category

Table SM3: 2014 CES voter model

	Democratic		Republican	
Party ID				
Democratic	-0.295***	(0.0801)	0.610***	(0.145)
Lean Democratic	-0.228**	(0.0838)	0.542**	(0.173)
Independent	-0.954***	(0.0930)	0.935***	(0.143)
Lean Republican	-1.141***	(0.148)	1.648***	(0.155)
Republican	-1.304***	(0.128)	1.645***	(0.151)
Strong Republican	-1.722***	(0.182)	1.852***	(0.155)
Ideology				
Liberal	0.0361	(0.0944)	0.546**	(0.210)
Moderate	-0.131	(0.0975)	0.881***	(0.194)
Conservative	-0.605***	(0.126)	1.111***	(0.200)
Very conservative	-0.848***	(0.198)	1.426***	(0.211)
Male	-0.0517	(0.0538)	0.0362	(0.0573)
Black	-0.202*	(0.0837)	-1.045***	(0.172)
Hispanic	-0.403***	(0.105)	-0.602***	(0.125)
Married	0.00720	(0.0584)	0.116	(0.0638)
Age	0.0323***	(0.00220)	0.0295***	(0.00235)
Income	0.0302**	(0.0102)	0.0437***	(0.0106)
Unemployed	-0.0518	(0.113)	-0.117	(0.134)
Has children	-0.422***	(0.0663)	-0.338***	(0.0724)
Catholic	-0.0809	(0.0756)	0.143	(0.0792)
Protestant	-0.104	(0.0618)	0.307***	(0.0692)
Economy				
Gotten better	0.600***	(0.133)	0.771**	(0.236)
Stayed same	0.281*	(0.138)	0.711**	(0.238)
Gotten worse	-0.112	(0.151)	0.694**	(0.240)
Gotten much worse	-0.389*	(0.188)	0.600*	(0.249)
Follow news				
Some of the time	-0.250***	(0.0648)	-0.302***	(0.0694)
Only now and then	-0.441***	(0.0920)	-0.496***	(0.0947)
Hardly at all	-0.684***	(0.143)	-0.485***	(0.146)
Education				
High school	0.275	(0.154)	0.305	(0.164)
Some college	0.453**	(0.156)	0.607***	(0.168)
2-year degree	0.476**	(0.164)	0.739***	(0.174)
4-year degree	0.737***	(0.163)	0.682***	(0.170)
Post-grad degree	0.959***	(0.171)	0.778***	(0.183)
Presidential approval				
Somewhat approve	-0.0115	(0.0722)	0.208	(0.164)
Somewhat disapprove	-0.0650	(0.0955)	0.866***	(0.177)
Strongly disapprove	-0.769***	(0.110)	1.204***	(0.174)
Turnout intention	1.750***	(0.0715)	1.830***	(0.0765)
Constant	-2.757***	(0.245)	-7.461***	(0.379)
<i>N</i>			31715	
pseudo $R^2$			0.411	
Wald $\chi^2$			7181.6	

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ 

Abstention is the baseline category



Table SM4: 2016 CES voter model

	Democratic		Republican	
Party ID				
Democratic	-0.153	(0.113)	1.075***	(0.209)
Lean Democratic	-0.200	(0.110)	0.427	(0.253)
Independent	-0.693***	(0.122)	1.373***	(0.206)
Lean Republican	-1.169***	(0.198)	2.101***	(0.226)
Republican	-0.614***	(0.174)	2.108***	(0.215)
Strong Republican	-1.722***	(0.211)	1.709***	(0.209)
Ideology				
Liberal	0.223	(0.132)	0.860**	(0.312)
Moderate	0.0321	(0.139)	1.074***	(0.291)
Conservative	-0.385*	(0.171)	1.330***	(0.292)
Very conservative	-0.679*	(0.277)	1.416***	(0.299)
Male	-0.380***	(0.0709)	-0.0774	(0.0747)
Black	0.0861	(0.124)	-0.164	(0.216)
Hispanic	-0.116	(0.115)	-0.478**	(0.149)
Married	0.141	(0.0741)	0.153	(0.0786)
Age	0.0175***	(0.00276)	0.0128***	(0.00273)
Income	0.0374**	(0.0126)	0.0260*	(0.0120)
Unemployed	0.179	(0.162)	-0.0938	(0.161)
Has children	-0.511***	(0.0858)	-0.363***	(0.0975)
Catholic	-0.123	(0.0929)	0.122	(0.0948)
Protestant	-0.0340	(0.0862)	0.318***	(0.0859)
Economy				
Gotten better	0.524***	(0.135)	0.205	(0.608)
Stayed same	0.314*	(0.144)	0.669	(0.596)
Gotten worse	-0.198	(0.160)	0.641	(0.598)
Gotten much worse	-0.193	(0.212)	0.556	(0.601)
Follow news				
Some of the time	-0.217**	(0.0831)	-0.149	(0.0870)
Only now and then	-0.473***	(0.126)	-0.512***	(0.129)
Hardly at all	-0.296	(0.195)	-0.558***	(0.167)
Education				
High school	0.0407	(0.171)	0.0974	(0.180)
Some college	0.479**	(0.171)	0.168	(0.185)
2-year degree	0.595**	(0.189)	0.205	(0.197)
4-year degree	0.725***	(0.175)	-0.00728	(0.187)
Post-grad degree	1.029***	(0.189)	0.252	(0.199)
Presidential approval				
Somewhat approve	0.00942	(0.0859)	1.392***	(0.212)
Somewhat disapprove	-0.647***	(0.136)	2.451***	(0.214)
Strongly disapprove	-2.273***	(0.176)	2.801***	(0.202)
Turnout intention	3.086***	(0.116)	3.214***	(0.106)
Constant	-2.749***	(0.281)	-8.656***	(0.793)
$N$			31582	
pseudo $R^2$			0.567	
Wald $\chi^2$			6576.5	

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ 

Abstention is the baseline category

Table SM5: 2018 CES voter model

	Democratic		Republican	
Party ID				
Democratic	-0.0332	(0.0884)	1.024***	(0.181)
Lean Democratic	0.00560	(0.0899)	0.827***	(0.209)
Independent	-0.573***	(0.0962)	1.789***	(0.169)
Lean Republican	-1.120***	(0.142)	2.195***	(0.176)
Republican	-0.781***	(0.146)	2.239***	(0.174)
Strong Republican	-1.758***	(0.173)	2.050***	(0.173)
Ideology				
Liberal	-0.0295	(0.0875)	0.607*	(0.273)
Moderate	-0.305***	(0.0921)	1.036***	(0.247)
Conservative	-0.574***	(0.130)	1.344***	(0.249)
Very conservative	-1.038***	(0.166)	1.492***	(0.252)
Male	-0.0554	(0.0568)	-0.0422	(0.0548)
Black	-0.232*	(0.0930)	-0.787***	(0.176)
Hispanic	-0.211*	(0.0900)	-0.639***	(0.121)
Married	0.122	(0.0646)	0.361***	(0.0607)
Age	0.0238***	(0.00203)	0.0213***	(0.00215)
Income	0.0370***	(0.00996)	0.0358***	(0.0106)
Unemployed	0.00676	(0.119)	0.286*	(0.145)
Has children	-0.398***	(0.0680)	-0.340***	(0.0681)
Catholic	-0.0648	(0.0803)	0.0919	(0.0770)
Protestant	-0.00259	(0.0663)	0.271***	(0.0659)
Economy				
Gotten better	0.609***	(0.147)	-0.136	(0.0712)
Stayed same	0.595***	(0.151)	-0.637***	(0.107)
Gotten worse	0.511**	(0.158)	-0.479***	(0.133)
Gotten much worse	0.427*	(0.180)	-0.634**	(0.206)
Follow news				
Some of the time	-0.259***	(0.0677)	-0.241***	(0.0685)
Only now and then	-0.416***	(0.101)	-0.408***	(0.0949)
Hardly at all	-0.547***	(0.121)	-0.413***	(0.123)
Education				
High school	0.382*	(0.172)	0.253	(0.149)
Some college	0.498**	(0.172)	0.399**	(0.154)
2-year degree	0.660***	(0.179)	0.593***	(0.164)
4-year degree	0.854***	(0.172)	0.624***	(0.157)
Post-grad degree	1.043***	(0.178)	0.510**	(0.176)
Presidential approval				
Somewhat approve	0.605***	(0.171)	0.122	(0.0770)
Somewhat disapprove	1.334***	(0.179)	-0.167	(0.112)
Strongly disapprove	1.972***	(0.167)	-1.189***	(0.125)
Turnout intention	2.265***	(0.0791)	2.478***	(0.0750)
Constant	-4.879***	(0.270)	-6.412***	(0.349)
<i>N</i>			33958	
pseudo $R^2$			0.501	
Wald $\chi^2$			9893.7	

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ 

Abstention is the baseline category

Table SM6: 2020 CES voter model

	Democratic		Republican	
Party ID				
Democratic	-0.0566	(0.104)	1.310***	(0.220)
Lean Democratic	-0.231*	(0.108)	1.076***	(0.268)
Independent	-1.035***	(0.104)	1.640***	(0.200)
Lean Republican	-1.483***	(0.167)	1.998***	(0.220)
Republican	-1.112***	(0.145)	2.040***	(0.210)
Strong Republican	-1.515***	(0.183)	2.064***	(0.211)
Ideology				
Liberal	0.201	(0.103)	0.121	(0.268)
Moderate	0.0414	(0.114)	0.623**	(0.239)
Conservative	-0.118	(0.155)	0.952***	(0.245)
Very conservative	-0.918**	(0.303)	0.920***	(0.254)
Male	-0.0229	(0.0686)	0.0429	(0.0724)
Black	-0.0995	(0.103)	-0.839***	(0.240)
Hispanic	-0.141	(0.111)	-0.225	(0.134)
Married	0.423***	(0.0802)	0.340***	(0.0769)
Age	0.0166***	(0.00241)	0.0184***	(0.00295)
Income	0.0343**	(0.0117)	0.0527***	(0.0127)
Unemployed	-0.105	(0.106)	-0.243	(0.148)
Has children	-0.406***	(0.0802)	-0.355***	(0.0908)
Catholic	-0.0791	(0.101)	-0.0605	(0.0996)
Protestant	0.0839	(0.0831)	0.277***	(0.0826)
Economy				
Gotten better	1.347***	(0.354)	0.217	(0.127)
Stayed same	1.080**	(0.329)	-0.0624	(0.142)
Gotten worse	0.862**	(0.312)	0.0389	(0.116)
Gotten much worse	0.992**	(0.309)	-0.0118	(0.131)
Follow news				
Some of the time	-0.300***	(0.0817)	-0.285**	(0.0904)
Only now and then	-0.366***	(0.111)	-0.296**	(0.110)
Hardly at all	-0.744***	(0.135)	-0.564***	(0.150)
Education				
High school	0.430*	(0.190)	0.416*	(0.168)
Some college	0.781***	(0.192)	0.780***	(0.176)
2-year degree	0.721***	(0.199)	0.814***	(0.189)
4-year degree	1.434***	(0.196)	1.069***	(0.183)
Post-grad degree	1.198***	(0.212)	0.893***	(0.194)
Presidential approval				
Somewhat approve	1.548***	(0.266)	-0.0160	(0.0904)
Somewhat disapprove	3.265***	(0.266)	-1.004***	(0.161)
Strongly disapprove	4.138***	(0.256)	-3.441***	(0.200)
Turnout intention	2.173***	(0.0762)	2.739***	(0.0949)
Constant	-6.820***	(0.435)	-5.592***	(0.372)
$N$			36690	
pseudo $R^2$			0.617	
Wald $\chi^2$			6722.9	

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ 

Abstention is the baseline category

Table SM7: 2010-2020 CES education and vote

	Democratic		Republican	
2010				
College	0.962***	(0.0369)	0.585***	(0.0347)
2012				
No college	1.146***	(0.0369)	0.763***	(0.0339)
College	2.082***	(0.0500)	1.459***	(0.0492)
2014				
No college	0.355***	(0.0355)	0.264***	(0.0317)
College	1.337***	(0.0366)	0.899***	(0.0359)
2016				
No college	0.632***	(0.0371)	0.415***	(0.0339)
College	1.926***	(0.0440)	1.154***	(0.0440)
2018				
No college	0.229***	(0.0349)	-0.145**	(0.0318)
College	1.526***	(0.0395)	0.643***	(0.0394)
2020				
No college	0.783***	(0.0367)	0.549***	(0.0337)
College	2.348***	(0.0481)	1.510***	(0.0482)
Constant	-0.939***	(0.0250)	-0.567***	(0.0219)
$N$	235,698			
pseudo $R^2$	0.034			
Wald $\chi^2$	7,070.1			

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Abstention is the baseline category

Table SM8: 2010-2020 CES education and vote – effects of interest (continued on next page...)

	Democratic		Republican	
2010				
College	0.375***	(0.0491)	0.190***	(0.0498)
2012				
No college	1.155***	(0.0505)	1.036***	(0.0502)
College	1.581***	(0.0661)	1.236***	(0.0658)
2014				
No college	0.184***	(0.0479)	0.203***	(0.0488)
College	0.726***	(0.0530)	0.478***	(0.0566)
2016				
No college	0.618***	(0.0476)	0.715***	(0.0489)
College	1.314***	(0.0561)	0.696***	(0.0574)
2018				
No college	0.487***	(0.0494)	0.135**	(0.0484)
College	1.125***	(0.0516)	0.362***	(0.0536)
2020				
No college	1.162***	(0.0493)	0.924***	(0.0479)
College	2.178***	(0.0598)	1.350***	(0.0587)
<i>N</i>		221,104		
pseudo $R^2$		0.477		
Wald $\chi^2$		43,977.8		

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Abstention is the baseline category

Table SM9: 2010-2020 CES education and vote – covariates and controls (...continued)

	Democratic		Republican	
Party ID				
Democratic	-0.223***	(0.0354)	1.481***	(0.0716)
Lean Democratic	-0.108**	(0.0373)	0.799***	(0.0833)
Independent	-1.196***	(0.0371)	2.057***	(0.0678)
Lean Republican	-2.221***	(0.0642)	2.853***	(0.0708)
Republican	-1.632***	(0.0540)	2.808***	(0.0704)
Strong Republican	-2.948***	(0.0750)	2.818***	(0.0690)
Ideology				
Liberal	0.0438	(0.0410)	0.700***	(0.0978)
Moderate	-0.201***	(0.0424)	1.358***	(0.0886)
Conservative	-0.777***	(0.0528)	1.856***	(0.0903)
Very conservative	-1.455***	(0.0811)	1.962***	(0.0934)
Male	-0.0663**	(0.0232)	0.0205	(0.0237)
Black	0.105**	(0.0388)	-1.133***	(0.0745)
Hispanic	-0.150***	(0.0428)	-0.580***	(0.0513)
Married	0.170***	(0.0236)	0.314***	(0.0243)
Age	0.0182***	(0.000855)	0.0190***	(0.000918)
Unemployed	-0.0952*	(0.0441)	-0.110*	(0.0505)
Has children	-0.363***	(0.0286)	-0.235***	(0.0298)
Catholic	-0.0796*	(0.0314)	0.173***	(0.0324)
Protestant	-0.0579*	(0.0270)	0.292***	(0.0280)
Economy				
Gotten better	0.789***	(0.0556)	-0.301***	(0.0494)
Stayed same	0.572***	(0.0590)	-0.268***	(0.0549)
Gotten worse	0.183**	(0.0618)	-0.187***	(0.0563)
Gotten much worse	0.267***	(0.0680)	-0.326***	(0.0620)
Follow news				
Some of the time	-0.344***	(0.0274)	-0.341***	(0.0289)
Only now and then	-0.607***	(0.0403)	-0.594***	(0.0403)
Hardly at all	-0.795***	(0.0539)	-0.737***	(0.0563)
Presidential approval				
Somewhat approve	0.000549	(0.0334)	-0.0917*	(0.0391)
Somewhat disapprove	-0.232***	(0.0476)	0.0808	(0.0508)
Strongly disapprove	0.00876	(0.0391)	0.349***	(0.0407)
Turnout intention	2.254***	(0.0306)	2.491***	(0.0333)
Constant	-2.515***	(0.0883)	-6.997***	(0.129)
<i>N</i>			221104	
pseudo <i>R</i> <sup>2</sup>			0.477	
Wald $\chi^2$			43977.8	

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ 

Abstention is the baseline category

Figure SM10: Effect of a college education on party choice — from model including covariates and controls

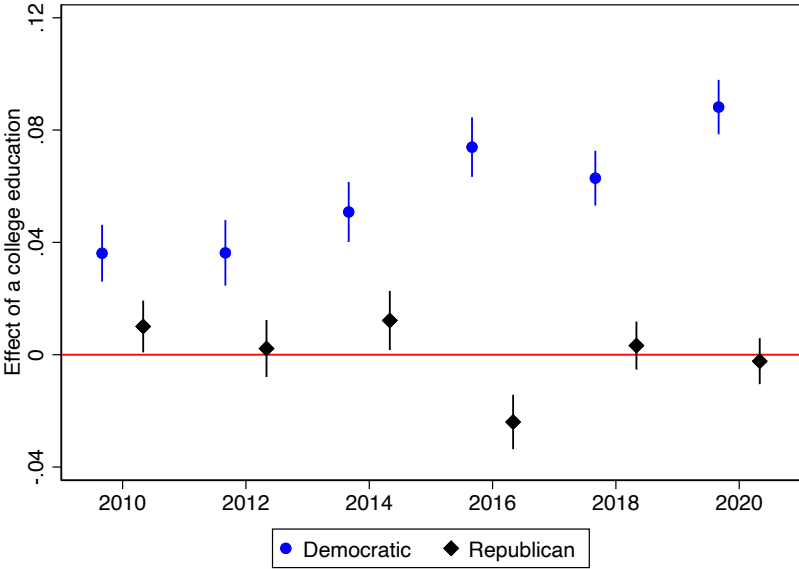


Table SM11: Differences in voter turnout

		2010	2012	2014	2016	2018	2020
Elections Project	VEP	41.8%	58.6%	36.7%	60.1%	50.0%	66.6%
CES	Self-Reported	65.4%	78.9%	78.3%	83.0%	78.2%	85.1%
	Validated	50.4%	64.2%	50.1%	55.2%	51.6%	58.1%
	Simulation Sample	56.6%	75.4%	62.0%	68.9%	59.5%	74.3%

VEP (voting-eligible population) – the number of voters over the estimated size of the voting-eligible population. The voting-eligible population is the number of citizens above the age of 18, excluding disenfranchised felons and mentally incapacitated people. These turnout rates are taken from the United States Elections Project.<sup>9</sup>

Self-Reported – based on respondents’ self-reported turnout in the post-election wave of the CES. Due to social desirability bias, the self-reported turnout rate in the CES is substantially higher than the VEP turnout rate (Ansolabehere and Hersh 2012).

Validated – calculated using the full CES sample. Included as abstainers are both (i) respondents that are matched to the voter file and confirmed to have not voted in the general election and (ii) respondents that could not be matched to the voter file. While respondents that could not be matched to the voter file are less likely to have voted, it is likely that some voters are being counted as abstainers in this sample.

Simulation Sample – calculated using respondents to the CES that fully completed the pre- and post-election waves of the survey—our models include pre-election independent variables and post-election dependent variables. Abstainers that are matched to the voter file, as well as self-reported abstainers, are included in the sample. On average, the sample used in our simulations contains 25,470 fewer respondents than the sample of CES validated voters. The turnout rate in our simulation sample is higher than the validated sample, but markedly lower than turnout based on self reports.

<sup>9</sup>McDonald, Michael P. 2023. “National Turnout Rates 1789-Present” United States Elections Project. June 5, 2023.