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School Board Elections Before, During, and After the COVID-19 Pandemic

Brian A. Jacob
University of Michigan
NBER

Media reports suggest that parent frustration with COVID school policies and the growing politicization of education have increased community engagement with local public schools. However, there is no evidence to date on whether these factors have translated into greater engagement at the ballot box. This paper uses a novel data set to explore how school board elections changed following the start of the COVID-19 pandemic. I find that school board elections following the onset of the COVID-19 pandemic were more likely to be contested and that voter turnout in contested elections increased. These changes were large in magnitude and varied with several district characteristics.

Keywords: *Correlational analysis, COVID-19, descriptive analysis, econometric analysis, educational policy, governance, policy, politics, school board elections*

The COVID-19 pandemic served as a reminder of the critical role played by local school boards. Composed of nearly 90,000 lay members elected in mostly non-partisan contests, school boards oversee the education of 50 million children and have broad responsibilities for district governance. Boards not only lead the development and implementation of district policies, but also hire district superintendents and play a role in supervising six million public school employees (Dervarics and O'Brien, 2019; Hess & Meeks, 2010). Prior research finds that the composition of a school board can have meaningful impacts on important outcomes such as spending (Fischer, 2023; Kogan et al., 2021b; Shi & Singleton, 2023), segregation (Macartney & Singleton, 2018), and even student achievement (Fischer, 2023).[1]

The pandemic presented school boards across the country with an unprecedented challenge: how to provide safe and effective instruction amid the uncertainties created by a global public health crisis. During 2020 and 2021, school boards made a number of highly contested decisions regarding remote learning, mask mandates, and vaccine requirements. Attendance at school board meetings soared as angry parents, students, and teachers sought to express their views.

At the same time, the murder of George Floyd in the summer of 2020 catapulted the Black Lives Matter movement—and social justice issues more generally—into national prominence. Issues relating to social justice and identity quickly rose to the forefront of local as well as national political debates. The conservative parents' rights organization, Moms for Liberty, was founded in 2021 and became a vocal presence in local school politics (Sinha et al., 2023). Media reports describe conflicts at school board meetings over hot-button cultural issues from COVID-19 restrictions to Critical Race Theory to LGBTQ rights (Allen, 2021; Borter et al., 2022; Feuer, 2021; Uliano, 2021). There was a dramatic increase in reported violent threats against school board members related to COVID policies (Borter et al., 2022). Many analysts contend that parent frustrations related to schooling during 2020–21 were a factor in electoral upsets in Virginia and New Jersey and led to recall elections in San Francisco (Barnum, 2021; Beauchamp, 2021; Fuller, 2022; Kamenetz, 2021)

However, there is almost no evidence to date on whether public frustration over COVID policies or political activism around social justice issues taking place in 2020 and 2021 translated into greater engagement at the ballot box. This lacuna is due both to the recency of events and the fact that school board election data is maintained at the local level, making it difficult to gather consistent information across many districts. One exception comes from Ballotpedia, a nonprofit and nonpartisan organization that tracks many types of elections nationwide, which recently reported an increase in school board recall efforts in 2021 and 2022 (Ballotpedia, 2023b).[2]

There are at least two theoretical reasons to believe that public engagement with school board elections may have increased after the emergence of COVID-19. First, there is

evidence that natural disasters influence voter participation and election outcomes (Fukumoto & Kikuta, 2024; Masiero & Santarossa, 2021). This literature emphasizes that voter responses depend critically on their assessment of how elected leaders handle the disaster, leaving open that the possibility that the trauma could either increase or decrease support for incumbents. While the dynamics of COVID-19 were not identical to those in a flood or earthquake, this literature suggests that one might expect greater voter engagement in the wake of COVID-19.

Second, evidence suggests that identity-based and highly partisan issues were becoming more prevalent in local school politics leading up to 2020. For example, Henig et al. (2019) document that local school boards elections have garnered more interest from national political actors and more donations from wealthy outside individuals and organizations in recent years. Analyzing changes in public opinion over time, Houston (2024) finds that partisan gaps nationwide have widened on many education issues. A well-established body of literature in political science suggests that identity issues drive political engagement and preferences more than substantive policy preferences (Huddy et al., 2015; Iyengar et al., 2012; Mason, 2018). The politicization of the government's handling of the COVID-19 pandemic, combined with the emergence of the Black Lives Matter movement, made particularly divisive issues extremely salient for voters starting in 2020. For this reason, one might predict greater engagement in school board elections at this time.

There are also several reasons to suspect that changes in voter turnout may have varied across districts. Prior research documents the important role played by teacher unions in school board elections, particularly in off-cycle elections (Anzia, 2013; Moe, 2011).[3] More recent research finds that teacher unions strongly influenced the development of school COVID policies (DeAngelis & Makridis, 2021; Hartney & Finger, 2022; Hemphill & Marianno, 2021; Marianno et al., 2022). Together, these facts suggest that the strength of teacher unions may moderate the relationship between the pandemic and voter turnout. There is also evidence that parent preferences relating to school COVID policies such as remote instruction, as well as identity-based social issues, vary by household demographics and partisanship (Baum & Jacob, 2024; Dee et al., 2023; Malkus, 2022). This suggests that social, economic, and political characteristics of local districts may be systematically related to changes in voter turnout.

In this paper, I use a novel data set from Ballotpedia to explore how school board election outcomes changed following the start of the COVID-19 pandemic in March 2020. I seek to document the changes in school board elections over the past five years and examine whether the magnitude of the changes differed across districts

I find that after the emergence of the pandemic in the US in March 2020 school board elections were more likely to be contested and that voter turnout in contested elections was substantially higher than in prior years. Moreover, I show that changes in voter turnout were associated with several district characteristics. In bivariate analyses that consider individual district characteristics in isolation, I find that increases in voter turnout were larger in districts where (i) a higher proportion of adults have college degrees, (ii) students score higher on standardized tests, (iii) a greater share of voters supported Trump in the 2016 presidential election, (iv) schools offered in-person schooling for a greater portion of the 2020–21 school year, and (v) schools never imposed a mask requirement during 2021–22. Conversely, changes in voter turnout were smaller in districts with (i) higher poverty rates, (ii) stronger teacher unions, and (iii) greater exposure to virtual schooling during the 2020–21 school year. While the magnitude and statistical significance of most of these associations diminish when all of the district characteristics are included simultaneously, these analyses provide suggestive evidence that voter turnout varied across districts in some systematic ways.

When interpreting these findings, it is important to keep in mind several factors. First, the changes in voter engagement I document likely reflect a variety of social, economic, and political factors at play after the emergence of the pandemic, and not simply a response to school-specific COVID policies such as remote instruction or masking. It is likely that the economic consequences of the COVID-19 shutdowns as well as the many social and political issues that came to dominate public discourse during this period (e.g., Black Lives Matter, LGBTQ rights, the events of January 6th) influenced voter participation. Second, the findings I present should be viewed as purely descriptive. My analysis is not designed to identify the *causal* effect of any of the many individual factors referenced above. The same caution applies to the analysis of across-district heterogeneity. I am only able to examine a few easily observable differences in school districts (e.g., poverty rates, partisanship, teacher union strength). It is quite possible that other district characteristics that I cannot observe (and thus cannot include in my analysis) play an important role in moderating changes in voter turnout, and that the omission of these factors might influence the estimates I present. Finally, as discussed in more detail below, these findings are based on analysis of a small set of the largest school districts in the country and may not apply equally well to smaller and more rural districts.

Prior Literature

Unfortunately, prior research on school boards does not provide a clear prediction of how voters would respond to the COVID-19 pandemic and other contemporaneous events. Voter turnout in school board elections historically has been quite low—often only 5 to 10 percent (Cai, 2020).

While voter turnout is higher in November elections in even-numbered years, corresponding to national Presidential and midterm elections, it rarely approaches 50% (Kogan et al., 2018). Regardless of election timing, research suggests that voters in school board elections are demographically quite different than the students attending local schools.[4] Thus, events like school closures that primarily impact families who attend local schools may not drive turnout as much as one might expect.

There is a rich literature in political science studying whether school boards are held accountable for their performance. However, the evidence to date is mixed. In an early study, Berry and Howell (2005) analyze precinct-level election data for local races in South Carolina. They find that voters rewarded incumbents for test score achievements in presidential election years (when voter turnout is higher), but not in off years (when voter turnout is lower). Payson (2017) found a similar pattern among school board elections in California. Other studies examine how highly publicized measures of district performance influence school board elections. Using data from North Carolina, Holbein (2016) examines how the failure of a local school under the No Child Left Behind (NCLB) accountability regime influences school board election outcomes. By matching voters to the nearest public school and leveraging a quasi-experimental regression discontinuity design to mitigate selection bias, the author is able to generate causal estimates of the new accountability information. He finds that school failure leads to a substantial increase in voter turnout and increases the competitiveness of these races, with the effects driven by the behavior of more affluent voters.

However, Kogan et al. (2016) come to a different conclusion in their study in Ohio. The authors utilize district-year panel data and a regression discontinuity design to assess the effect of districts meeting NCLB's adequate yearly progress designation as well as several state-specific accountability designations. The authors find that district performance on state and federal performance indicators have little impact on school board turnover, the vote share of sitting school board members, or superintendent tenure. The different results may be explained by the focus on different outcomes in addition to differences in the local contexts, notably that North Carolina has on-cycle elections (i.e., even years that correspond to national elections) while Ohio has off-cycle elections. Taken together, the prior research suggests that voters may voice dissatisfaction at the ballot box, but not in all elections.

Data, Outcomes, and Sample

This analysis relies on school board election data collected by Ballotpedia, a nonprofit organization that aggregates election data for various races and provides information on politics, elections, and policy on various topics. Ballotpedia claims that its data includes entries for every district within the top 100 largest cities as well as the top 200 districts by enrollment, and all recalls (regardless of district or city size). A review of the data matched to 2021 enrollment from the Common Core of Data suggests that the Ballotpedia data does capture the largest districts, with the exception of several districts that have board members appointed by the Mayor. According to Ballotpedia's sampling design, small districts were included if they served children within the boundaries of one of the 100 largest cities in the US, which also appears to be the case based on a review.[5]

Table 1 presents district summary statistics separately by whether or not the district is included in the Ballotpedia school board election sample. By construction, average student enrollment in Ballotpedia districts is substantially higher than in other districts (92,627 versus 13,768). Ballotpedia districts are more likely to be located in urban areas and have substantially higher proportions of Black, Hispanic, and Asian students. At the same time, poverty rates are comparable across the two groups of districts and average student achievement only differs by .03 SD. Ballotpedia districts are more politically liberal, with only 40% of residents voting for Trump in the 2016 election compared with 51% in other districts. The state-level teacher union measure is actually lower in Ballotpedia districts, which reflects the fact that many of the states with the largest school districts are located in conservative states such as Texas and Florida. Overall, these differences suggest that one should be cautious in generalizing the results presented below. While the findings described in this paper may reflect the dynamics in moderate-size districts not included in the Ballotpedia data, the same patterns may not hold in smaller rural districts.

The data includes information at the candidate by race level from 2018 to 2022 (approximately 9,000 unique candidates in 4,300 unique races for 3,000 unique offices). I use the term "race" to denote each time voters go to the polls, which will include primary and general elections as separate races. Runoff elections would also be counted as separate races.[6] The raw data includes information on the office (which can be an at-large seat in the district or a seat associated with a specific district subdivision or ward), the race stage and/or type (primary, primary runoff, general, general runoff, special, and recall), and each individual candidate. There can be multiple races for each office (over time), but a race is, by definition, associated with only one office and one school district.

I aggregate the data to the race level by collapsing information on all of the candidates. For example, if there were three candidates for an at-large seat in an April 2019 primary election in a particular district, I would collapse this to one observation. In this one observation, I will keep information such as the number of seats open, the number of candidates,

TABLE 1
Summary District Characteristics, by Inclusion in Ballotpedia Election Sample

	All Districts	Districts not included in Ballotpedia data	Districts included in Ballotpedia data
Number of districts	13,038	12,497	541
Enrolment	41,451	13,768	92,627
% adults in districts with BA+ (census)	0.31	0.29	0.34
% in poverty in the district (census)	0.13	0.13	0.14
% Black	0.15	0.12	0.20
% Hispanic	0.27	0.22	0.37
% Asian	0.05	0.04	0.07
% students in town or rural schools	0.31	0.43	0.09
Standardized test scores	0.00	0.01	−0.02
Missing test score indicator	0.03	0.03	0.02
Trump vote share in district in 2016	0.47	0.51	0.40
State Teacher Union influence	1.95	2.11	1.66
% school in-person in 2020–21	0.39	0.38	0.41
% school virtual in 2020–21	0.28	0.26	0.33
Never mask requirement in 2021–22	0.33	0.31	0.36
Enrolment change in fall 2020 (%)	−0.03	−0.02	−0.03

Note. This table shows the average district characteristics separately for districts that do and do not have Ballotpedia school board election data during the analysis period. See the text for a general discussion of these measures and the Data Appendix for details on the source and construction of variables shown here.

the total number of votes cast, and whether one of the candidates was an incumbent.

District Characteristics

I match the election data to information on school districts using a crosswalk that links district names in Ballotpedia to NCES district IDs.[7] The analysis relies on several different public data sources.[8] Student enrollment counts come from the Common Core of Data (CCD), the US Department of Education's primary database on public elementary and secondary schools. Student demographics, student achievement, and demographics of the district's catchment zone (e.g., median household income, proportion of adults with a college degree, unemployment rate) come from the Stanford Education Data Archive (SEDA).

To measure local political partisanship, I calculate each district's Republican vote share in the 2016 presidential election using data from the Harvard Voting and Election Science Team. To calculate vote shares, I assign precinct vote totals to districts based on the proportion of each precinct lying in each district, and then sum these vote totals over all precincts in each district to calculate the weighted district-level vote share. More details can be found in the Data Appendix. The measure of teacher union strength comes from a state-level index created by the Fordham Institute. This index, which has been used in previous work on teachers' unions and the Covid-19 pandemic (Brunner et al., 2020; DeAngelis & Makridis, 2021), includes data on union membership and resources; political involvement; collective bargaining power, favorability of state education policies (e.g., performance pay, teacher tenure), and reputation among state political leaders. Because the index was originally created using data from 2008–2012, I update some of its measures to reflect recent policy changes. See Appendix Section for details.

This measure has important limitations, including the fact that it is at the state-level and thus obscures important within state variation in union strength. Other researchers have suggested that district size and urbanicity may be useful proxies for district-level union strength (Hartney & Finger, 2022; Marianno et al., 2022). I include both district size and urbanicity to pick up elements of unionization that varies within state, recognizing that they are likely picking up factors beyond unionization. I choose to include the state-level measure because I believe it does add some useful information despite its limitations.

Key Outcomes

The analysis focuses on several election outcomes. The first is a binary measure to indicate that the election was contested. Elections are not contested if the number of candidates equals the number of open seats. A second outcome reflects the competitiveness of a race by measuring the number of candidates per seat. To measure voter turnout, I create a variable for the number of votes per seat per adult civilian population within the school district's boundary. Ballotpedia provides the number of open seats. Population data comes from the 2015–19 ACS matched to school district

boundaries using GIS maps provided by the National Center on Education Statistics (NCES). Note that for district/ward elections, this measure will understate turnout because the denominator reflects the population of the entire district. However, this should not influence the measure of change over time, which is the focus of the analysis. Two final outcomes focus on the role of incumbents: the fraction of seats with an incumbent running and the fraction of incumbents who won their seats.

Sample

The analysis sample excludes recalls, special elections, and runoffs.[9] I do not include ranked choice elections, which only occur in two districts (Oakland, CA and Cambridge, MA). I drop one election where one candidate is coded as receiving 30 million votes (Lincoln, NE in 2021) because of suspected data error.

Because districts with multiple wards can have multiple races on the same election date, I use the term "office" to refer to both at large district races as well as ward specific races within a district. For example, the Birmingham City Schools in Alabama has 9 wards, which corresponds to 9 offices. The Verona Area School District in Wisconsin has at-large seats as well as three ward-specific seats, for a total of 4 offices. (Note that there can be more than one seat per office in any given election, but the measure of turnout described above accounts for this.) In total, the sample includes 3,989 races for 2,268 unique offices in 520 unique districts. Roughly 57% of these races were contested, leaving a sample of contested elections that includes 2,264 races for 1,644 unique offices in 477 unique districts. Because election cycles vary across offices, and district enrollment changes altered the Ballotpedia sample frame slightly over the analysis period, the analysis sample is not balanced. Not all districts have elections in the same years, and the number of elections per district during the sample period varies considerably. Among the 1,644 offices that held contested elections, for example, 69% held a single election, 26% held two elections, and the remainder held three or more elections. In total, 255 districts (452 offices) held at least one contested election before and after the start of the COVID-19 pandemic. To account for the changing composition of offices in the sample over time, the analysis will rely on models that include office fixed effects. This means that I will be examining changes over time *within* specific offices to estimate how outcomes differed after the start of the pandemic.

Table 2 provides descriptive statistics the sample. Roughly 80% of the races were general elections, followed by nonpartisan primaries (16%) and partisan primaries (4%). The majority of the elections in the sample (53%) took place in November, with May (21%) and August (9%) being the next most common months. Virtually no elections took place in March, July, or September. Elections were about twice as common in the even years (2018, 2020, and 2022) as the odd years (2019 and 2021). In contested elections, the average number of candidates per seat in was 2.5, and 67% of races included an incumbent. Voter turnout ranged from virtually zero to nearly 69%, with an average of roughly 13%. Consistent with the sampling design, the average size of school districts in the sample of contested elections is quite large, with enrollment of roughly 50,000. The median district in the sample enrolls 16,175 students, and there are 105 districts with enrollments less than 5,000.

Results

To begin, I explore what factors were associated with school board election outcomes prior to the COVID-19 pandemic. Table 3 shows estimates from OLS regressions limited to all races taking place before March 10, 2020. The outcome in column 1 is a binary variable indicating that the election was cancelled (i.e., uncontested). Note that the sample here is limited to "regular" elections, which excludes special elections, recalls, and runoffs. The outcome in column 2 focuses on all regular contested elections, and the outcome is the natural logarithm of votes per seat per capita. Note that the estimates shown in this table are all from multivariate models and so should be interpreted as associations *conditional* on all of the other predictors in the model.

The results indicate that contested elections are more common in larger districts, and less common in races with an incumbent running. Primaries are less likely to be contested than general elections, and races for a seat in a particular ward of the district are less likely to be contested than races for an at-large seat. Contested elections are least common in suburban districts (the omitted category).

In contested elections, turnout is lower in primaries and in elections for a particular ward seat (relative to an at-large seat). Turnout is highest for elections in November, likely because many other local, state, and national races are on the ballot. Turnout declines with the size of the district. In particular, a 10% increase in district enrollment is associated with a 0.9% reduction in voter turnout. Conditional on district size, turnout is higher in both urban and rural areas relative to suburban areas.

The results also reveal interesting associations between turnout and various social, economic, and political characteristics. Turnout is positively associated with student achievement and negatively associated with the proportion of Black and Hispanic students in the district. The fraction of the district that voted for Donald Trump in 2016 is negatively associated with turnout. However, I do not place a causal interpretation on these results because it is likely that other harder-to-observe factors are associated with both turnout and the measured district characteristics.

TABLE 2
Summary Statistics on Analysis Sample of Races

	All	Contested	Uncontested
Election Outcomes			
Turnout (votes per seat per 1000 adults)	96.10	135.22	
Number of candidates per seat	2.02	2.50	
Fraction of seats with an incumbent running	0.69	0.64	
Fraction of incumbents who won	0.73	0.69	
Election Characteristics			
At-large seat	0.34	0.36	0.30
Ward/zone seat	0.66	0.64	0.70
General	0.79	0.89	0.67
Non-partisan Primary	0.16	0.10	0.25
Partisan primary	0.04	0.01	0.08
Number of seats	1.23	1.29	1.16
Total number of candidates	2.45	3.10	1.61
Any incumbent	0.72	0.678	0.76
Contested	0.57	1.00	0.00
Year of election			
2018	0.26	0.24	0.28
2019	0.11	0.11	0.11
2020	0.23	0.22	0.24
2021	0.11	0.12	0.09
2022	0.29	0.31	0.28
Month of election			
April	0.07	0.07	0.06
May	0.21	0.18	0.24
June	0.05	0.02	0.08
August	0.09	0.09	0.09
November	0.53	0.61	0.43
Other	0.06	0.03	0.10
District Characteristics			
District total enrolment (1,000)	44.14	49.97	36.48
Prop students in town locale schools	0.02	0.02	0.03
Prop students in rural locale schools	0.14	0.11	0.17
Prop students in urban locale schools	0.43	0.48	0.36
Prop black	0.18	0.19	0.18
Prop Hispanic	0.34	0.35	0.31
Prop free or reduced lunch in the district	0.54	0.55	0.53
District area-weighted Trump 2016 vote prop	0.44	0.42	0.46
BA+ rate	0.33	0.34	0.33
Standardized district mean test score	−0.04	−0.04	−0.03
Missing test scores	0.02	0.02	0.02
N (races)	3989	2264	1725

Note. This table contains election and district characteristics for the analysis sample. This excludes recalls, special elections, and runoffs. "At-large seat" indicates that the election seat was for a school district and "Ward/zone seat" indicates that the seat was for a district subdivision, which is a political entity that can comprise multiple school districts. Contested elections indicate that the number of candidates receiving votes is greater than the number of seats up for election. The denominator for "Turnout" is comprised of the district-level adult civilian population (age >18) from the 2015–19 ACS 5-year estimates. District characteristics come from the 2017–18 Stanford Education Data Archive (SEDA). See Appendix for details on the source and construction of variables shown here.

TABLE 3
Predictors of School Board Elections Prior to COVID-19

	(1)	(2)
	Contested	Log(turnout)
Log district total enrolment	0.089***	−0.092***
	(0.013)	(0.030)
Prop students in town locale schools	0.093	0.510
	(0.108)	(0.316)
Prop students in rural locale schools	0.146**	0.338*
	(0.068)	(0.180)
Prop students in urban locale schools	0.127***	0.169**
	(0.039)	(0.085)
Prop blacks in the district	0.038	−1.544***
	(0.126)	(0.301)
Prop Hispanics in the district	−0.041	−1.776***
	(0.103)	(0.258)
Prop free or reduced lunch in the district	0.017	0.652*
	(0.141)	(0.348)
District area-weighted Trump 2016 vote prop	−0.181	−0.809***
	(0.112)	(0.301)
BA+ rate	0.013	−0.204
	(0.168)	(0.435)
Standardized district mean test score	−0.081	0.515***
	(0.075)	(0.183)
Missing test scores	0.014	−0.072
	(0.090)	(0.115)
Ward/zone seat	−0.146***	−1.047***
	(0.027)	(0.068)
Partisan primary	−0.379***	−0.159
	(0.079)	(0.183)
Non-partisan primary	−0.201***	0.119
	(0.045)	(0.124)
Election included 1+ incumbents	−0.155***	−0.025
	(0.026)	(0.061)
Feb	−0.103	−1.887***
	(0.071)	(0.283)
Mar	−0.149*	−0.581***
	(0.088)	(0.183)
Apr	−0.006	−0.990***
	(0.046)	(0.114)
May	−0.079**	−1.422***
	(0.033)	(0.081)
Jun	−0.266***	−0.906***
	(0.069)	(0.156)
Aug	0.058	−0.344**
	(0.060)	(0.144)
Sept	−0.229	−2.783***
	(0.249)	(0.099)
Oct	−0.284**	
	(0.117)	
Dec	0.432***	−1.456***
	(0.041)	(0.184)
Outcome mean	0.525	−2.740
R-squared	0.148	0.578
N (races)	1532	805

Note. This table contains OLS estimates for predicting election outcomes prior to COVID (March 10, 2020). Special elections and recall elections are excluded. The outcome for column 1 is an indicator of having a contested election (>0 votes received or the number of candidates in a race is greater than the number of seats). The outcome for column 2 is the log of the total votes per seat per adult civilian population (18+) in the school district. Ward/zone is an indicator for whether the seat was for a district subdivision, which is a political entity that can comprise multiple school districts (the omitted category is an at-large seat). Indicators for primary elections (partisan and non-partisan) are included with general elections being the omitted category. October drops out in column 2 because there were no contested elections in October. Standard errors are clustered at the school board office level.
***p < .01, **p < .05, *p < .1.

TABLE 4
OLS Estimates of the Relationship between COVID-19 and the Prevalence of Contested Elections

	(1)	(2)	(3)	(4)	(5)
After March 2020	0.068***	0.085***	0.099***	−0.034	0.008
	(0.015)	(0.014)	(0.016)	(0.032)	(0.035)
General				0.244***	0.347***
				(0.036)	(0.055)
After March 2020 * General				0.139***	0.113***
				(0.037)	(0.039)
Pre-COVID outcome mean	0.525	0.525	0.525	0.525	0.525
Covariates	No	Yes	Yes	Yes	Yes
Office FE	No	No	Yes	No	Yes
R-squared	0.005	0.192	0.389	0.189	0.390
N	3989	3989	3989	3989	3989

Note. This table contains OLS estimates for predicting an indicator variable for a contested election (>0 votes received or the number of candidates in a race is greater than the number of seats). Post-COVID is an indicator for if the election took place after March 10, 2020.
Special elections and recall elections are excluded. Column 1 is a simple two-variable correlation between contested elections and the post-COVID indicator and column 2 and all subsequent columns include the following covariates: district total enrollment, district urbanicity indicators, percent students black, Hispanic, and free or reduced-price lunch, district area-weighted Trump 2016 vote share, BA+ rate in district, average district achievement, indicators for ward/zone seat (omitted category is an at-large seat), primary elections (omitted category is general elections), and whether the election included an incumbent. Column 3 adds office fixed effects. Column 4 includes an interaction term for being a general election and being post-COVID and column 5 adds office FE. In all models, month fixed effects are included (except column 1) and standard errors are clustered at the school board office level.
***p < .01, **p < .05, *p < .1.

Changes After the Start of the COVID-19 Pandemic

Turning to the changes that took place following the pandemic, Table 4 shows OLS regression estimates of the relationship between timing and the probability of having a contested election. Column 1, which simply includes a post-COVID indicator, shows that the likelihood of a race being contested increased by roughly 7 percentage points after March 10, 2020—from 53% to 46%. The effect increases slightly when one controls for district and race characteristics in column 2. To control for the changes in the sample composition, the model shown in column 3 includes office fixed effects, which increases the effect to 10 percentage points. The results shown in columns 4 and 5 indicate that the increasing prevalence of contested races post COVID is driven entirely by general elections. The prevalence of contested races in general elections increased by 11 percentage points (roughly 25%) while the prevalence of contested primaries did not change.

Focusing on contested elections, I next examine how turnout changed over the course of the pandemic. Figure 1 shows the average votes per capita separately by month.[10] Looking at how the heights of the same-colored bars change over time, one can see some indication that voter turnout increased following the onset of COVID-19 in the US. In particular, turnout rates seem particularly high in 2020. Also, spring elections in 2022 look to have notably higher turnout compared with elections at the same time prior to the pandemic, although the same does not appear to be true for summer elections.

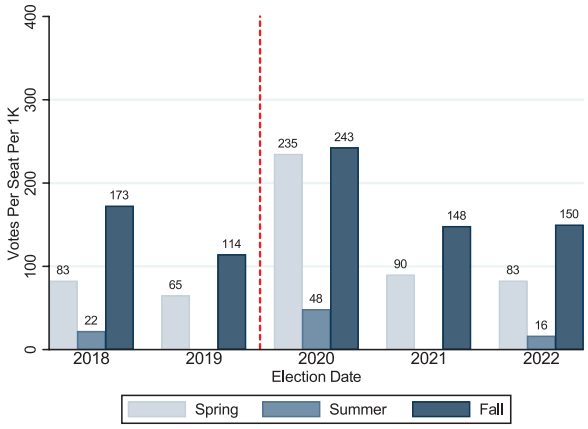

FIGURE 1. *Voter Turnout in School Board Elections over Time.*
Note. This figure shows election turnout from 2018–22 (the number of votes per seat per 1,000 civilian population). I use the analysis sample of contested general elections, that excludes runoffs, recalls, special, and primary elections. August 2019 and 2021 are also excluded because of small sample sizes. I focus only on elections in April, May, June, August, and November, which contain 96% of elections in the sample. Spring = April and May; Summer = June and August; Fall = November.

To control for extraneous factors that may be correlated with turnout, I estimate a series of OLS regressions. The results are presented in Table 5. Note that because the outcome is a logarithm, I will interpret the coefficients as approximate percent changes in turnout. Column 1 shows that turnout is 25% higher in elections taking place after March 10, 2020. This differential shrinks to 21% when I

TABLE 5
OLS Estimates of the Relationship between COVID-19 and Voter Turnout

	(1)	(2)	(3)	(4)	(5)	(6)
After March 2020	0.253***	0.209***				
	(0.041)	(0.029)				
Apr-Aug 2020			0.440***	0.481***	0.275*	0.596***
			(0.106)	(0.098)	(0.147)	(0.133)
Sept 2020—Dec 2022			0.197***	0.262***	0.103***	0.245***
			(0.029)	(0.047)	(0.038)	(0.082)
Covariates	No	Yes	Yes	Yes	Yes	Yes
Office FE	No	No	No	No	Yes	Yes
Include Nov	Yes	Yes	Yes	No	Yes	No
R-squared	0.011	0.548	0.549	0.620	0.979	0.979
N	2264	2264	2264	889	2264	889

Note. This table contains OLS estimates for predicting the log of the total votes per seat per adult civilian population (18+) in the school district. Post-COVID is an indicator for if the election took place after March 10, 2020. Special elections and recall elections are excluded.
Covariates include the following: district total enrollment, district urbanicity indicators, percent students black, Hispanic, and free or reduced-price lunch, district area-weighted Trump 2016 vote share, BA+ rate in district, average district achievement, indicators for ward/zone seat (omitted category is an at-large seat), primary elections (omitted category is general elections), and whether the election included an incumbent. Column 1 is a simple two-variable correlation with the post-COVID indicator and voter turnout. Column 2 and all subsequent columns includes covariates. Column 3 adds indicators that split the time after the emergence of COVID-19 into two periods. The first period includes any elections that take place after March 10, 2020 and August 31, 2020, and is labeled Apr-Aug 2020. The second period includes any elections taking place on or after September 1, 2020 and is labeled Sept 2020—Dec 2022. Column 4 drops November elections, column 5 includes November elections and uses office FE, and column 6 includes office FE and excludes November elections. In all models, month fixed effects are included (except column 1) and standard errors are clustered at the school board office level.
***p < .01, **p < .05, *p < .1.

control for district and election characteristics (column 2). Looking more closely at the timing in column 3, it appears that the larger increase in voter turnout took place at the beginning of the pandemic—during the spring and summer of 2020. Turnout was 44% higher in summer 2020 compared with 20% higher afterwards.[11] In auxiliary models, I examined whether there were any notable time trends in voter turnout prior to COVID-19. I did not find any significant pre-trends, although the pre-pandemic sample is limited to two years.

November elections are notable in the data for having much larger voter turnout. Moreover, November 2020 is unique in the sample as the only presidential election. Indeed, given the controversy surrounding this election, one might think it is unique even among other presidential elections. For this reason, to test the robustness of the results, I estimate the models excluding all of the November elections from the sample. The estimates in column 4 show that excluding November elections actually increases the magnitude of the post-COVID effect (48% relative to 44%). One still might be concerned that the fact that 2020 was a presidential election year could be driving the post-COVID turnout effect even after excluding the November election itself. However, it is important to recognize that the indicator for elections from September 2020 through December 2022 is large and highly significant. Once one drops the November elections, there are very few observations in fall 2020, so the coefficient on this predictor largely reflects higher turnout in 2021 and 2022.[12]

Finally, I estimate models that include office fixed effects, limiting the analysis to changes in voter turnout in the exact same offices before and after the onset of the pandemic (columns 5 and 6). While the estimates become less precise, they remain significantly different than zero and the story is qualitatively the same. Specifically, turnout in contested school board elections was substantially higher following the onset of the COVID-19 pandemic, and particularly so in the summer of 2020. All of these voter turnout models appear to be driven by general elections, although the sample of primary elections is relatively small and the estimates are not precise enough to rule out moderately large increases in some specifications (see Appendix Table A2).

Given the changes in the likelihood of contested elections and the turnout in such elections, it is natural to wonder if the pandemic and associated events impacted other aspects of school board elections. Appendix Table A3 presents OLS estimates for several other outcomes of interest. To the extent that the pandemic generated more interest in the roles and responsibilities of local school boards, one might expect the number of candidates for board seats to increase after the onset of COVID. These results are reported in Panel A. There is some evidence of small but imprecise (and not significant) positive effects. The results for elections in summer 2020 are sensitive to the inclusion of November elections, but the most comprehensive models in column 4 show suggestive evidence of positive effects as well.

The increased attention paid to school board activities may have influenced whether incumbents decide to run for

reelection, although the direction of the effect is not clear. The estimates in Panel B indicate that incumbents were no more or less likely to run for reelection after the onset of COVID. To the extent that voters were frustrated with how the district handled the pandemic, one might hypothesize that incumbents would be less likely to win reelection after March 2020. The results in Panel C indicate no significant differences in the likelihood of incumbents winning following the onset of COVID-19. However, these estimates are very imprecise, limiting the conclusions one should draw from this analysis.

Heterogeneity by District Characteristics

The analysis above suggests that voter turnout in school board elections increased substantially after the start of the COVID-19 pandemic. A natural next question is whether the changes vary across districts in any systematic way. To examine this, I estimate a series of regression models relating changes in voter turnout to several important economic, social, and political characteristics of districts. Guided by the prior literature, I focus on four sets of potential predictors: (i) district demographics, (ii) political partisanship, (iii) teacher union strength, and (iv) district COVID-19 policies.

For these analyses, I focus on the 255 districts that held contested elections both before and after the start of COVID-19. These districts are somewhat larger than the full Ballotpedia sample, but otherwise quite similar in terms of poverty rates, racial composition, political partisanship, and COVID-19 school policies. I first calculate the percent change in turnout for each district by estimating a single regression model that includes interactions between individual district identifiers and a post-COVID indicator, along with a full set of office fixed effects.[13] The coefficients and standard errors estimates from these 255 district by post-COVID interaction terms provide estimates of the change in turnout for each district. To maximize sample size, these regressions include November elections.

Table 6 presents the results. Column 1 reports the mean and standard deviation of each predictor. The average increase in turnout in this sample of districts of 12.7% (0.127) and the standard deviation across districts of 42% (0.42). Column 2 shows the results of OLS regressions between the percent change in voter turnout and each of these district characteristics separately. In other words, each row of column 2 reflects a separate bivariate regression. To maximize the efficiency of the estimates, I weight the regressions by the inverse of the standard error of the turnout estimates. The standard errors shown are clustered by state.

Several interesting associations stand out from the bivariate estimates in column 2. Voter turnout is positively associated with the percent of adults that have a college degree and negatively associated with the poverty rate. For example, the coefficient of 0.43 indicates that a 10 percentage point increase in the fraction of adults with a BA degree (or higher) in a district is associated with a 4 percentage point greater increase in voter turnout since the start of the pandemic. In comparison to the average increase in turnout, the magnitude of this association seems moderate. Similarly, a 10 percentage point increase in the poverty rate is associated with a 10 percentage point lower change in turnout. Interestingly, there is no significant association between district size and the change in voter turnout.

There is a positive association between politically conservative districts and the change in voter turnout. Districts with a 10 percentage point higher vote share for Trump in 2016 are predicted to experience a 3.8 percentage point larger increase in voter turnout after the start of the COVID-19 pandemic. This is consistent with the higher levels of dissatisfaction expressed by conservative communities surrounding school closures and mask mandates, as well as the greater prevalence of cultural issues arising in the context of public schooling in these communities. Conversely, districts located in states with stronger teacher unions experienced smaller increases in turnout.

Finally, districts with less restrictive COVID schooling policies realized larger increases in turnout. With respect to the 2020–21 learning mode variables, recall that there are three possible categories: in-person, virtual, and hybrid. The percent of the school year spent in each of these three modes will sum, by definition, to 100 percent. So, the estimate of 0.161 for the percent of school in-person in 2020–21 indicates that a 10 percentage point increase in the fraction of the school year spent in-person is associated with a 1.6 percentage point ($0.1 \times 0.16 = 0.016$) larger change in voter turnout, recognizing that this increase of in-person instruction could have come from a reduction in either virtual or hybrid instruction. Similarly, districts that never imposed a mask requirement in 2021–22 witnessed a 19 percentage point higher increase in voter turnout. Given the correlation between school COVID policies and political partisanship, these bivariate relationships are not surprising. They are consistent with the results relating to Trump vote share and teacher union influence referenced above.

To take into account the correlation between district characteristics, columns 3–5 present estimates from multivariate regression models. In other words, the estimates shown in each column come from a single regression model. With two exceptions (student enrollment and teacher union influence), these coefficients are not statistically significant at conventional levels. In the case of district demographics such as educational attainment and poverty, the signs of the relationships are the same as in the bivariate models, but the magnitudes (in absolute value) are substantially smaller and the standard errors are larger.

In the case of standardized test scores, the sign flips from positive to negative (but insignificant) after conditioning on other district demographics. The coefficient on Trump vote

TABLE 6
OLS Estimates of Percent Change in Voter Turnout and District Characteristics

		Dep. Var. = Percent Change in Voter Turnout			
	Sample Mean [SD]	Bivariate Regression [SE]	Multiple Regression (SE)		
	(1)	(2)	(3)	(4)	(5)
Ln(Enrollment)	3.22	−0.029	−0.053**	−0.056**	−0.053**
	[1.17]	(0.020)	(0.025)	(0.023)	(0.024)
% adults in districts with BA+ (census)	0.34	0.432***	0.454	0.596	0.561
	[0.14]	(0.150)	(0.402)	(0.424)	(0.445)
% in poverty in the district (census)	0.14	−1.083***	−0.718	−0.481	−0.522
	[0.07]	(0.322)	(0.479)	(0.492)	(0.537)
% students in town or rural schools	0.11	0.119	−0.063	−0.050	−0.040
	[0.19]	(0.166)	(0.172)	(0.193)	(0.183)
Standardized test scores	−0.046	0.161**	−0.104	−0.129	−0.133
	[0.36]	(0.064)	(0.120)	(0.113)	(0.113)
District trump vote share in 2016	0.404	0.380**	0.162	0.155	0.120
	[0.16]	(0.167)	(0.202)	(0.199)	(0.190)
State Teacher Union influence	1.72	−0.117***	−0.136*	−0.101**	−0.090**
	[0.68]	(0.037)	(0.069)	(0.042)	(0.043)
% school in-person in 2020–21	0.40	0.161**		0.055	0.061
	[0.45]	(0.065)		(0.104)	(0.102)
% school virtual in 2020–21	0.35	−0.200***		0.124	0.116
	[0.35]	(0.075)		(0.084)	(0.089)
Never mask requirement in 2021–22	0.36	0.190***		0.144	0.147
	[0.48]	(0.061)		(0.105)	(0.104)
Enrolment change in Fall 2020 (%)	−0.027	−1.592**			−0.832
	[0.03]	(0.707)			(0.715)
Number of observations	255	255	255	255	255
Adjusted R-squared	–	–	0.093	0.110	0.113

Note. The sample includes the 255 districts that held contested elections both before and after the start of COVID-19 pandemic. Each column reflects a separate regression model. The dependent variable is percent change in voter turnout (mean 0.127 and SD 0.42). The regressions are weighted by the inverse standard error of estimated change in turnout for the district. Robust standard errors are shown in parentheses.
***p < .01, **p < .05, *p < .1.

share declines modestly, and is qualitatively similar to the bivariate relationship but is not significant at conventional levels. The same is true for school masking policy. The coefficients on virtual and in-person schooling change more notably. Indeed, the point estimate for virtual schooling during 2020– switches to be positive, though it is far from significant. This is due in large part to the fact that the percent of the school year in-person and percent virtual are highly negatively correlated mechanically.

Given the relatively large standard errors, it is hard to draw strong conclusions from the multiple regression models. While it is true that some of the predictors are highly correlated with each other,[14] after controlling for the five "demographic" variables (enrollment, BA+, poverty, town-rural, and test scores), none of the school COVID policy measures or the Trump vote share measure is statistically significant if entered one at a time (i.e., without any predictors besides the demographic controls). Of course, it is possible that some of these associations would be stronger (and/or more highly significant) with a larger and more diverse sample of districts. More generally, the associations between district characteristics and changes in voter turnout should be interpreted as descriptive rather than causal due to the likely presence of omitted factors.

Finally, I explore whether the change in voter turnout is systematically related to student enrollment changes during COVID. Public school enrollment declined by 2.8% in fall 2020, the largest single-year decline in US history (Malkus, 2022). Prior evidence suggests that changes in student enrollment, like voter turnout, may reflect parent dissatisfaction with school policy during COVID-19. For example, districts that imposed the most stringent COVID-19 policies (e.g., longer periods of time in purely virtual instruction) experienced the largest enrollment declines (Dee & Murphy,

2021; Dee et al., 2023). Baum and Jacob (2024) find important racial differences in school enrollment responses, noting that non-White students were more likely to disenroll from districts offering in-person schooling in fall 2020 relative to White students.

Looking at the bivariate relationship between enrollment and voter turnout changes, I find districts that experienced *greater declines* in student enrollment in fall 2020 saw *larger increases* in voter turnout (estimate of −1.6 in the bottom row of Table 6, column 2). This bivariate estimate implies that districts that saw no change in enrollment would have realized voter turnout increase by 8.4% on average, while districts with enrollment declines of 5% would have experienced voter turnout increases of 16.4% on average.[15] This association supports the view that increased voter turnout—like school disenrollment—reflected community dissatisfaction. After controlling for district demographics, political factors and school COVID-19 policies, the estimate shrinks by half and is no longer statistically different than zero (column 5).

Conclusions

The COVID-19 pandemic presented local school boards with enormous challenges relating to remote schooling, masking, and vaccinations. At the same time, national political polarization began to play an even more prominent role in local politics. Conflict related to hot-button cultural issues such as Critical Race Theory, sexual orientation, and gender expression played out in school board meetings across the country.

In this paper, I document that voter engagement with local school board elections increased substantially following the onset of the COVID-19 pandemic in March 2020. Specifically, relative to elections prior to the start of the pandemic in the United States, voter turnout was 80% higher in the early months of the pandemic and 27% higher from September 2020 through December 2022. Voter turnout increased more in districts with a higher proportion of adults with college degrees and in more heavily Republican districts. Turnout increased less in districts with higher poverty rates and stronger teacher unions. Considering the relationship between turnout and school COVID policies, I find that voter turnout increased more in districts with less restrictive policies—that is, districts that spend more of the 2020–21 school year in person and did not have a mask requirement in 2021–22.

These results provide the first quantitative evidence that public engagement with the local school politics increased following the start of the pandemic. Yet this analysis has several important limitations. First, the Ballotpedia sample is limited to a small set of the largest school districts in the country. Future work should seek to collect data from a broader set of districts to determine if the results discussed here generalize to smaller, rural districts. Second, the analysis conducted in this paper is not able to determine which, if any, of the events that took place in 2020 and 2021 had a causal impact on voter behavior. Subsequent research might seek to determine if, for example, masking policies caused larger increases in voter turnout or the presence of a strong teacher union mitigated increases in voter participation. Finally, it will be interesting to explore whether voter engagement remains higher than, or reverts back, to pre-pandemic levels.

At a broader level, it is important to understand how changes in voter engagement impact school district policies or school operations. Recent research finds evidence that K–12 schooling looks quite different today in several core areas, including not only the use of educational technology but also instructional practice and parent-teacher communication (Jacob, 2024; Jacob & Stanojevich, 2024). It is not clear how the level and/or type of public engagement in local school politics has influenced these changes. One lesson from this study is clear: analysis of local school politics is increasingly important to understanding educational outcomes across the country.

Appendix Figures

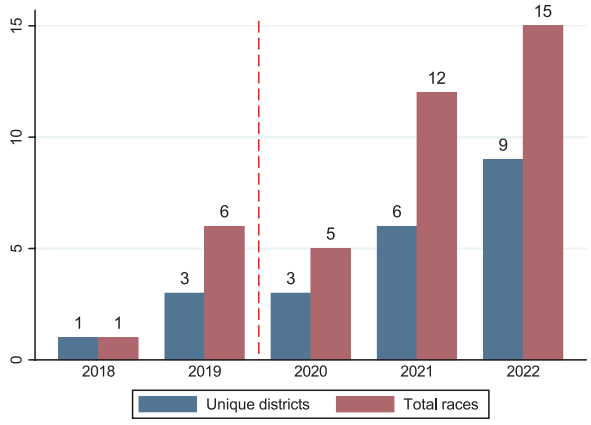

FIGURE A1. *Changes in Number of Recalls over Time.*
Note. This figure shows the number of school districts and races subject to recalls from 2018 to 2022. A recall involves removing school board members from office outside of regularly scheduled elections. Races refer to each candidate who was subject to a recall. There were no recall elections in 2020 prior to the onset of the COVID-19 pandemic.

Appendix Tables

TABLE A1
Characteristics of Districts Experiencing School Board Recall Elections

	Pre-COVID	Post-COVID	Difference
Prop students in rural locale schools	0.72	0.51	0.21
Prop students in suburban locale schools	0.17	0.16	0.02
Prop students in town locale schools	0.00	0.10	−0.10
Prop students in urban locale schools	0.11	0.23	−0.12
District total enrolment (1,000)	4.11	9.31	−5.21
BA+ rate	0.20	0.29	−0.09**
Prop free or reduced lunch in the district	0.50	0.46	0.04
Prop blacks in the district	0.02	0.02	−0.00
Prop Hispanics in the district	0.18	0.19	−0.01
Standardized district mean test score	−0.07	0.03	−0.10
Missing test scores	0.00	0.16	−0.16*
Fordham: union strength score (0-4)	2.09	2.16	−0.07
District area-weighted Trump 2016 vote prop	0.67	0.52	0.15*
N (districts)	8	31	

Note. This table contains district characteristics of districts with recalls pre-COVID (March 10, 2020) and post-COVID. District characteristics come from the 2017–18 Stanford Education Data Archive (SEDA). Union strength is a state-level variable from the Fordham institute, based on union membership, politics, bargaining, policies, and reputation, where a higher score indicates greater union power. See the Data Appendix for details on the source and construction of variables shown here.
***p < .01, **p < .05, *p < .1.

TABLE A2
OLS Estimates of the Relationship between COVID-19 and Voter Turnout

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	General				Primary			
Post-COVID	0.229***	0.329***	0.137***	0.292***	0.033	0.143*	0.008	0.068
	(0.032)	(0.048)	(0.044)	(0.094)	(0.065)	(0.081)	(0.082)	(0.122)
Outcome mean	−2.519	−2.519	−2.519	−2.519	−2.941	−2.941	−2.941	−2.941
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Office FE	No	No	Yes	Yes	No	No	Yes	Yes
Include Nov	Yes	No	Yes	No	Yes	No	Yes	No
R-squared	0.584	0.693	0.898	0.908	0.717	0.758	0.933	0.938
N	2013	698	2013	698	251	191	251	191

Note. This table contains OLS estimates for predicting the log of the total votes per seat per adult civilian population (18+) in the school district for general and primary elections separately. Post-COVID is an indicator for if the election took place after March 10, 2020. Special elections and recall elections are excluded. Covariates include the following: district total enrollment, district urbanicity indicators, percent students black, Hispanic, and free or reduced-price lunch, district area-weighted Trump 2016 vote share, BA+ rate in district, average district achievement, indicator for ward/zone seat (omitted category is an at-large seat), and whether the election included an incumbent. In all models, month fixed effects are included and standard errors are clustered at the school board office level.
***p < .01, **p < .05, *p < .1.

TABLE A3
Additional Election Outcomes

	(1)	(2)	(3)	(4)
	Includes Nov		Excludes Nov	
	Office FE	No Office FE	Office FE	No Office FE
Panel A. Number of candidates per seat				
Apr-Aug 2020	−0.330*	0.223	−0.381**	0.386
	(0.169)	(0.706)	(0.167)	(1.386)
Sept 2020—Dec 2022	0.139***	0.111	0.093	0.110
	(0.035)	(0.095)	(0.068)	(0.203)
Outcome mean	2.498	2.498	2.685	2.685
Outcome SD	(1.002)	(1.002)	(1.241)	(1.241)
Panel B. Fraction of seats with an incumbent running				
Apr-Aug 2020	0.010	0.019	0.003	0.081
	(0.010)	(0.067)	(0.009)	(0.145)
Sept 2020—Dec 2022	0.006	−0.013	0.005	−0.004
	(0.005)	(0.016)	(0.007)	(0.023)
Outcome mean	0.645	0.645	0.659	0.659
Outcome SD	(0.457)	(0.457)	(0.461)	(0.461)
Panel C. Fraction of incumbents who won				
Apr-Aug 2020	0.010	0.059	−0.001	0.266
	(0.066)	(0.280)	(0.070)	(0.349)
Sept 2020-Dec 2022	−0.026	−0.021	−0.039	−0.047
	(0.024)	(0.080)	(0.038)	(0.157)
Outcome mean	0.689	0.689	0.711	0.711
Outcome SD	(0.441)	(0.441)	(0.441)	(0.441)

Note. This table contains OLS estimates for three additional election outcomes: number of candidates per seat, number of incumbents per number of seats up for election, and the fraction of incumbents who won. The main predictors are two indicators for elections in Apr-Aug 2020 (election date is between March 10, 2020, and August 31, 2020) and Sept 2020—Dec 2022 (election date is after August 31, 2020). Special elections and recall elections are excluded. All columns include the following covariates: district total enrollment, district urbanicity indicators, percent students black, Hispanic, free or reduced-price lunch, district area-weighted Trump 2016 vote share, BA+ rate in district, average district achievement, indicators for ward/zone seat (omitted category is an at-large seat), primary elections (omitted category is general elections), and whether the election included an incumbent. In all models, month fixed effects are included and standard errors are clustered at the school board office level.
***p < .01, **p < .05, *p < .1.

Data Appendix

Election Data Coverage

Districts among the top 200 in terms of 2021 enrollment that do *not* appear in the Ballotpedia school board election sample:

- 1. Baldwin County, AL (Likely excluded because it is a fast-growing district that was not in the top 200 at the time of Ballotpedia's data coverage.)
- District of Columbia Public Schools, DC (Not sure why excluded, but could be because it is considered a state board of education.)
- Hawaii Department of Education, HI (Not sure why excluded, but could be because it is considered a state board of education.)
- City of Chicago SD 299, IL (School board appointed by mayor)
- Boston, MA (School board appointed by mayor)
- Cabarrus County Schools, NC (Not sure why excluded.)
- Cleveland Municipal, OH (Not sure why excluded)
- Philadelphia City SD, PA (School board appointed by mayor)
- LAMAR CISD, TX (Likely excluded because it is a fast-growing district that was not in the top 200 at the time of Ballotpedia's data coverage.)
- Washington District, UT (Not sure why excluded)

District Demographic Characteristics

Demographic data comes from two sources: the CCD membership file and the Stanford Education Data Archive (SEDA) covariates file. CCD demographics include percent of students who are female, White, Black, Hispanic, and other race. SEDA demographics include the district's mean

standardized test scores, percent free-reduced lunch, ELL, special education, log median household income, percent adults with a bachelor's degree, and poverty rate. The neighborhood demographics come from matching American Community Survey (ACS) data to district shapefiles. SEDA covariates are missing for 493 districts (3.8%). For these districts, I imputed covariate values with the county-level equivalents.

SEDA harmonizes standardized test scores for students in grades 3–8 to a single comparable metric. I calculated a single metric for the district's test scores by averaging all grade-subject test scores (English/math), weighting each grade-subject by the inverse of the estimate's standard error. I used the most-recent available test scores; 86% of scores are from 2018, 4% from 2017, 5% from 2014, with a smattering from all earlier years. AK, AZ, MD, and NY districts are missing all test scores from 2018; most AK test scores are imputed from 2015, AZ scores from 2017, MD scores from 2017, and NY scores from 2014. SEDA does not report test scores for all districts; for example, they exclude all test scores from any state-year when state participation in standardized test subject was <95%. In the dataset, 89.4% of districts serving students in grades 3–8 have test scores.

Union Strength

To measure the strength of teacher unions in each state, I use an updated version of the Fordham Institute's 2012 index of state-level teacher's union strength and all index inputs. The index average scores from five areas of teacher union influence:

1. Members and Resources: includes percentage of teachers in a union, total yearly revenue for state NEA/AFT, and state's normalized annual K–12 budget
2. Politics: includes relative political contributions to state candidates from unions and percentage of state convention delegates who are teachers
3. Bargaining: legality of collective bargaining (CB), topics covered by CB (index of 21 topics), whether the state is RTW, and whether teachers can strike
4. Policies: use of performance pay, employer-employee pension contribution ratio, whether evaluations can be used for dismissal, whether student achievement is a component of evaluations, teacher tenure strength, criteria for layoffs and dismissal, class size restrictions, and charter school policy
5. Reputation: aggregated results from surveys of state education insiders on topics including: the relative influence of teachers' unions, union influence on party platforms, union effectiveness at protecting interests, and how hard unions fight for desired policies

One might worry that a 2012 index using 2007–11 data on the strength of state teacher unions' bargaining power is out of date. For example, Wisconsin passed Act 10 in 2011, which banned collective bargaining for public-sector unions. To address this concern, I re-collected the variables included in the Fordham bargaining sub-score and recalculated the index values. The index includes whether CB is legal, whether teachers can strike, RTW status (coded as 0 = RTW, 4 = non-RTW), and the index of 15 areas over which teachers can bargain. I average these four scores to get the final score, which ranges from 0 to 4 (mean 2.03, median 1.84, IQR 1.16–2.83). The newer version of the Fordham index has a correlation of 0.99 with the older version; the newer bargaining sub-score has a correlation of 0.93 with the older sub-score.

Partisanship

I calculated district-level Republican vote shares in the 2016 presidential election using district and precinct shapefiles and precinct-level voting results compiled by the Harvard Voting and Election Science Team. Construction happens in two stages, the first in ArcGIS and the second in Stata. In the first stage, I overlay district and precinct shapefiles and identify every precinct-district overlapping geography. I calculate the area of this overlap region. In the second stage, I use the precinct-district area overlaps to calculate a weighted average of the Republican votes cast in all precincts overlapping with that district.

Say there are N districts (indexed by j) with at least some overlap with precinct i. The total area of precinct i in all districts is

$$area_i = \sum_{j=1}^{N} area_{ij}$$

and the area of precinct i in district j is $area_{ij}$. Therefore, the fraction of precinct i's area contained in district A is $\frac{area_{iA}}{\Sigma_{j=1}^{N} area_{ij}}$. I assign shares of precinct vote totals to districts in proportion to this fraction:

$$votes_{Ai} = (total\ votes\ in\ precinct\ i)\frac{area_{iA}}{\sum_{j=1}^{N} area_{ij}}$$

District A's total votes from *all* precincts are then

$$totalvote_A = \sum_{k \in supp(overlap_{kA})} (total\ votes\ in\ precinc\ k)\frac{area_{kA}}{\sum_{j=1}^{N} area_{kj}}$$

Analogously, district A's total Republican votes from all precincts are

$$repvote_A = \sum_{k \in supp(overlap_{kA})} (Rep.votes\ in\ precinct\ k) \frac{area_{kA}}{\sum_{j=1}^{N} area_{kj}}$$

The district's Republican vote share is then $\frac{repvote_A}{totalvote_A}$.

Some district boundaries are defined such that their catchment zones overlap. This is particularly common in California, Arizona, Illinois, and Montana, where we have a lot of separate "elementary" and "high school" districts that serve the same students. For some precincts in these states, $\Sigma_{j=1}^{N} area_{ij}$ is greater than the *actual* precinct area. This would result in us assigning fewer votes to each district from that precinct than we would otherwise because we would be dividing by too large a denominator. Therefore, for any precincts where $\Sigma_{j=1}^{N} overlap - area_{ij}$ is greater than the precinct's actual size, I set the denominators to the total area of the precinct, rather than the sum of the overlap areas. The distributions of resulting Republican vote shares in these states for these two methods are incredibly similar.

12,808 districts (98.4%) have non-missing partisanship measures. In the average district's geographic catchment zone, 60% of voters supported the Republican in the 2016 election. In the median district, 63% of voters supported the Republican. Since Democratic voters tend to concentrate in cities, it makes sense that the mean/median district vote share is greater than 50%. If I weight districts by 2016 student enrollment, then the mean district's Republican vote share was 47% (median: 48%). The actual 2016 Republican national vote share was 46.1%.

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ORCID iD

Brian A. Jacob https://orcid.org/0009-0003-3794-9850

Notes

1. Related, there is evidence of private returns from office: Billings et al. (2022) document that the election of a new board member causes the home values in their neighborhood to rise on average.

2. Ballotpedia has also reported on school board elections that generated conflict on cultural issues (Ballotpedia, 2023a).

3. Off-cycle elections are typically defined as those that are not held at the same time as Federal elections in November of even-numbered years.

4. Kogan et al. (2021a) find that voters who turn out in these elections are older, less likely to have children, and more likely to be White than the students in the affected districts.

5. See Data Appendix for more details on several anomalous cases.

6. In total, my analysis sample includes 3,346 initial general election races, 46 runoff general election races, 870 initial primary election races and 6 runoff primary election races—for a total of 4,268 total races.

7. I dropped 17 races from four districts that did not match. On investigation, it turns out that these races took place at the county/region level and thus do not involve local school districts as typically defined. These include: Western Maricopa Education Center District, AZ; Riverside County Board of Education Trustee, CA; Sacramento County Board of Education, CA; San Diego County of Education, CA.

8. For additional details about variable definitions and construction, see the Data Appendix.

9. As reported by Ballotpedia, the number of recall efforts increased in 2021 and 2022 (Ballotpedia, 2023b). Appendix Figure A1 shows the number of districts with at least one recall increased from 1 in 2018 and 3 in 2019 to 6 in 2021 and 9 in 2022. Given the roughly 13,000 school boards in the US, these numbers are tiny but perhaps illustrate a change in voter attitudes following the pandemic. Appendix Table A1 shows summary statistics of districts with at least one recall, separately by time period.

10. To simplify the presentation, I focus only on elections in April, May, June, August, and November, months that contain 96% of elections in the sample. I regress turnout on year × month indicators (using April 2018 as the reference category) and office fixed effects. I add the regression estimate for each month × year indicator to the reference category, and then average the results by year × season for simplicity. The analysis sample is limited to contested general elections, and excludes elections in August 2019 and August 2021 because of small sample sizes.

11. There are several potential explanations for this pattern. Individuals who were not working as a result of pandemic lockdowns may have had more time and/or increases in mail-in ballot options may have made voting easier.

12. In results available upon request, I show that dropping the few remaining fall 2020 elections do not change the results.

13. I also control for a binary indicator for the election type (general versus primary), binary indicators for the month the election was held, and a binary indicator of whether an incumbent was running.

14. For example, the correlation between adult educational attainment and standardized test scores is roughly 0.72, the correlation between teacher union strength and each of the three school COVID policy variables is roughly 0.53, and the correlation between the masking policy variable and the in-person schooling variable is roughly 0.64.

15. The change in student enrollment in fall 2020 is actually calculated as the change relative to prior enrollment trends. For additional details, see Baum and Jacob (2024).

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Author

BRIAN A. JACOB is the Walter H. Annenberg Professor of Education Policy and professor of economics in the Gerald R. Ford School of Public Policy at the University of Michigan, 735 S. State Street, Ann Arbor, MI 48109. Email: bajacob@umich.edu. His research covers a variety of topics in education policy from Pre-K through postsecondary as well as policy domains that impact youth outside of formal schooling such as foster care and juvenile justice.