ANNENBERG
BROWN UNIVERSITY

EdWorkingPaper No. 23-841

The Politics of Teachers' Union Endorsements

Michael T. Hartney
Boston College

Vladimir Kogan
Ohio State University

School board candidates supported by local teachers' unions overwhelmingly win and we examine the causes and consequences of the "teachers' union premium" in these elections. First, we show that union endorsement information increases voter support. Although the magnitude of this effect varies across ideological and partisan subgroups, an endorsement never hurts a candidate's prospects among any major segment of the electorate. Second, we benchmark the size of the endorsement premium to other well-known determinants of vote-choice in local elections. Perhaps surprisingly, we show the endorsement effect can be as large as the impact of shared partisanship, and substantially larger than the boost from endorsements provided by other stakeholders. Finally, examining real-world endorsement decisions, we find that union support for incumbents hinges on self-interested pecuniary considerations and is unaffected performance in improving student academic outcomes. The divergence between what endorsements mean and how voters interpret them have troubling normative democratic implications.

VERSION: September 2023

Suggested citation: Hartney, Michael T., and Vladimir Kogan. (2023). The Politics of Teachers' Union Endorsements. (EdWorkingPaper: 23-841). Retrieved from Annenberg Institute at Brown University: https://doi.org/10.26300/9ygx-5730

The Politics of Teachers' Union Endorsements*

Michael T. Hartney
Department of Political Science
Boston College
michael.hartney@bc.edu

Vladimir Kogan
Department of Political Science
Ohio State University
kogan.18@osu.edu

September 6, 2023

*We're grateful for helpful comments and feedback from Sarah Anzia, Devin Judge-Lord, Kaylyn Jackson Schiff and Zac Peskowitz on earlier versions of this manuscripts.

Abstract

School board candidates supported by local teachers' unions overwhelmingly win and we examine the causes and consequences of the "teachers' union premium" in these elections. First, we show that union endorsement information increases voter support. Although the magnitude of this effect varies across ideological and partisan subgroups, an endorsement never hurts a candidate's prospects among any major segment of the electorate. Second, we benchmark the size of the endorsement premium to other well-known determinants of vote-choice in local elections. Perhaps surprisingly, we show the endorsement effect can be as large as the impact of shared partisanship, and substantially larger than the boost from endorsements provided by other stakeholders. Finally, examining real-world endorsement decisions, we find that union support for incumbents hinges on self-interested pecuniary considerations and is unaffected performance in improving student academic outcomes. The divergence between what endorsements mean and how voters interpret them have troubling normative democratic implications.

Word Count: 11,686

One of the most striking regularities in American school board elections is the success of candidates formally supported by local teachers' unions. Union-endorsed candidates win 70 percent of contested races (Moe 2006), and this figure has stayed roughly constant over the past two decades (Hartney 2022). Moreover, as a predictor of eventual candidate success, the union endorsement appears to pack a bigger electoral punch than incumbency and student academic achievement (Payson 2017). And the union advantage is present across political contexts, boosting candidates in both Democratic-leaning and Republican-leaning locales (Hartney 2022).

The success of union-endorsed candidates raises important theoretical questions — both about the influence of interest groups on the democratic process and about the mechanisms through which such groups ultimately shape policy outcomes. After all, local school boards exercise tremendous power over key educational policies — defining minimum graduation requirements, selecting curriculum, and evaluating teachers. In the aggregate, they spend hundreds of billions of dollars each year and the downstream impacts of the policy decisions they make shape long-term student outcomes (Chetty, Friedman and Rockoff 2014) and the democratic health and economic wealth of nations (Hanushek and Woessmann 2010). The overwhelming success of union-aligned candidates may impact subsequent policy choices that have broader societal consequences, at expense of representation for other stakeholders and regular voters. In a series of studies from the early 2000s, for example, Moe (2011) showed that the 76 percent of successful union-endorsed school board candidates brought far more favorable attitudes toward collective bargaining (compared to unendorsed election losers). Similarly, Strunk and Grissom (2010) found that boards that were composed of more educators and more union-endorsed members adopted more union-friendly collective bargaining agreements.

In this article, we ask: What explains the electoral value of interest group endorsements

like those bestowed by teachers unions in school board elections? The existing literature largely focuses on the political influence of teachers themselves. For example, one popular account stresses the overwhelmingly low turnout during off-cycle elections, when the majority of school board races are held (e.g., Anzia 2011, Moe 2006). If most other constituents stay home, a small but highly mobilized and motivated group of voters — in this case, teachers and their relatives and allies — can form the pivotal voting block, helping elect teacher-backed candidates. The problem with this view, however, is that teachers and other school employees represent a vanishing small share of the electorate even in the lowest-turnout elections (see Kogan, Lavertu and Peskowitz 2018). And elderly, childless adults — hardly a natural ally for teachers — account for a particularly oversized share of voters in such elections.[1] To be sure, teachers may exercise influence through other channels, including providing crucial financial support and engaging in labor-intensive campaign activities such as door-to-door canvassing, that can give an edge to union-preferred candidates in close races. However, it appears unlikely that votes of teachers themselves account for much of the observed "teachers' union premium" documented in local school board elections.

We propose and examine another mechanism through which interest groups such as teachers' unions may affect electoral outcomes. Specifically, in a series of studies, we examine how providing regular voters with information about whether a particular candidate is endorsed by the local teachers' union changes their voting behavior and affects their support for union-backed candidates. In the first study, we present evidence from a survey experiment involving voters in San Diego, who are asked about their voting intentions in two real upcoming school board races. As part of the experiment, we provide voters with short biographies of each candidate and randomly vary whether this text includes informa-

[1] In related work, Kogan, Lavertu and Peskowitz (2021) show that most voters do not have children of their own in the typical school board election.

tion about endorsements made by the San Diego teachers' union. We find that highlighting the union's endorsement to voters increases their support for the endorsed candidate by about 6 percentage points. The effect is concentrated among Democrats and voters who have a positive perception of teachers, public employees, and unions more generally. Importantly, although the impact of the endorsement varies across voter subgroups, we find no subset of voters among whom the endorsement produces a negative effect.

In our second study, we replicate this result more than a decade later, using a broader national sample. We also show that the finding is not driven by specific design choices made in the original survey. In addition, we carry out a conjoint experiment that manipulates a number of candidate attributes in addition to the union endorsement, allowing us to characterize the magnitude of the effect relative to other factors prior research identified as important determinants of voter choice in local elections. The conjoint experiment continues to show a sizeable boost for teachers' union-endorsed candidates. The effect size rivals that of shared partisanship (among Democrats) and, importantly, is larger than the impact of support provided by local newspapers and business leaders — two other stakeholders likely to be well-informed and have at least some shared interests in the quality of public education, two key conditions thought to make endorsements credible for voters (Lupia and McCubbins 1998).

The conjoint experiment also allows us to probe *why* voters seem to prefer union-endorsed candidates by examining how voters think such candidates differ from their opponents. We find that voters *believe* school board candidates endorsed by the teachers' union will be more likely to increase teacher salaries but also, perhaps more surprisingly, that they will be more effective at improving student academic achievement and also more responsive to parents' concerns.

In the third study, we turn our attention to union endorsements themselves, to under-

stand why union locals endorse certain candidates and not others and how actual endorsement decisions compare to voter beliefs elicited in the experiment. Specifically, we present data on incumbent school board candidates in California who stand for reelection and examine variation across time and district in whether each incumbent is endorsed by the local teachers' union. We show that, contrary to voter beliefs, changes in student outcomes do not predict which candidates teachers' unions ultimately endorse. These decisions are instead driven at least in part by self-interested considerations — with the local more likely to endorse sitting school board incumbents when the district recently provided teachers larger raises, particularly for the most experienced educators.[2]

Together, these findings pose an empirical puzzle: On one hand, teachers' union endorsements appear to be driven in significant part by narrow, self-interested financial considerations of their (veteran) members. On the other, non-teachers seem to place significant weight on such endorsements, increasing their own support for union-endorsed candidates. To reconcile these findings, and shed light on how interest groups can maintain the gap between their self-interested behavior and public perceptions of their goals and values, we draw on the theoretical framework developed by Patashnik, Gerber and Dowling (2017), who ask why so much spending in the US healthcare system is wasted on expensive but ineffective procedures and treatments. An important part of the answer, these authors argue, is voters' willingness to defer to the political and policy judgements of doctors and their trade associations, failing to recognize that the pecuniary interests of health care professionals and the concerns of patients are not always aligned. "People regard their doctors as knowledgeable and trustworthy agents of their own medicare care," the authors write, "and this trust extends to matters of health policy as well. The catch, as the distinguished medical sociologist David Mechanic writes, is that 'patients may trust blindly when some

[2]Moe (2011) shows that experienced teachers are the most active in these unions (p. 404-405).

skepticism is warranted'" (p. 14).[3] In summarizing their argument, Patashnik, Gerber and Dowling (2017) conclude: "Despite their position as repository of public trust in a complicated policy area, doctors and their professional societies have not consistently used their authority, standing, and prestige to promote the steps necessary to root out waste, bad science, and inefficiency in the health care system — and too often have used their political capital to fight these steps" (p. 16).

Our contention is that similar dynamics play out in the context of public education. Although doctors continue to top public opinion rankings of the most "trustworthy" occupations, teachers appear only a few notches down.[4] According to one recent survey, 55 percent of American adults described teachers as trustworthy compared to 13 percent as untrustworthy, a significantly more favorable ratio than similar ratings of judges, clergy members, and journalists. Although opinions of teachers *unions* are somewhat less glowing, a plurality of voters in the latest *Education Next* poll nevertheless believe that they have a positive effect on schools.[5] We argue that such public esteem serves as an important source of political power for interest groups active in electoral politics. In the context of American education, public admiration for teachers can give their affiliated interest groups (teachers unions) outsized influence in the democratic process and affect election outcomes. When the interests of educators and students are aligned, such influence may lead to better policy. When the interests conflict, however, union political power may push elected officials to prioritize the needs of school employees rather than students. Controversy surrounding the reopening of schools for in-person learning during the COVID-19 pandemic provides a

[3] "Trust in doctors is built on patients' beliefs that doctors are technically proficient, on interpersonal competence, and on indications that the doctor is their ally," Mechanic writes in the editorial the authors cite. "Typically, patients cannot judge technical competence but assume that educational and certification requirements ensure this. ... Patients may trust blindly when some scepticism is warranted. Much care that is needed is never provided, and ineffective and inappropriate care is common" (2004).

[4] https://www.ipsos.com/sites/default/files/ct/news/documents/2021-10/Global\%20trustworthiness\%202021\%20deck\%20-\%20US\%20version\%20Final.pdf

[5] https://www.educationnext.org/2022-ednext-poll-interactive/

salient recent example of this dynamic (Hartney and Finger 2022).

Our research is related to — and builds upon — three distinct literatures. First, our findings are entirely consistent with the large body of research that examines the impact of low-cost information shortcuts and heuristics as determinants of voter behavior in otherwise low-salience elections (Lupia 1994). In their seminal work, Lupia and McCubbins (1998) conclude that cue-givers must be perceived as both knowledgeable and trustworthy by voters to influence their behavior. Importantly, however, voter perceptions must be accurate for heuristics to improve (rather than impede) the quality of their decision-making. Recent research suggests that these conditions do not hold for many high-spending interest groups in other issue domains, due largely to voter ignorance about where interest groups stand vis-a-vis their own preferences and interests (see Broockman, Kaufman and Lenz 2023). We document a similar dynamic in local education policy, where voters assume that teachers' union endorsement signal positive valence and shared interests on outcomes important to voters. Another contribution of our three studies is to shed new light on precisely how interest groups make endorsement and identify the considerations that drive these decisions. To our knowledge, our study is the first to systematically model interest group endorsement decisions and compare these dynamics with voter beliefs.

Second, our work is connected to a growing literature on voter behavior in local school board elections. Most relevant is work by Atkeson and Hamel (2020), who provide both observational and experimental evidence showing that voters prefer to elect educators to school boards, in part due to the perceived professional expertise and competence they expect teachers to possess. As we show, other candidates can also benefit from this halo effect via the endorsements that are made by educators through their labor organizations.

Finally, our work is closely related to Shi and Singleton (2023), who leverage random variation in ballot order to estimate the causal effect of teacher representation on school

boards. They find that the election of more teachers increases educator salaries — paralleling our findings about what unions value in making their endorsement decisions — and reduces the number charter schools authorized by local school boards. They also report negative but imprecisely estimated effects of teacher political representation on student achievement, again consistent with our null results for the relationship between student academic outcomes and union endorsement decisions but in sharp contrasts to voter beliefs about the positive achievement impacts of union-endorsed candidates.

Although our research is focused narrowly on teachers' unions, the findings have broader implications for research on interest groups. Much of this literature has historically looked for evidence of interest group influence during the policy-making process, within the halls of Congress or behind locked committee room doors. The dependent variables in such research are typically policy outcomes (e.g., roll call votes) and the key mechanisms of influence focus on financial inducements (e.g., campaign contributions, subsequent employment offers) and lobbying. By contrast, we show that interest groups can also influence election outcomes directly by shaping mass voter behavior — including the ballots cast by voters not formally affiliated with such groups. Ability to do so, however, likely depends on a given group's "reputational capital" and preserving and protecting such capital to maximize long-term influence may constrain interest group activities in important and hitherto under-appreciated ways.

Union Endorsement Survey Experiment

Our first study included registered San Diego voters and was fielded between late September and early October 2012. A total of approximately 30,000 voters registered in the City of San Diego with a valid e-mail addresses in the official voter file were invited to complete an online survey and about 1,700 did so, although our analysis sample excludes some of these

respondents, as discussed in more detail below.[6] Overall, the participants skew somewhat whiter, older, and wealthier than the city electorate — and, in particularly, considerably higher educated — although the final sample was quite diverse.

The survey covered a number of disparate items but our focus is on two questions about the upcoming San Diego Unified School District elections. Under the system in place at the time, school board candidates ran in geographically defined districts (or regions). In June, voters only in each region participated in the primary election, with the top two vote-getters moving on to a city-wide runoff in November. These elections were non-partisan, meaning no party label appeared on the ballot. Respondents completed our survey between the primary and runoff elections and were asked about vote intentions in two of the contests — for (sub-)District A and District E — that would appear on the November ballot.[7]

The questions about the school board races appeared near the beginning of the survey and included brief biographical profiles of the candidates running, which were composed based on publicly available information. For each of the two contests, voters could see a version of the biography that included information about the teachers' union endorsement and a version without. The experimental intervention focused on the *order* in which the contests were presented (District A vs. District E). The first set of biographies always excluded the endorsement information while the second set always included them. Random assignment determined which of the two contests respondents saw first. Thus each respondent was presented with one race that included endorsement information and one that did not include it, but which contest corresponded to the endorsement treatment varied randomly across participants.[8]

[6] E-mail addresses were added to the voter registration form relatively recently, so this information is not available for the oldest registrants who had not updated their registration since this change to the form was made.

[7] A third seat up that year was uncontested.

[8] The randomization across respondents mean that half of the sample saw the endorsement version for District A and the other half for District E.

Figure 1 presents screenshots of the two versions of the biographies used for the District A race. Participants who were asked about this contest first saw the profiles in the top panel, which provided brief overviews about each of the two candidates. Participants who considered District A second (after evaluating candidates for District E), saw the version of the biographies in the bottom panel. The only difference is the final sentence of the profile of John Lee Evans, which states "Evans has been endorsed by the San Diego Education Association, which represents teachers working at the San Diego Unified School District."[9]

After reading the biographies, respondents were asked to select which candidate they would support "if the election were held today." They could not proceed to the next question without indicating a choice, although the response options included not planning to vote in the election. This was available as an option because the boundaries of the San Diego Unified School District are not coterminous with the boundaries of the city, and about a quarter of the respondents in the survey did not live within the district and thus were ineligible to participate in the election.[10] Of course, respondents could also choose to indicate that they were planning to sit out the race for other reasons. In the analyses that follow, we focus only on respondents who indicated that they would vote in each of the school board races. One concern is that since the vote intention question followed the treatment assignment, conditioning on participation introduces post-treatment bias by affecting not only candidate choice but also whether a respondent planned to vote in the race at all. In supplemental analyses, we found that exposure to the endorsement information did not affect planned participation in the District E race.[11] However, it did appear to significantly reduce planned participation the District A race, with respondents

[9] Note that the formatting for the second candidate profile was also changed in the endorsement version by adding an additional paragraph break, to make the overall length of the two biographies more comparable.

[10] The school board questions were a small part of the survey, which focused mostly on city government races and issues.

[11] The coefficient estimate was almost exactly zero.

Name: John Lee Evans

About the candidate:

Evans currently serves as the president of the San Diego Unified school board. He was first elected to the board in 2008.

He received his Ph.D. in clinical psychology from United States International University and previously taught English learners in the San Diego Community College District's Continuing Education Division.

Name: Mark Powell

About the candidate:

Powell previously worked as a teacher in San Diego schools and served as vice principal of Correia Middle School in Point Loma.

He is the founder and owner of an independent real estate brokerage in San Diego. Powell supports working to implement a system of teacher evaluation that assesses and rewards teachers for improving student academic achievement.

(a) Control Biography

Name: John Lee Evans

About the candidate:

Evans currently serves as the president of the San Diego Unified school board. He was first elected to the board in 2008.

He received his Ph.D. in clinical psychology from United States International University and previously taught English learners in the San Diego Community College District's Continuing Education Division.

Evans has been endorsed by the San Diego Education Association, which represents teachers working at the San Diego Unified School District.

Name: Mark Powell

About the candidate:

Powell previously worked as a teacher in San Diego schools and served as vice principal of Correia Middle School in Point Loma.

He is the founder and owner of an independent real estate brokerage in San Diego.

Powell supports working to implement a system of teacher evaluation that assesses and rewards teachers for improving student academic achievement.

(b) Endorsement Biography

Figure 1: Example of endorsement cue used in survey

receiving the endorsement treatment indicating they would be about 6 percentage points less likely to vote. We show below, however, that differential attrition or abstention is unlikely to affect our estimates for the effect of the endorsement treatment on vote choice.

We begin by estimating a simple linear probability model where the outcome is a dichotomous variable indicating support for the union-endorsed candidate. We pool both contests to maximize power,[12] include a contest-level fixed effect, and cluster the standard errors at the level of the respondent. The quantity of interest is the coefficient on the variable indicating assignment to the endorsement version of the candidate profile.

Table 1 presents our first set of results. Model 1 includes the baseline specification, showing that exposure to the endorsement cue increased support for the union-endorsed candidate by approximately 6 percentage points. The remaining three models examine heterogeneity of this effect by grouping voters based on their responses to a series of thermometer favorability rating questions that appeared later in the survey. In particular, respondents were asked to rate a variety of groups and organizations on a scale between 0 and 100, where lower numbers corresponded to less favorability and 50 corresponded to indifference.[13] We used three sets of ratings — of teachers, of government employees generally, and of labor unions — and dichotomize the ratings based on whether the respondent rated each group above or below the midpoint of the scale. Models 2 through 4 in the table then interact the endorsement treatment with the dichotomized favorability ratings.[14]

Across each model, we see the that the endorsement premium appears only among respondents with a favorable rating of each group. It ranges from a 10 percentage point in-

[12] We have also analyzed each race separately, and the estimates are nearly identical across the two contests.

[13] Specifically, the instructions stated: "Ratings between 50 degrees and 100 degrees mean that you feel favorable and warm toward the person or group. Ratings between 0 degrees and 50 degrees mean that you don't feel favorable toward the person or group and that you don't care too much for them."

[14] The sample size varies across estimates because not all respondents completed every thermometer rating in this section of the survey.

crease in support among respondents who rate teachers favorably to a nearly 20 percentage point boost among respondents who rate labor unions favorably. Importantly, however, the endorsement has no effect among respondents who rate each group unfavorably. The point estimates are quite close to zero in each case, although the standard errors indicate we cannot confidently exclude either positive or negative effects ranging from 5 to 10 percentage points, depending on the model.

In Table 2, we provide similar estimates broken down by partisan identification.[15] Overall, we find that the endorsement boosts support for union-endorsed candidates by about 12 percentage points among Democratic voters. It falls roughly in half among independents and is basically zero among Republicans. Across both sets of estimates, it is clear that the magnitude of the electoral boost provided by the union endorsement varies substantially among different segments of the electorate. However, it does not appear to *harm* candidates among any subgroup of voters, at least not in our sample.

As we note above, these results are based on a subsample of voters excluding respondents who indicated they were not planning to vote in the race. We have carried out several analyses that all suggest this restriction is not driving the effects reported above. Interested readers can see the additional results in Supplemental Appendix Table A1. First, the point estimates of the endorsement cue are quite similar in magnitude across the two contests, and we found no evidence that the endorsement had any effect on self-reported intention to vote in the contest for the District E seat. In addition, we have estimated a model that includes respondent fixed effects — leveraging data from a subset of respondents who indicated they planned to vote in both races. Recall that, within respondents, the variation comes from which of the two contests included the endorsement information. The within-subject analysis shows that exposure to the endorsement cue increases support

[15] This analysis uses voter self-reported partisanship.

Table 1: Impact of Endorsement Information on Support for Union-Endorsed Candidates

	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4
Endorsement	0.0617***	-0.0215	-0.00856	-0.00873
	(0.0165)	(0.0488)	(0.0359)	(0.0277)
Teachers Positive		0.156***		
		(0.0386)		
Endorsement * Teachers Positive		0.104**		
		(0.0529)		
Gov. Employees Positive			0.160***	
			(0.0299)	
Endorsement * Gov. Employees Positive			0.100**	
			(0.0420)	
Unions Positive				0.195***
				(0.0270)
Endorsement * Unions Positive				0.140***
				(0.0372)
Observations	3,381	2,641	2,627	2,604
R-squared	0.006	0.028	0.043	0.080
Race FE	Yes	Yes	Yes	Yes

Robust standard errors clustered by respondent in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 2: Impact of Endorsement Information by Voter Partisanship

	(1)
	Model 1
Endorsement	0.122***
	(0.0247)
Independent	-0.0629
	(0.0383)
Republican	-0.226***
	(0.0293)
Endorsement * Independent	-0.0553
	(0.0532)
Endorsement * Republican	-0.139***
	(0.0409)
Observations	2,697
R-squared	0.080
Race FE	Yes

Robust standard errors clustered by respondent in parentheses
*** p<0.01, ** p<0.05, * p<0.1

for the union-endorsed candidate by 7 percentage points, nearly indistinguishable from our pooled analysis. Together, these two sets of findings rule out the possibility that differential attrition as meaningfully affecting the estimates presented above.

One important consideration in interpreting the substantive implications of the results is magnitude of the effect size. In our view, the average 6 percentage point boost is quite large — roughly a quarter to a third of the size of the incumbency advantage previously documented in local elections (Trounstine 2011). And it is nearly identical to the vote-share advantage enjoyed by educators themselves (Atkeson and Hamel 2020). Since our survey was run fairly late in the election cycle, it also likely represents a lower bound for the endorsement effect because some voters — including respondents in our control condition — may have already learned about which candidates were supported by the San Diego teachers' union through information obtained prior to taking part in our survey. One

piece of suggestive evidence consistent with this point is that the individual-level factors that amplify the impact of the endorsement — Democratic partisan identification and favorable view of teachers and unions — also independently and strongly predict support for the union-endorsed candidates in our *control* conditions, where voters did not receive the endorsement cue in the survey.

In January 2023, we ran a second study designed to replicate the original experiment, using a broader national sample of registered voters from Cint USA, a major vendor for online survey panels used in marketing research.[16] Although the Cint sample is opt-in, it is matched to Census data on voter demographics for race and ethnicity as well as educational attainment.

In addition to replicating our San Diego results in a different time period and with a national sample, the 2023 survey sought to address several potential limitations of the original experiment. First, the original version of the candidate description with the union endorsement information was somewhat longer, despite our efforts to make them comparable by adjusting the placement of paragraph breaks. One concern is that voters used the length of each biography as a proxy for candidate quality. Second, the survey provided the official name for the San Diego teachers' union, the "San Diego Education Association," and some voters might not realize from the description that it was a union.

We address these concerns in the second survey in two ways.[17] First, we tweaked the HTML stylesheet to slightly adjust the spacing between lines to make the length of each version of the candidate description exactly the same. In addition, we fielded two different versions of the endorsement intervention, describing the group providing the endorsement as the "local teacher association" in one and the "local teachers' union" in another. The

[16] Cint acquired LUCID Theorem, a survey platform widely used in research similar to ours.

[17] The national replication survey included only candidates from San Diego District A. Respondents were randomly assigned to receive a version of the biography listing no endorsement or one of the two versions described here.

versions of the biographies used in the 2023 survey are presented in the Supplemental Appendix.[18]

We present the main results from the national replication in Table 3.[19] Several findings jump out from the table. First, although the national survey took place a decade later, among a very different population, during a more polarized time and in the wake of the pandemic, and asked about hypothetical (rather than actual) candidates, the results for the union endorsement effects are strikingly similar. Respondents who were randomly told that one of the candidates had been endorsed by the teachers' union were more likely to support that candidate by about 8 percentage points, nearly identical to the point estimate from the San Diego survey. The more generic "teacher association" language increased support by a statistically indistinguishable 7 percentage points. Second, the effects were concentrated among respondents with a positive view of teachers, government employees, and labor unions more generally.[20] Third, with one exception, none of the subgroups *reduced* their support for union-endorsed candidates after learning of the endorsement. That one exception was respondents with a negative view of teachers — a subset that represents just 12 percent of the respondents.

We present comparable breakdowns by party in the Supplemental Appendix. Although

[18] We made several other changes worth noting. First, we tweaked the biographies to remove the reference to specific geographies (e.g., San Diego) and institutional names so that the information was relevant and plausible to a national panel. Second, since the original survey featured actual candidates, we jumbled the candidates' first and last names to avoid having national respondents Google to find more information about these individuals. Finally, we added several attention checks to the survey, following Berinsky, Margolis and Sances (2014), and the results below are limited to respondents who passed all of these checks. However, Tyler, Grimmer and Westwood (2023) warn that conditioning on successful completion of attention checks can result in selection bias. We have replicated the results using the full sample of respondents, including those who failed at least one attention check, and the results are qualitatively unchanged.

[19] Unlike the San Diego survey, where some voters may have had external information on candidate endorsements and we may have expected important patterns of support to emerge in the control condition, the main effects of the thermometer ratings are not substantively interesting in the national sample, so we do not include them in the results presented in the table.

[20] These interaction effects are larger than we found in the San Diego sample. In addition, the interactions are more muted for the "association" as opposed to "union" endorsement.

Table 3: National Replication of Endorsement Effects on Vote Choice

	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4
Union Endorsement	0.0832**	-0.161*	0.0739	-0.0227
	(0.0323)	(0.0950)	(0.0750)	(0.0516)
Association Endorsement	0.0667**	-0.111	0.102	-0.0122
	(0.0330)	(0.0923	(0.0785)	(0.0534)
Union * Teacher Positive		0.278***		
		(0.101)		
Association * Teacher Positive		0.0934***		
		(0.0351)		
Union * Gov. Employees Positive			0.0240	
			(0.0831)	
Association * Gov. Employees Positive			0.0619*	
			(0.0365)	
Union * Unions Positive				0.184***
				(0.0659)
Association * Unions Positive				0.102**
				(0.0419)
Observations	1,405	1,395	1,392	1,385
R-squared	0.005	0.028	0.014	0.026

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

somewhat under-powered, they are qualitatively similar to the results obtained in the San Diego survey a decade earlier. While the electoral benefit of the union endorsement largely vanishes among Republican voters, it never becomes negative.

Conjoint Experiment: Determinants of Vote Choice in School Board Elections

Having established the positive electoral boost provided by the teachers' union endorsement, we now turn to benchmarking the magnitude of the endorsement effect relative to other candidate-level attributes that have been found to affect vote choice and examining the underlying mechanisms using a conjoint experiment (Hainmueller, Hopkins and Yamamoto 2014) that was included on the January 2023 survey. Briefly, respondents were presented with a series of hypothetical school board candidate match-ups and asked to choose the candidate they would be more likely to support from each set. In each match-up, candidate attributes were populated randomly from a predefined menu of options, allowing us to estimate how much each contributes to changes in voter support. Respondents were ultimately asked to make choices in six head-to-head match-ups.[21]

Table 4 lists the attributes presented to respondents, as well as the possible values of each. Several attributes are worth highlighting. Although the experiment randomly manipulated candidates' gender and race, we also included information about whether they had children (and whether these children were enrolled in public schools), candidate occupation, and endorsements by outside groups. This allows us to estimate the electoral value of teachers' union endorsements using a different design and compare its impact to endorsements from other local notables — the chamber of commerce and newspapers[22] —

[21] As before, the results that follow exclude respondents who failed at least one attention check.

[22] For earlier studies on the impact of newspaper endorsements in local elections, see Krebs (1998).

Table 4: Conjoint experiment candidate attribute values

Attribute	**Values**
Political Party	Democrat, Republican, Independent
Gender	Female, male
Race	Asian, Black or African-American, Hispanic or Latino, White
Has Kids	Yes, attending district school; yes, attending private school; no
Occupation	Attorney, school teacher, small business owner, school janitor
Endorsement	Local teachers' union or association; local chamber of commerce; local newspaper; school cafeteria workers' union; no endorsement

Note: Partisan information was presented in random half of match-ups

and also benchmark the effect to the impact of other candidate demographic characteristics. To determine whether the teachers' union effect is driven specifically by teachers' unions or worker organizations more generally, we also include a comparison to an endorsement from the school cafeteria workers' union.

In a recent study, Kirkland and Coppock (2018) suggest that the effect of certain candidate attributes may also depend on whether partisan information is available to voters (also see Burnett and Kogan 2022). This interaction is of particular substantive importance in our context, as several states (including Tennessee) have recently changed their laws to shift from non-partisan to partisan school board elections. So it is important to understand whether the impact of teachers' union endorsements depends on the presence vs. absence of partisan labels on the ballot. To examine this question, half of the match-ups in our experiment randomly included candidate partisanship while half did not.

Figure 2 present the results from the conjoint experiment. Following the usual practice in the literature, we discuss the results in terms of average marginal component effects (ACME) estimated using Ordinary Least Squares regressions, which capture both the di-

rectionality and intensity of voter preferences toward different candidate attributes and correspond to expected changes in share of the votes candidates win in an election.[23] Several results jump out from the figure. First, we replicate the finding of Atkeson and Hamel (2020) and show that voters strongly prefer school board candidates who are themselves teachers. We add to this finding, however, by showing that voters have *at least* as strong of a preference for candidates who are parents — especially parents of children attending public schools — and candidates endorsed by the local teachers' union. The effects of these three attributes are far larger than others, including candidate gender and race. Second, these findings do not depend on whether voters also receive information about candidate partisanship. The electoral boost of teachers' union endorsements (as well as being a parent or educator) are largely the same across both the partisan and non-partisan conditions. Finally, although voters also appear to prefer candidates endorsed by chambers of commerce, local newspapers, and cafeteria workers' unions, the effect of teachers' union endorsements is larger in absolute terms.[24] Thus, teachers' unions appear to have unique clout in potentially influencing voter behavior.

Figure 3 breaks down the results separately by each respondent's political party, and also includes the ACMEs for candidate partisanship. Consistent with conventional wisdom, we show that voters strongly prefer co-partisan candidates when this information is available to them. Strikingly, however, Democratic voters' preference for teachers' union-endorsed candidates is just as large as their preference for Democratic candidates. Importantly, the effect of teachers' union endorsements remains positive and statistically significant among both self-identified independent and Republican voters, although it is about half as large as the effect we find among Democrats.

[23] For discussion of how ACMEs translate to changes in share of votes won, see Abramson, Kocak and Magazinnik (2022) and Bansak et al. (2023). Standard errors are clustered by respondent.

[24] Although the difference in the effect of the teachers' union endorsement and the cafeteria workers' union endorsement is only statistically significant in the partisan condition.

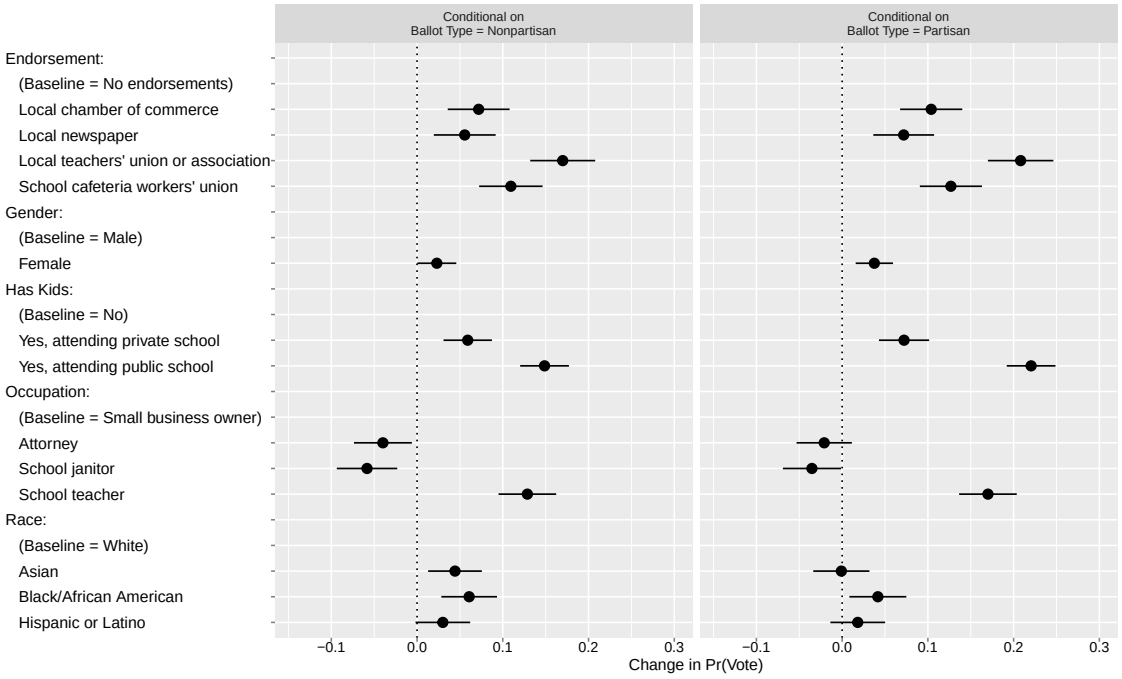


Figure 2: Vote choice in school board candidate match up

In the Supplemental Appendix, we present other breakdowns of possible interest. Overall, we show that the teachers' union endorsement premium is present and of comparable magnitude regardless of whether the respondent has a child in the household and whether the respondents report voting in their local school board elections.

Although all respondents completing the conjoint task were asked about vote choice, we included several additional questions designed to examine the mechanisms. In particular, in some match-ups, we asked which candidate: (1) would be most effective in improving student academic outcomes; (2) most likely to increase teacher salaries; and (3) be most responsive to parents. To limit the length of the survey, each respondent saw only two out of three questions.

For each of these questions, we estimate choice models that control for all of the candidate attributes just as in the vote-choice analysis. In Table 5, we zoom in only on the

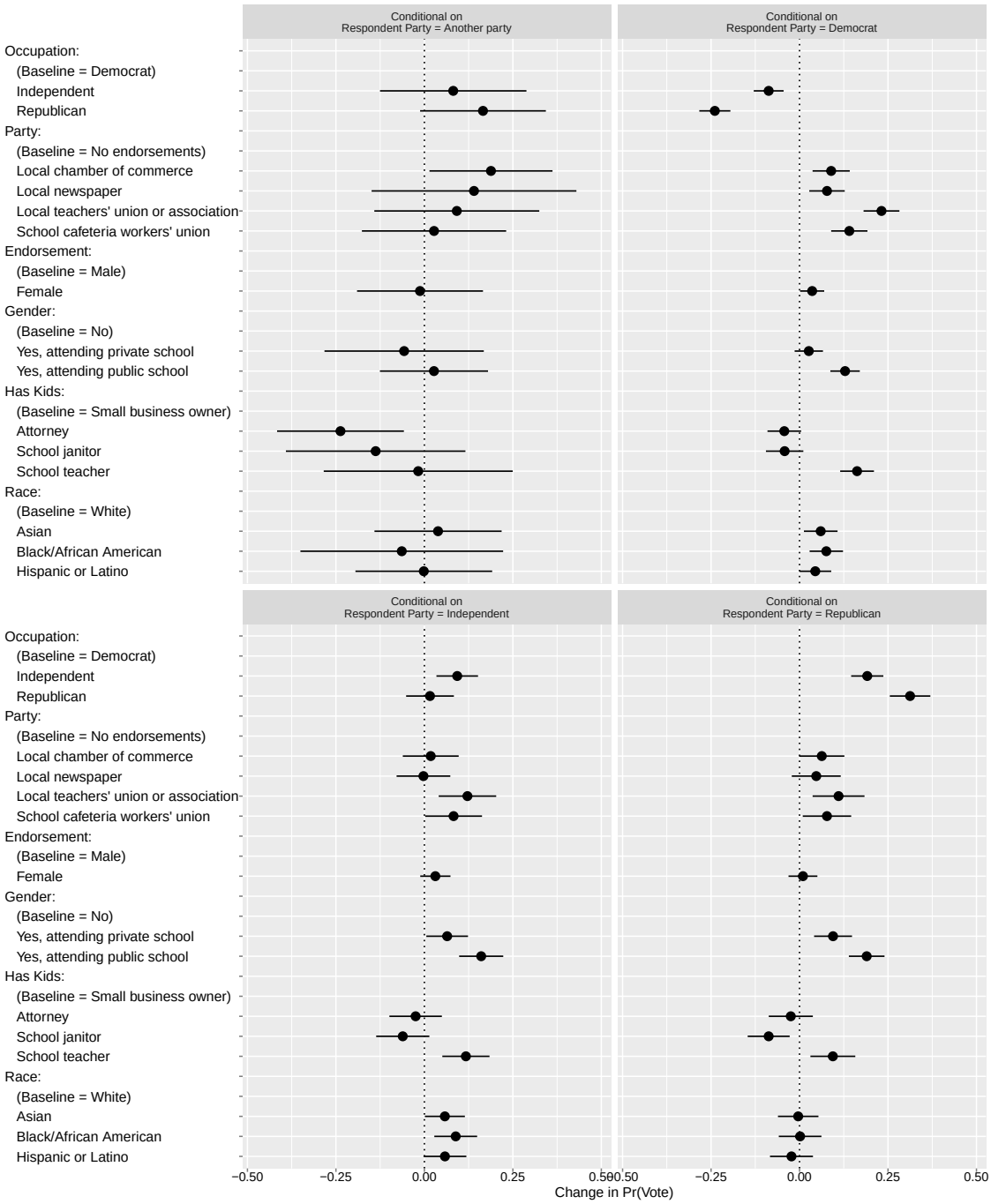


Figure 3: Vote-choice effects of candidate attributes by political party

teachers' union endorsement ACMEs, our primary quantity of interest. The results show that parents view a teachers' union endorsement as a positive signal on *every* dimension of likely candidate performance and behavior in office. Overall, the impact of the endorsement is somewhat larger on whether respondents believe the candidate is likely to increase teacher salaries, although the differences compared to the vote-choice and improving achievement questions are very modest in absolute terms. The impact on believing that the candidate is likely to be responsive to parent preferences is significantly smaller — but nevertheless remains positive and large in absolute terms.

Although we cannot carry out a full mediation analysis, to understand through which candidate perceptions the endorsements increase support among voters, because no respondent answered all four questions, we do have suggestive evidence that beliefs about student achievement play a major role. Statistically accounting for which candidate voters believe is most likely to improve student achievement reduces the teachers' union endorsement ACME from 0.189 to 0.039, although it remains statistically significant.[25] Our interpretation is that voters appear to prefer school board candidates endorsed by their local teachers' unions in large part (but not only) because they view such endorsements as informative signals about the candidates' likely performance in office in terms of improving student academic outcomes.

[25]Controlling for beliefs about increasing teacher salaries and parent responsiveness reduces the endorsement ACME as well, but by smaller amounts.

Table 5: Effect of Teachers' Union Endorsement (ACME) on Candidate Perceptions

	(1) Vote Choice	(2) Improve Achievement	(3) Increase Pay	(4) Parent Responsiveness
Union Endorsement	0.189***	0.176***	0.217***	0.141***
	(0.0137)	(0.0173)	(0.016)	(0.016)
Observations	14,330	14,330	14,330	14,330
R-squared	0.066	0.070	0.064	0.070
Other Attributes	Yes	Yes	Yes	Yes

Robust standard errors clustered by respondent in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Who Gets Endorsed?

In our two experimental studies, we showed that teacher-union endorsements positively affect voter beliefs about school board candidates. These beliefs, in turn, help explain why the endorsement boosts these candidates' electoral prospects. In our final study, we shift gears to evaluate how voters' beliefs about union-endorsed candidates compare to the actual considerations that drive union endorsement decisions. To carry out this analysis, we draw on an original data set of teachers' union endorsements across the large and diverse state of California. These data include endorsements issued in nearly 2,500 local school board contests held annually between 1998 and 2022.[26]

The process of gathering union endorsement data required triangulating from several different sources. We began by consulting Board of Directors Reports from the state's largest teachers' union, the California Teachers Association (CTA). These reports provide the names of candidates who received financial support from the union's political action committee (PAC). We also looked at county-level campaign finance reports tracking CTA affiliates' expenditures in local school board races. Next, we drew on the California League of Women Voters' "Smart Voter" database, a web site where candidates self-report their endorsements. Third, we examined news stories related to school board elections using several databases with coverage of local California newspapers archives (e.g., Newsbank, LexisNexis, Newspapers.com). Finally, we visited both the websites and social media pages (e.g., Facebook, Twitter) of teachers' union locals and of individual school board candidates.

Using these various approach, we identified 4,269 separate endorsements conferred on

[26] We focus on regular elections held in November (which represent 92 percent of all elections in our sample). We do so to ensure consistency in the availability and application of information like student achievement and teacher pay on teacher endorsement decisions as these metrics are generally released/negotiated in the summer (before November elections). However, our findings do not depend on this modeling decision.

3,472 unique individuals running in 2,482 elections in 465 different school districts. It is notable that these 465 districts — while by no means perfectly representative of California districts as a whole — collectively account for half of school districts in California. In total, the elections where we could identify any union endorsements represent about a third of all regular school board elections that were contested annually in California between 1998 and 2022, according to elections data collected by the California Elections Data Archive (CEDA) at the Institute for Social Research at Sacramento State University.

In most of our of our analyses, and all of the results reported below, we aggregate the individual-level endorsement information to the district-by-election level. Importantly, we focus on the subset of districts where we observe union endorsement activity across multiple election cycles. This panel approach allows us to model within-district change in our key explanatory variables of interest, holding constant district-level unobservable characteristics and thus allowing us to more credibly identify the causal processes that influence union endorsement decisions.

It is important to acknowledge that our data can only speak to the factors that drive teacher-union endorsement decisions in the subset of school districts where unions are (1) sufficiently active to make endorsements and (2) where we are able to identify their electoral activity. To be clear, there is no doubt that we are missing information for some elections where such endorsements were made. For obvious reasons, missing data is generally more of a problem in very small (and especially geographically rural) school districts where local newspapers either do not exist or do not have sufficient reporting capacity to cover interest group endorsements in local elections. For these (and other) reasons, it is important to examine the representatives of our sample of districts before turning to the core analysis.

Table A3 in the Supplemental Appendix presents descriptive statistics that compare the demographic (district-level) characteristics of our sample — cases for which we observe

union endorsements — with the remaining districts. We also show district-level differences on key explanatory variables that will appear in our analysis. The first column shows the characteristics of those school districts for which we do not observe any union endorsement activity (i.e., these districts are not included in any of our subsequent analyses). The second column reports the same information for districts where we could identify union endorsements for at one or more election cycles. Finally, the last column, focuses on our preferred sample: districts where we observe union electioneering quite regularly (during at least two cycles).

As expected, our samples are not perfectly representative of California districts on the whole. For example, we are much less likely to observe electioneering in small and geographically rural districts (e.g., fewer than 1,000 students). Districts in our sample tend to be larger, more Democratic, and more racially diverse. Consistent with being larger and more urban, they also employ more staff and pay higher salaries. On one hand, these differences surely limit our ability to generalize our findings to very small rural school districts. However, the districts that do make it into our analyses — those where unions consistently make endorsements from one election cycle to the next — serve between 77 percent and 88 percent of students in California. In other words, the districts we cannot generalize to educate just 1 in 10 of the state's public school students.

Modeling Endorsement Decisions

The scholarly literature on teachers' unions commonly portrays them as either rent-seeking organizations that narrowly pursue their own self-interest (Moe 2011) or as advocates for the common good of all education stakeholders (Kahlenberg and Greene 2012, Lavery 2020). Of course, depending on the nature of the policy issue at hand, unions may engage in broader advocacy that furthers the interests of both their members and the broader

public (see, e.g., Lyon 2023). While we do not have sufficient space here to address all of the nuanced perspectives in this often-contentious debate, some unique properties of the data we have gathered on union endorsements can help shed light on the core question at hand. As we found in the conjoint experiment, voters believe that union-endorsed candidates are more likely to improve student achievement and teacher salaries, making union support akin to a valence issue. But does this pattern carry over into union behavior when they choose who to endorse? In other words, do unions focus on valence issues of sociotropic concern or are they more prone to be guided by self-interest? Our data are well suited to speak to this question.

A straightforward test of the rent-seeking hypothesis (Hoxby 1996) is to carefully examine whether unions support or oppose incumbent board members based on the pocketbook concerns of their members. To probe this possibility, we examine patterns of union support for incumbents seeking reelection alongside changes in teacher salaries within school districts over time. Since the late 1990s, the California Department of Education has collected information on district salary schedules via Form J-90. When combined with the union endorsement dataset, we build a panel that links information on union support for incumbents with information on changes in teacher salaries and student achievement in those incumbents' districts

A reasonable way to assess how well school board incumbents have served the common good is by looking at how endorsement decisions are influenced by changes in student academic outcomes. Since levels of student achievement tend to be influenced by a host of socioeconomic factors that are beyond the control of elected school board members, focusing on changes in achievement over time — the degree to which students improve from one year to the next — provides a more useful way to isolate school district performance and aspects of achievement plausibly related to policy decisions made by local boards. We include

multiple measures of student achievement in the analyses that follow, examining growth on the state's high-stakes accountability ratings, district math and English/language arts proficiency rates, and improvements in raw scaled scores (which we standardize across districts to have a mean of zero and standard deviation of one in each year).[27]

Following Payson (2017), we analyze a panel of district-year endorsement outcomes for incumbent school board members seeking reelection. Specifically, we focus on the proportion of incumbents that the local union endorses for reelection in each district during a particular election cycle. In our models, we regress the percentage of incumbents endorsed by the union on the natural log of teacher salaries and student academic outcomes in the acaemic year immediately prior to the election (ensuring these data are public, available, and politically digested before November elections).[28]

In our analysis, we estimate a model that includes both district and calendar year fixed-effects. Specifically, we regress the proportion of incumbents who receive the local union's endorsement on teacher salaries, focusing on the log of the highest salaries listed in salary schedules.[29] The year fixed-effects should account for common fiscal shocks, such as recessions and changes in state funding, that likely affect the resources districts have available to allocate to salaries, allowing us to isolate the discretionary portion of the compensation changes. We also control for changes in the number of teachers (measured

[27]Some measures of performance, such as proficiency rates, may be particularly salient to voters but may also suffer from technical shortcomings that make them less-than-ideal measures of actual achievement changes (see, e.g., Ho 2008). Thus, it is possible that teachers and their unions, who may have more expertise on the underlying psychometrics, focus on measures that are less salient to voters. We examine every possible alternative measure and show our null results are not driven by our choice of metric.

[28]The coefficient on logged salaries can be interpreted as the effect of a percent change.

[29]In all of the results shown here, we focus on maximum salaries (for senior teachers). However, we have also examined other salaries, including for beginning teachers. Including both measures introduces too much collinearity. Including them separately shows that, on balance, salaries for more senior teachers generate much stronger and more consistent union support for incumbents. Finally, we also estimated a model that using NCES school finance data measuring the share of non-capital district expenditures that go toward teacher compensation. This measure performs similarly to our salary measures from the J-90 data.

in full-time equivalents). To examine academic outcomes, we first follow Payson (2017) and focus on the growth in the district's Academic Performance Index (API), a highly salient numerical score publicized by the state. Due to changes in state accountability systems, however, the API growth measure is available only through 2012, so the analysis that focuses on API covers the subset of the panel during which the API measure was used. To broaden the sample, and consider multiple measures of student achievement, we also present models that use two other academic outcomes: district proficiency scores in mathematics and ELA and standardized scaled scores, as proficiency cut points change over time. Finally, to account for potentially strategic candidate retirement decisions, we control for the share of incumbents who choose to stand for reelection.[30]

Table 6 presents the results. The first model focuses only on the salary measure. It shows that incumbents are more likely to receive the local teachers' union endorsement when salaries for the most senior teachers have increased during their time on the board. Since the dependent variable in the model is a proportion while salaries are measured in logs, the point estimate is difficult to interpret in substantive terms. For an average district, the effect size corresponds to a 10 percentage point increase in the share of incumbents endorsed for a 10 percent increase in top-of-the-scale salaries.[31] In subsequent columns, we add the different academic performance indicators previously discussed. Although the sample is reduced significantly for API measures (columns 3 and 4), salary increases continue to strongly predict endorsement decisions. In none of these models, however, is the coefficient on student academic outcomes in the district under an incumbent's watch statistically significant or substantively meaningful. That is, there is very little evidence suggesting that academic improvement shapes union evaluations of school board candidates asking

[30] One concern is that incumbents who may expect to lose the union's endorsement may retire instead of running. Controlling for retirement addresses this form of selection.

[31] Although a 10 percent increase may seem large, it represents the *cumulative* increase over a four-year term, including compounding. So this strikes us as a plausible counterfactual.

for more time on the board (in contrast to the beliefs of voters).

To examine the robustness of our main finding, we carry out several additional tests in various tables presented in the Supplemental Appendix. First, in Table A4, we replicate the analyses presented above, but focus on the subset of districts where we have (at least) three election cycles in the panel. Doing so increases our point estimates on salaries. Meanwhile, our null findings for student achievement persist, with the exception of a single model (English proficiency scores). However, even that lone exception (which we observe in just 1 of 18 separate "horse race" models, about what we would expect due to chance alone) produces substantive effects for academic outcomes that are half as large as top-of-the-scale salaries.

Since it is likely that incumbents running for reelection from the same district often support different policies during their tenure, evaluating union priorities by looking at the proportion of incumbents receiving union support may obscure these relationships. For example, if we observe stagnant teacher salaries during a given electoral cycle, some of the incumbents running may have fought (and lost) to increase those salaries. Since we cannot measure the effort and influence of each individual candidate on the district-level outcomes that occur under their watch, it is worth examining the subset of election cycles where the local union endorses all the incumbents seeking reelection. To that end, the analyses in Table A5 examines a dichotomous dependent variable that measures whether unions supported all incumbents seeking reelection, or not. This more cautious modelling approach strengthens the overall results for salaries and has no meaningful effect on academic outcomes.

Next, in Table A6, we perform a placebo test like the one undertaken by Anzia (2011), replacing teacher salaries with superintendent salaries. The logic here is straightforward. If some unobserved confounder correlated with changes in teacher salaries is driving union

Table 6: Predicting Proportion of Incumbents Receiving Union Endorsement

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4	(5) Model 5	(6) Model 6
% Incumbents Running	0.0846	0.0975	0.0674	0.0633	0.0390	0.0415
	(0.0814)	(0.0830)	(0.120)	(0.120)	(0.0823)	(0.0821)
Max. Salary (log)	1.016*	1.073**	3.845***	3.803***	1.288***	1.292***
	(0.529)	(0.525)	(1.115)	(1.132)	(0.481)	(0.480)
Teacher FTE (log)	0.0609	0.0457	-0.151	-0.164	-0.0136	-0.0147
	(0.185)	(0.190)	(0.399)	(0.392)	(0.176)	(0.177)
ELA Scaled Scores (std.)	0.0648					
	(0.0700)					
Math Scaled Scores (std.)		0.0972				
		(0.0686)				
API Score			0.00135			
			(0.00179)			
API Growth				0.000632		
				(0.00372)		
English Proficiency (%)					0.00639	
					(0.00450)	
Math Proficiency (%)						0.00541
						(0.00394)
Observations	778	733	365	365	804	804
R-squared	0.414	0.415	0.522	0.521	0.439	0.438
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by district in parentheses
*** p<0.01, ** p<0.05, * p<0.1

support for incumbents, we might expect to see the same correlation between other (non-teacher) district compensation and endorsements. However, since teachers' unions are not directly concerned with administrator pay, we should not observe the same relationship between superintendent pay increases and union electioneering on behalf of incumbents absent confounders. The results of our placebo tests confirm this expectation, with none of the coefficients on superintendent salaries significantly predicting union support for in-

cumbents. Teacher salaries continue to matter in these models.

Finally, in Table A7, we leverage one especially unique property of our panel data set. Specifically, we analyze union support for the same candidates who run as incumbents over multiple election cycles. Adding in candidate-specific (in place of school district) fixed effects, we find that top-of-the-scale salary increases continue to predict whether unions step up to provide (or withdraw previously given) support for the very same candidate across multiple elections cycles. Taken together with our within-district findings, the relationship that we observe between teacher salaries and support for incumbents is exceptionally robust.

Conclusion

To summarize, our study makes two new contributions. First, we show that teachers' union endorsements improve candidate electoral success in part due to their value as cues for voters, who increase their support for teacher-preferred candidates in response to endorsement information. These effects are quite large, rivaling the importance of candidate partisan affiliation among Democratic voters. Importantly, we find the effects are asymmetric — increasing support among subgroups with positive view of teachers and labor unions without reducing support among other voters. Second, we find that union endorsement decisions are driven by self-interested pecuniary considerations and not by incumbent performance in improving student academic outcomes. To conclude, we briefly consider the implications of these findings in light of the existing literature.

As we note in the introduction, these findings have broader implications and reveal how other interest groups held in high esteem by the general public (e.g., doctors) influence the democratic process. The results suggest that different groups may pursue different strategies to influence the political process — selecting a different mix of ex ante electioneering

vs. ex post lobbying efforts — and this variation may depend on a group's reputational capital among the broader electorate. For groups held in high esteem, preserving such capital may serve an important goal in and of itself, to maximize long-term political influence, and this may limit blatant or salient rent seeking and other behaviors that could impose significant reputational costs.

Our findings also have important implications for ongoing policy debates, including proposals to reform local elections. Some scholars and policy advocates have argued that moving school board elections to be held on-cycle, in November of even years, could reduce the political and policy influence of teachers unions (e.g., Anzia 2011). However, these recommendations are based on accounts of influence in which the votes of teachers themselves play the pivotal role. As we show, however, endorsements also affect the behavior of regular voters and it is possible that moving elections on cycle might actually amplify the power of unions through this alternative channel.

For example, Oliver, Ha and Callen (2012) show that voters who participate in low-turnout, off-cycle elections tend to be better informed about local politics. It is plausible that these voters are less reliant on cues and heuristics such as third-party and interest group endorsements. Consistent with this hypothesis, de Benedictis-Kessner (2018) documents a larger incumbency advantage in local elections when they are held on cycle, which he interprets as evidence that relatively uninformed voters in November even-year elections rely more heavily on incumbency cues. One might worry that marginal voters — who participate during presidential and midterm elections but stay home otherwise — might be particularly influenced by teachers' union endorsements. If this is true, moving elections on-cycle could actually amplify the electoral influence of interest groups whose endorsements influence voter behavior, the opposite of the predictions made by proponents of reforms to election timing.

Although our results suggest that union endorsements can indeed serve as important sources of information for voters and influence how they cast their ballots, it seems unlikely that the effects we document can explain all of the endorsement premium previously found in observational studies. One important divergence between our results and these studies is that we show that union endorsements seem to produce larger effects among Democratic-leaning voters, who have more favorable views of teachers and their unions. By contrast, work by Hartney (2022) shows that union-endorsed school board candidates perform nearly as well across political locales, regardless of the underlying partisanship of the electorate. Thus, increasing voter support appears to be only one mechanism through which teachers' union endorsement can impact local election outcomes, although one largely overlooked in the existing literature.

We conclude by recognizing two limitations. First, although we show that voters believe union-endorsed candidates are more likely to improve student outcomes even though unions do not seem to reward improvements in achievement in their endorsement decisions, we do not directly test the accuracy of voter beliefs. Doing so would require comparing achievement in the years after elections produce as-if random variation in the number of union-endorsed candidates winning office. No such studies exist, to our knowledge, although Shi and Singleton (2023) come the closest. To recap, these authors find no evidence that candidates more likely to be aligned with teachers' unions improve student outcomes. Second, our studies cover a period when opinions regarding education policies and attitudes toward teachers unions were not particularly polarized. As Houston (2022) shows, this is starting to change. It is possible that in the coming years, greater polarization could change the dynamics we document, as appears to have happened with regards to public attitudes toward police union endorsements (Gaudette 2023). As with most empirical regularities in politics, past performance is no guarantee of future results.

References

Abramson, Scott F., Korhan Kocak and Asya Magazinnik. 2022. "What Do We Learn about Voter Preferences from Conjoint Experiments?" *American Journal of Political Science* 66(4):1008–1020.

Anzia, Sarah F. 2011. "Election Timing and the Electoral Influence of Interest Groups." *Journal of Politics* 73(2):412–427.

Atkeson, Lonna Rae and Brian T. Hamel. 2020. "Fit for the Job: Candidate Qualifications and Vote Choice in Low Information Elections." *Political Behavior* 42:59–82.

Bansak, Kirk, Jens Hainmueller, Daniel J. Hopkins and Teppei Yamamoto. 2023. "Using Conjoint Experiments to Analyze Election Outcomes: The Essential Role of the Average Marginal Component Effect." *Political Analysis* .

Berinsky, Adam J., Michele F. Margolis and Michael W. Sances. 2014. "Separating the Shirkers from the Workers? Making Sure Respondents Pay Attention on Self-Administered Surveys." *American Journal of Political Science* 58:739–753.

Broockman, David E., Aaron R. Kaufman and Gabriel S. Lenz. 2023. "Heuristic Projection: Why Interest Group Cues May Fail to Help Citizens Hold Politicians Accountable." *British Journal of Political Science* .

Burnett, Craig M. and Vladimir Kogan. 2022. "Do Nonpartisan Ballots Racialize Candidate Evaluations? Evidence from "Who Said What?" experiments." *Party Politics* 28:541–553.

Chetty, Raj, John Friedman and Jonah E. Rockoff. 2014. "Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood." *American Economic Review* 104(9):2633–2679.

de Benedictis-Kessner, Justin. 2018. "Unions and the Public Interest: Is Collective Bargaining for Teachers Good for Students?" *Journal of Politics* 82:460–475.

Gaudette, Jennifer. 2023. "Ideological Polarization in Police Union Politics." University of California, San Diego, working paper.
URL: *https://shorturl.at/qNOZ1*

Hainmueller, Jens, Daniel J. Hopkins and Teppei Yamamoto. 2014. "Causal Inference in Conjoint Analysis: Understanding Multidimensional Choices via Stated Preference Experiments." *Political Analysis* 22:1–30.

Hanushek, Eric A. and Ludger Woessmann. 2010. Education and Economic Growth. In *Economics of Education*, ed. Dominic J. Brewer and Patrick J. McEwan. Amsterdam: Elsevier pp. 60–67.

Hartney, Michael T. 2022. *How Policies Make Interest Groups.* Chicago: University of Chicago Press.

Hartney, Michael T. and Leslie K. Finger. 2022. "Politics, Markets, and Pandemics: Public Education's Response to COVID-19." *Perspectives on Politics* 20(2):457–473.

Ho, Andrew Dean. 2008. "The Problem With 'Proficiency': Limitations of Statistics and Policy Under No Child Left Behind." *Educational Researcher* 37(6):351–360.

Houston, David. 2022. "Polarization, Partisan Sorting, and the Politics of Education.". **URL:** *https://www.edworkingpapers.com/ai22-690*

Hoxby, Caroline Minter. 1996. "How Teachers' Unions Affect Education Production." *Quarterly Journal of Economics* 111:671–718.

Kahlenberg, Richard D. and Jay P. Greene. 2012. "Unions and the Public Interest: Is Collective Bargaining for Teachers Good for Students?" *Education Next* 12:60–68.

Kirkland, Patricia A. and Alexander Coppock. 2018. "Candidate Choice Without Party Labels: New Insights from Conjoint Survey Experiments." *Political Behavior* 40:571–591.

Kogan, Vladimir, Stéphane Lavertu and Zachary Peskowitz. 2018. "Election Timing, Electorate Composition, and Policy Outcomes: Evidence from School Districts." *American Journal of Political Science* 62(3):637–651.

Kogan, Vladimir, Stéphane Lavertu and Zachary Peskowitz. 2021. "The Democratic Deficit in U.S. Education Governance." *American Political Science Review* 115(3):1082–1089.

Krebs, Timothy B. 1998. "The Determinants of Candidates' Vote Share and the Advantages of Incumbency in City Council Elections." *American Journal of Political Science* 42(3):921–935.

Lavery, Lesley. 2020. *A Collective Pursuit: Teachers' Unions and Education Reform.* Philadelphia: Temple University Press.

Lupia, Arthur. 1994. "Shortcuts Versus Encyclopedias: Information and Voting Behavior in California Insurance Reform Elections." *American Political Science Review* 88(1):63–76.

Lupia, Arthur and Mathew D. McCubbins. 1998. *The Democratic Dilemma: Can Citizens Learn What They Need to Know?* Cambridge: Cambridge University Press.

Lyon, Melissa Arnold. 2023. "Current Perspectives on Teacher Unionization, and What They're Missing." *Educational Policy* 37(5):1420–1443.

Mechanic, David. 2004. "In My Chosen Doctor I Trust." *British Medical Journal* 329(7480):1418–1419.

Moe, Terry M. 2006. "Political Control and the Power of the Agent." *Journal of Law, Economics, and Organization* 22(1):1–29.

Moe, Terry M. 2011. *Special Interest: Teachers Unions and America's Public Schools*. Washington, DC: Brookings Institution Press.

Oliver, J. Eric, Shang E. Ha and Zachary Callen. 2012. *Local Elections and the Politics of Small-Scale Democracy*. Princeton: Princeton University Press.

Patashnik, Eric M., Alan S. Gerber and Conor M. Dowling. 2017. *Unhealthy Politics: The Battle Over Evidence-Based Medicine*. Princeton: Princeton University Press.

Payson, Julia A. 2017. "When Are Local Incumbents Held Accountable for Government Performance? Evidence from US School Districts." *Legislative Studies Quarterly* 42(3):421–448.

Shi, Ying and John D. Singleton. 2023. "School Boards and Education Production: Evidence from Randomized Ballot Order." *American Economic Journal: Economic Policy* 15:438–472.

Strunk, Katharine O. and Jason A. Grissom. 2010. "Do Strong Unions Shape District Policies?: Collective Bargaining, Teacher Contract Restrictiveness, and the Political Power of Teachers' Unions." *Educational Evaluation and Policy Analysis* 32(3):389–406.

Trounstine, Jessica. 2011. "Evidence of a Local Incumbency Advantage." *Legislative Studies Quarterly* 36:255–280.

Tyler, Matthew, Justin Grimmer and Sean J. Westwood. 2023. "A Statistical Framework to Engage the Problem of Disengaged Survey Respondents." Stanford University Working Paper.
URL: *https://www.dropbox.com/s/m86g05zl57g36an/The_Dangers_of_Disengaged_Respondents.pdf?dl=0*

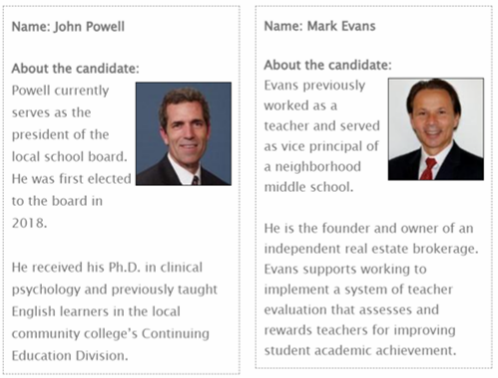
Appendix for "The Politics of Teachers Union Endorsements"

Supplemental Appendix

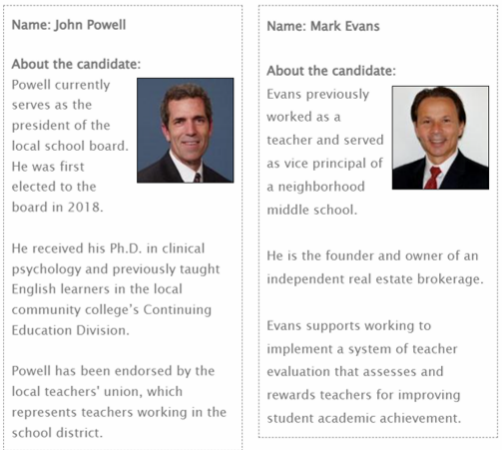
Table A1: Additional Analyses for Study 1

	Turnout		Vote Choice		
	District A	District E	District A	District E	Respondent FE
Endorsement	-0.0631***	-0.00629	0.0732***	0.0501**	0.0734***
	(0.0179)	(0.0183)	(0.0241)	(0.0240)	(0.0176)
Observations	2,210	2,233	1,700	1,681	3,381
R-squared	0.006	0.000	0.005	0.003	0.015

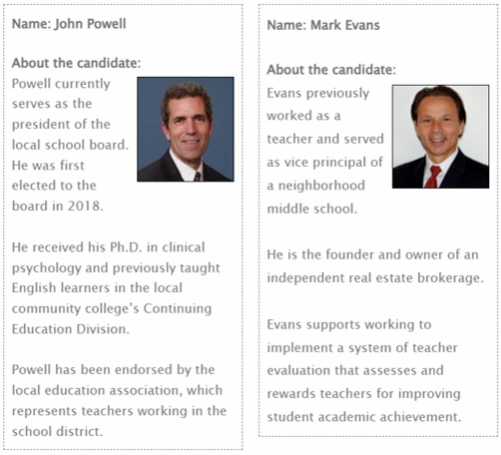
Standard errors in parentheses, clustered by respondent in last specification
*** p<0.01, ** p<0.05, * p<0.1



(a) Control Biography



(b) Endorsement Biography Version 1



(c) Endorsement Biography Version 2

Figure A1: Endorsement cues used in 2023 national replication survey

Table A2: National Replication of Endorsement Effects by Partisanship

	(1) Model 1
Union Endorsement	0.0788*
	(0.0472)
Association Endorsement	0.0792
	(0.0491)
Union * Independent	0.0745
	(0.0816)
Union * Republican	-0.0520
	(0.0750)
Association * Independent	0.0218
	(0.0838)
Association * Republican	-0.0518
	(0.0760)
Observations	1,405
R-squared	0.020

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

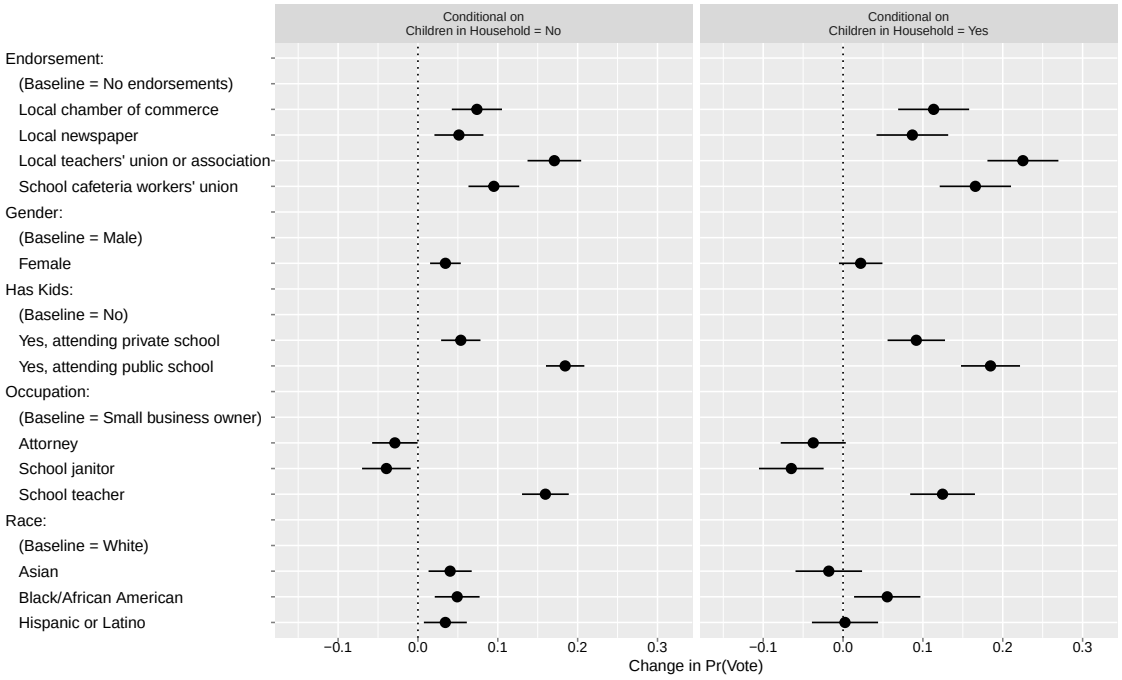


Figure A2: Vote-choice effects of candidate attributes by whether respondent has child in household

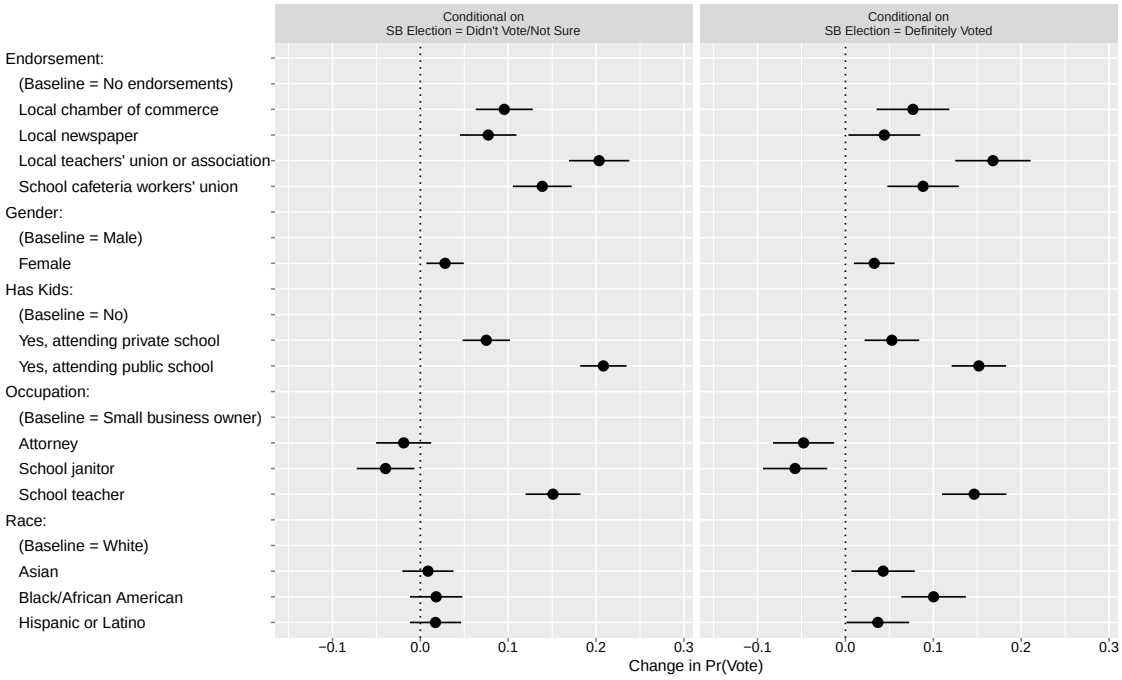


Figure A3: Vote-choice effects of candidate attributes by whether respondent voted in the previous school board election

Table A3: Descriptive Statistics on Sample of Districts Included in Union Endorsement Analysis

Sample Inclusion	Not in sample	1 or more elections	2 or more elections
Enrollment (thousands)	1.40	10.41	14.21
Percent White	0.43	0.28	0.24
Child Poverty	0.19	0.15	0.14
Trump Vote (2020)	0.52	0.39	0.36
Math Proficient	55.66	58.83	59.58
ELA Proficient	54.55	57.24	57.76
Teacher Salary (log)	0.50	0.52	0.52
Min Pay	38,997.34	41,315.50	41,619.92
Max Pay	73,356.82	83,830.37	85,964.27
FTE	79.41	581.98	782.75
Superintendent Salary	112,679.89	175,705.64	190,189.51
N (Districts)	548	465	291
Share of students	12%	88%	77%

Table A4: Predicting Proportion of Incumbents Receiving Union Endorsement

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4	(5) Model 5	(6) Model 6
% Incumbents Running	0.0885	0.103	0.0825	0.0747	0.0619	0.0595
	(0.0838)	(0.0856)	(0.124)	(0.124)	(0.0848)	(0.0850)
Max. Salary (log)	1.092**	1.154**	4.047***	3.980***	1.423***	1.407***
	(0.552)	(0.549)	(1.151)	(1.179)	(0.499)	(0.501)
Teacher FTE (log)	0.0333	0.0200	-0.166	-0.184	-0.0390	-0.0335
	(0.186)	(0.190)	(0.400)	(0.391)	(0.178)	(0.179)
ELA Scaled Scores (std.)	0.0650					
	(0.0715)					
Math Scaled Scores (std.)		0.0945				
		(0.0706)				
API Score			0.00223			
			(0.00179)			
API Growth				0.000911		
				(0.00373)		
English Proficiency (%)					0.00806*	
					(0.00459)	
Math Proficiency (%)						0.00490
						(0.00404)
Observations	728	685	355	355	750	750
R-squared	0.411	0.410	0.523	0.520	0.432	0.430
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by district in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A5: Predicting Union Endorsement of All Incumbents

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4	(5) Model 5	(6) Model 6
% Incumbents Running	-0.264***	-0.269***	-0.351***	-0.358***	-0.294***	-0.291***
	(0.0900)	(0.0944)	(0.127)	(0.127)	(0.0894)	(0.0887)
Max. Salary (log)	1.272**	1.273**	4.067***	4.006***	1.247**	1.255**
	(0.609)	(0.611)	(1.339)	(1.366)	(0.590)	(0.587)
Teacher FTE (log)	0.104	0.111	-0.0158	-0.0382	0.0670	0.0594
	(0.225)	(0.233)	(0.441)	(0.436)	(0.212)	(0.212)
ELA Scaled Scores (std.)	0.0742					
	(0.0860)					
Math Scaled Scores (std.)		0.115				
		(0.0804)				
API Score			0.00170			
			(0.00232)			
API Growth				0.00147		
				(0.00402)		
English Proficiency (%)					0.00370	
					(0.00525)	
Math Proficiency (%)						0.00459
						(0.00419)
Observations	778	733	365	365	804	804
R-squared	0.401	0.402	0.533	0.533	0.418	0.418
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by district in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A6: Placebo Test: Superintendent Salary Doesn't Predict Union Endorsements

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3
% Incumbents Running	-0.0104	-0.0111	-9.48e-05
	(0.0652)	(0.0654)	(0.0677)
Sup. Salary (log)	0.202	0.140	0.208
	(0.174)	(0.174)	(0.181)
Max. Salary (log)		0.801**	0.917**
		(0.392)	(0.403)
Teacher FTE (log)			-0.0416
			(0.129)
Observations	1,138	1,138	1,022
R-squared	0.395	0.398	0.385
District FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Sample	Full	Full	Balanced

Robust standard errors clustered by district in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A7: Union Endorsements with Individual Candidate Fixed Effects

VARIABLES	(1) Model 1
Max. Salary (log)	0.910*
	(0.531)
Candidates per Open Seat	-0.0364
	(0.0324)
Observations	895
R-squared	0.661
Candidate FE	Yes
Year FE	Yes

Robust standard errors clustered by candidate in parentheses
*** p<0.01, ** p<0.05, * p<0.1