Teacher Strikes and the Demobilization of Republican Voters

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Abstract

Protests can mobilize both supporters and opponents. Extant research suggests that disruptive protests are particularly likely to mobilize opponents, yet strikes—one of the most disruptive forms of protest—have been largely absent from this literature. We use an original dataset of 716 teacher strikes from 2007-2020 to examine the causal effects of teacher strikes on political participation. Contrary to existing theories of protest mobilization, we find that teacher strikes decrease voter turnout, with a substantially larger effect among Republicans than Democrats. Strikes decrease Republican turnout by 3 percentage points, on average, while they reduce Democratic turnout by 1 percentage point. We further show how the effect varies depending on the parental status and across different types of elections. Additionally, we find that the proximity and duration of strikes also matter, with closer or longer strikes having a more significant demobilizing effect. These effects are driven by decreased support for teacher demands and reduced political efficacy. Our findings reveal that different forms of protest action may produce distinct patterns of political behavior, suggesting the need to expand theories of protest beyond their present focus on inspiring third party mobilization.

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Introduction

Strikes are inherently political. Strikes are, like all forms of protest, "political action oriented toward objection to one or more policies or conditions, characterized by showmanship or display of an unconventional nature, and undertaken to obtain rewards from political or economic systems while working within the systems" (Lipsky 1968: 1145). The "showmanship" has the capacity to "expand the scope of conflict" by providing a powerful signal that draws in allies, discourages adversaries, or motivates foes that might not have otherwise engaged with the issues at the center of the strike or protest action (Schattschneider 1960). The potential for opposition is key—these actions are costly endeavors that disrupt the daily lives of local residents and risk irritating members of the public who are not the targets of the protest but are nevertheless affected (Gourevitch 2018). Protestors must capture public attention and gain public support (Lipsky 1968), but their disruptive, attention-grabbing actions may provoke backlash.

A small but growing literature has provided empirical evidence regarding this dilemma, finding that protests inspire political mobilization amongst both allies and opponents, depending on the study. Some find that protestors' issues receive more support and their partisan allies benefit in subsequent elections (Gillion and Soule 2018; Madestam et al. 2013). Yet the degree of disruption and violence may impact whether protestor allies or opponents benefit at the ballot box. Wasow (2020) shows that more peaceful civil rights protests helped Democrats while more violent protests paid off for Republicans. In contrast, Enos, Kaufman, and Sands (2019) find that the violent LA Riots did *not* have a negative effect, instead increasing turnout and support for policy issues benefitting protestors. While there is disagreement on the impact of disruptive protest actions, there is consensus that they inspire political participation, whether for or against protestors' interests.

Strikes, one disruptive form of protest, have not been addressed in this literature, despite their potential for expanding our understanding of protest. Historical accounts of teacher strikes in the 1960s and 70s demonstrate that they led to backlash in the form of state-level strike bans, though such bans were typically enacted alongside expansions of collective bargaining rights (Hertel-Fernandez 2022; Anzia and Moe 2016; Paglayan 2019; Shelton 2017). Indeed, the labor movement has repeatedly faced the tension of "balancing the need for aggressive workplace actions that can…secure changes in public policy against the risk of public backlash" (Hertel-Fernandez 2022: 109). Public sector strikes are particularly inconvenient to daily life because "third parties"—those who are not the targets of protest but nevertheless affected (Lipsky 1968)—rely on halted services that are funded by taxpayer dollars. The protest scholarship suggests that due to their disruptiveness, such actions would increase political participation by mobilizing voters in support and/or opposition to striking workers. Yet, another possibility that has not been explored is that such actions could *demobilize* third parties. This is because such actions may provide a sense that voting makes no difference because changes require more dramatic efforts and/or that established special interests get their way regardless of who is in office (Hibbing and Theiss-Morse 2002).

In this paper, we use contemporary teacher strikes to examine the impact of strikes on political participation. Teacher strikes are an ideal case because teachers are important to society at large and to the U.S. labor movement specifically. Teachers comprise 37% of public sector union members in the US and 18% of all union members (Hirsch et al. 2024), and they are often used as a case to understand public sector unions generally (Finger 2019; 2018; Hartney and Flavin 2011; Finger and Hartney 2019; Flavin and Hartney 2015; M. A. Lyon and Kraft 2024; M. A. Lyon et al. 2022; Moe 2005; 2006; 2009; Anzia and Moe 2016; Paglayan 2019; Hertel-

Fernandez et al. 2021). Teacher strikes are also a "most likely" case for strikes that may affect political behavior because they are highly salient. They shut down public schools, directly impacting not just their direct clients–children–but also parents, potentially leading to a multiplier, long-term effect where whole communities might be impacted and consequences could unfold overtime as children reach voting age. Moreover, teacher unions are among the most powerful unions, and individual teachers are among the most sympathetic figures (Moe 2011). Both could mean their strikes receive a higher degree of the attention among the media and politicians than would other kinds of strikes. For these reasons, we would have good reason to expect that, of the various types of strikes, teacher strikes would impact political participation.

We use an original, hand-collected dataset of 716 teacher strikes from 2007-2020. This data collection process relied primarily on a systematic review of roughly 90,000 news articles uncovered through Boolean searches on ProQuest and Google. We combine these data with both county-by-year-level turnout and vote share data from the National Neighborhood Data Archive (NaNDA) and individual-level turnout and public opinion data from the Cumulative Cooperative Election Study (CCES). We use a modified differences-in-differences (DiD) approach leveraging the variation in strikes across counties and over time to analyze the causal effects of strikes on political participation. The county is an ideal unit of analysis, as school district boundaries are often defined at the county level. Additionally, residents within the same county are exposed to similar media effects because counties are nested within media markets. We also conduct analyses at the zip code level where we find even larger impacts. Additionally, we demonstrate that results are consistent in an extensive series of robustness checks, including analyses that account for methodological concerns related to staggered treatment timing, time-varying

covariates, multiple events, the large-scale teacher strikes in 2018 and 2019, and various sample restrictions using both NaNDA and CCES data.

We find that, contrary to what the protest literature would predict, teacher strikes lead to *decreases* in voter turnout, with effects concentrated among Republicans. Strikes decrease Democratic voter turnout by 1 percentage point and Republican turnout by roughly 3 percentage points, on average. The effect on Republicans represents a 7% reduction in overall turnout, relative to a baseline mean of 51%. Effects are even larger for Republican parents, who are 5 percentage points less likely to vote in any general election as a result of strikes and 8 percentage points less likely to vote in midterms. We also find that strikes reduce turnout for Democratic parents by 2 percentage points, but turnout among Democratic, non-parents does not meaningfully decline. Proximity and strike duration also matter; the demobilizing effect of strikes is primarily driven by close strikes and those lasting 6-10 days. Further analyses point to decreased support for teacher demands and political efficacy as likely mechanisms.

This study contributes new knowledge on the nuanced ways that protests affect politics. Protestors face a dilemma in that they need to capture the attention and the support of the public (Lipsky 1968), but in order to capture attention, protests may require violence or disruption that loses them support (Gourevitch 2018; Hertel-Fernandez 2022). Our study offers new insight by applying theories from the literature on protest to strikes, a form of protest that has not been examined empirically in the protest literature. Based on prior research, we might expect teacher strikes to spur mobilization amongst either supporters or opponents (Enos et al. 2019; Gillion and Soule 2018; Wasow 2020; Hertel-Fernandez et al. 2021; M. A. Lyon and Kraft 2024; M. A. Lyon et al. 2022; Anzia and Moe 2016; Shelton 2017). Instead, we find that contemporary teacher strikes *demobilize* opponents and those most reliant on the service in question, contrary

to existing theory. These findings point to potential expansions of the disruption theory of protest to account for differential effects depending on the type of disruption.

Theory

How do strikes and other forms of political protest impact the political participation of third parties? We theorize that the influence of strikes on the voting behavior of third parties runs primarily through psychological engagement, meaning people's desire to get involved in politics. Brady, Verba, and Schlozman (1995: 271) articulate that without psychological engagement, individuals are less likely to participate politically because they have, "a lack of interest in politics, minimal concern with public issues, [and] a sense that activity makes no difference." We theorize that strikes and other forms of protests could either increase or decrease third parties' psychological engagement in politics.

Strikes Might Increase Participation

Amongst Supporters

Strikes might provide information that encourages third parties to participate politically (G. Lyon and Schaffner 2021). Gillion (2020: 29) explains that "protest activities can educate the public on the particular details of an issue and unique ways it affects their community." This was the case with the 2006 immigration protests, which made the plight of the undocumented salient, influencing attitudes in their favor (Branton et al. 2015; Carey et al. 2014). Similar effects occurred with the 1992 L.A. Riots (Enos, Kaufman, and Sands 2019) and civil rights protests (Mazumder 2018).

In the case of strikes, the pertinent issues would be those spurring the strike, like poor working conditions, leading third parties to participate in support of these issues. Hertel-Fernandez, Naidu, and Reich (2021) find that parents that experience the mass teacher strikes of

2018 express more support for the striking teachers and for unions. We would expect strikes to provide more information on policy issues to the public where strikes are in the public sector, since the service in contestation is itself a policy area (M. A. Lyon and Kraft 2024). Strikes may also encourage workers in the unit themselves to participate politically as a result of new information about their workforce issues (Hertel-Fernandez 2019), improved civic skills (Francia and Orr 2014; Macdonald 2019; Schlozman 2012; Sojourner 2013; Terriquez 2011), and greater political efficacy (M. A. Lyon et al. 2022).[1] Altogether, this research suggests that strikes might illustrate the plight of those engaged in labor action, leading residents to develop favorable attitudes toward strikers' demands and feel compelled to get involved in politics.

Amongst Opponents

In contrast, strikes could spark political participation amongst opponents through backlash (Patashnik 2023; Gillion 2020). Where third parties are adversely affected by strikers' policy demands, strikes may make these unwelcome demands salient and mobilize third parties. Negative reactions would be compounded by the perception that strikers are undeserving. Public sector workers are sometimes viewed as spoiled, lazy, and overpaid (Cramer 2014; 2016), and the unions that represent them are often are seen as privileged special interests (Schneider and Ingram 1993). That said, teachers and women (who are a large share of teachers) are seen positively, so this might outweigh the negative perception of unions (Schneider and Ingram 1993).

Another way that strikes could spur backlash is through disruption. Wasow (2020) finds that peaceful civil rights protests receive more sympathetic media coverage and higher

[1] We considered but could not investigate this empirically. An industry variable is included in the CCES only beginning in 2011, and it is not specific enough to be useful; teachers are one of many occupations in the "Education Services" industry.

Democratic vote share, while violent protest coincides with the public seeing "social control" as the most important problem in the U.S. and lowers Democratic vote share. In the same vein, Rojas (2006) finds that more disruptive university protests are less likely to have their demands met. Such effects of nonviolent protests are especially evident when the protesters belong to a racial or ethnic in-group (Edwards and Arnon 2021; Manekin and Mitts 2022). For example, studies of the BLM protests show somewhat mixed results: while some find that protests increased Democratic vote share, heightened police unfavorability, and raised perceptions of discrimination against Black Americans (Klein Teeselink and Melios 2025; Reny and Newman 2021), others disagree whether disruption had a positive or negative effect on public opinion toward protestors and their goals (Mclaren and Walker 2024; Shuman et al. 2022), or on political participation at all (Engist and Schafmeister 2022).

Strikes are a particularly disruptive form of protest; in his argument for the right to strike, Gourevitch (2018: 906) points out that strikes are essentially a violation of basic liberties, such as "the property rights of owners and their managers…they threaten the everyday, background sense of public order." Because they directly impact public services that everyone enjoys, we might expect public sector strikes to lead to a higher degree of backlash turnout. The infamous Professional Air Traffic Controllers Organization (PATCO) strike led Reagan to fire 11,000 workers, creating a legacy of strike impotence and managerial dominance that unionized workers have struggled to overcome (McCartin 2013; Patashnik 2023; Massenkoff and Wilmers 2024; Rosenfeld 2006). Similarly, teacher strikes shut down public schools, halting public service delivery resulting in lost custodial care, breakfast and lunch provision, and instructional time, the latter of which can negatively affect student outcomes (Baker 2013; Johnson 2011; Jaume and Willén 2019; M. A. Lyon et al. 2024). However, it is also possible that strikes could elicit

sympathy amongst those predisposed to oppose unions, regardless of their predisposition, dependent on union culture (Hertel-Fernandez 2024b).

Whether through more positive or negative attitudes toward strikers' situation and policy demands, there is reason to believe that witnessing a strike could spur voters to turn out. This leads us to the following hypothesis:

H1: People experiencing strikes will be more likely to turn out to vote than those that do not experience strikes.

The political impact of this participation will depend on whether the turnout is driven by sympathy or backlash. If strikes provoke sympathy, strikes could lead to votes for those that support labor (Democrats) and against politicians that tend not to favor strikers' demands, which in this case would be Republicans (Feigenbaum et al. 2018; West 2008). However, if strikes engender backlash, it would be channeled toward politicians favoring limits on labor (Republicans) and against those supportive of labor (Democrats).

H2a: People experiencing strikes will be more likely to vote for Democrats than those that do not experience strikes.

H2b: People experiencing strikes will be more likely to vote for Republicans than those that do not experience strikes.

Heterogeneous Effects

In both cases—whether through information about workers' plight or through information about workers' disruptiveness or the adverse consequences of their demands—the impact of strikes should be greatest on the people that rely on the strikers' services. In the case of teacher strikes, this would be parents (Hertel-Fernandez et al. 2021).

H1a: The mobilizing effect of strikes on turnout will be greater for those that rely on strikers in comparison to those that do not.

We might also expect the effect of strikes on turnout to depend on the partisanship of third parties. Gillion (2020: 34) explains that in our era of polarization, protests are viewed through ideological lenses. Given the longtime relationship between Democrats and labor, the information provided through strikes may further motivate Democrats to participate politically in support of labor, whereas the inverse is true for Republicans, longtime labor foes. Moreover, coverage of strikes in the media likely looks different in liberal or conservative-leaning outlets, and it is well known that partisan voters get their media from different sources (Allcott and Gentzkow 2017; Gentzkow and Shapiro 2011). Regardless of whether one's partisanship leads them to react to strikes by supporting or opposing labor issues, we would expect self-identified Republicans and Democrats to increase their political participation, relative to those that lack such partisan affiliations.

H1b: The mobilizing effect of strikes on turnout will be greater for Democrats than for non-Democrats.

H1c: The mobilizing effect of strikes on turnout will be greater for Republicans than for non-Republicans

Strikes Might Decrease Participation

In contrast to the above hypotheses, strikes could instead provide information about the political process that decreases political participation. Third parties may witness strikes and conclude that more can be accomplished outside of traditional channels of political participation. Research on electoral institutions finds that people are less likely to vote where they think their votes would be wasted, like in plurality systems where votes for losing candidates are essentially

ignored (Bowler et al. 1994; Karp and Banducci 2008). By vividly illustrating an effective alternative, strikes may exacerbate this sense that efforts are essentially wasted in the voting booth.

Strikes may also provoke disengagement if they are perceived as a private form of policymaking between elites. Institutions that promote political voice, like direct democracy, enhance individuals' sense of political efficacy (Bowler and Donovan 2002; Wolak 2018). Where people feel that their voice is left out of decision-making—as in the case of strike negotiations they are not involved in—they may feel that the system is rigged, and they may be less inclined to participate politically. Specifically, strikes might shape third parties' external efficacy, defined as the feeling that one's representatives listen to them and care what they think[2] (Wolak 2018). More generally, the conflictual, elite nature of politics discourages people from participating politically (Hibbing and Theiss-Morse 2002), and there are few political events as conflictual as strikes.

H3: People experiencing strikes will be less likely to turn out to vote than those that do not experience strikes.

Heterogeneous Effects

As with the mobilizing effect of strikes, the demobilizing effect would be strongest for third parties most directly connected to strikes. People that rely on the services undergoing the strike might feel the most disempowered. For instance, parents who would rather send their kids to school but may feel disenfranchised by what they see as a private conflict between elites; they get no say even though both the service disruption and the matter being negotiated directly affect them.

[2] In contrast to internal efficacy, which has to do with one's feeling that they are capable of participating politically.

H3a: The demobilizing effect of strikes on turnout will be greater for those that rely on strikers in comparison to those that do not.

We would expect the demobilizing effect to be greater for Republicans, who would be more likely to view unions as undeserving elites (Cramer 2016). Republicans tend to have more negative views of labor unions (Pew 2024), and right-wing news sources would be more likely to frame strikes as elite negotiations among workers that are already overpaid, likely further emphasizing that the political system doesn't provide voice for regular people (Kane and Newman 2019).

H3b: The demobilizing effect of strikes on turnout will be greater for Republicans than for non-Republicans.

The Case of Teacher Strikes

Teacher strikes are a valuable case to examine the effects of strikes and other forms of protest on political behavior. They are significant because public sector unions, especially teacher unions, have grown substantially since the 1960s-70s, and education workers now have the highest unionization rates across sectors (Bureau of Labor Statistics 2024). Moreover, teacher unions are politically influential, actively engaging in state and national politics (Hrebenar and Thomas 1993b; 1987; 1993a; Moe 2011).

Second, teacher strikes are a "most likely case" for strikes affecting political behavior. Public school teachers are public sector workers that millions of Americans rely on daily for custodial care and instruction of their children. Unlike some private sector strikes, local communities are probably keenly aware of public sector strikes. Public sector strikes receive significant media coverage, partly to inform residents about the lack of public services. This is probably all the more true for teacher strikes, since they disrupt both the instructional and

custodial functions of public schools. Teacher strikes also focus on demands—such as increasing education spending—that are potentially more likely to resonate with a broad local audience, especially parents, school employees, and other voters with a stake in education administration. If any strikes were to impact political participation among third parties, we would see such effects from teacher strikes.

Finally, teachers are present in every local community in the United States. There are over 14,000 school districts in the United States, and there have been hundreds of teacher strikes over the past 15 years. The substantial variation in teacher strikes across geographies and over time allows us to estimate effects that are generalizable across the United States.

Data

Teacher Strikes

We use an original database of teacher strikes in the United States from July 2007 through 2020. In total, we have documented 716 teacher strikes across 577 unique school districts and 355 counties in 22 states.[3] We define a teacher strike as a teacher-driven work stoppage (legal or illegal) resulting in the closure of at least one school in a school district. To create this dataset, a team of researchers comprised of two of the authors and six additional research assistants reviewed roughly 90,000 news articles over more than three years. The team reviewed: (1) 186 Boolean searches on Google producing over 42,500 news articles, and (2) 50 Boolean ProQuest searches of news documents producing roughly 43,500 news articles. Additionally, we obtained administrative data from Pennsylvania (2007-8 through 2016-17; retrieved through Freedom of Information Requests) and Illinois (2010-2020; retrieved from the Illinois Educational Labor Relations Board Annual Reports), two states where strikes are

[3] Appendix Figure A1 displays the number of strikes each election cycle.

relatively common. We also obtained data on teacher strikes provided directly by the Office of the Secretary Treasurer at AFT. We also reviewed the National Bureau of Labor Statistics for additional documentation of teacher strikes, but their efforts focus exclusively on strikes involving over 1,000 workers, and 97% of school districts employ fewer than 1,000 teachers.

We analyze teacher strikes at both the county and zip code levels, focusing primarily on counties. Counties are considered treated if a teacher strike occurs within their boundaries before election day. Striking counties are coded as having experienced a strike in all election cycles following the strike (see Appendix B for merge process details). This allows us to estimate both immediate and longer-term effects of strikes. The former are likely a direct effect of the protest itself, whereas longer-term effects are likely more indicative of downstream responses to the achievements or failures of the protest demands.[4]

Counties are an ideal unit for analyzing strike effects for several reasons. For one, counties are located inside of media markets, so everyone within a given county population receives the same television and radio stations. Since school districts must inform residents of school closures, everyone in a county receives information about a strike within that county. Related, controlling for the county of residence (i.e., county fixed effects) effectively controls for any time invariant characteristics of a given media-market. Second, in many states, school district boundaries are defined at the county level (e.g., North Carolina; Holbein 2016). We therefore conceptualize the county-based effect as comprising both media and direct exposure effects.

[4] For instance, voters may see strike-induced education spending increases as sufficient and believe that no future political action is needed to increase them further, Or, voters may feel that spending increases were undeserved, leading to a desire to participate against strikers' candidates and issues or the sense that politics is rigged and it's not worth following public affairs or voting. We explore these mechanisms.

When we use the individual, CCES data, we also are able to analyze strikes at the zip code level to more directly examine exposure effects. Zip codes are much smaller than counties and may fit more neatly within school district boundaries in states that do not use county boundaries for school districts. Analyses at the zip code level are more likely to capture both direct exposure, meaning direct experience with service shutdowns and interactions with affected individuals, as well as media exposure to strikes, rather than just media exposure. We therefore would expect effects to be larger in zip code analyses because more of the treated individuals are directly exposed to the strike. Indeed, we find that effects are larger when we assign strike treatments at the zip code level.

Data on Elections and Turnout

We examine the effect of strikes on political mobilization using county-level turnout data as well as individual-level survey data. For the former, we use population data from the NaNDA project out of the University of Michigan Institute for Social Research, which provides turnout estimates and partisan vote shares in all U.S. counties from 2008 to 2018[5] (Chenoweth et al. 2022). The underlying data are sourced from the Election Administration and Voting Survey (EAVS) and U.S. Census records. The primary outcomes are voter turnout, measured as the number of ballots cast as a proportion of the citizen voting age population, and Republican vote share in presidential elections.

Additionally, we include time-varying, county covariates to increase precision. First, we control for partisanship with a lagged partisanship index calculated as the average of Democratic vote share in presidential and Senate races over the previous six years (mean-centered; higher

[5] One drawback of the NaNDA data is that the data are only available until 2018, the first year of the #RedforEd teacher strikes, which means we cannot assess the effects of these strikes in later years. Our primary specification retains these strikes, though we discuss results dropping them in the Robustness section; results are *larger* in magnitude when we drop them.

numbers indicate a higher Democratic vote share). We also include covariates from the American Communities Survey (ACS), including 5-year estimates of the size of the population (logged), share of the population that have a school-aged child (%), share that are Hispanic (%), share that are African American (%), median income, and share with a bachelor's degree (%, among 25+). Partisanship and population were missing from .05% of observations, and so we dropped those observations. The ACS 5-year estimates were not available for 2008, so we use linear extrapolation to estimate values for that year.

For our individual-level analysis, we use data from the Cumulative Cooperative Election Study (CCES), spanning elections from 2008-2020. The CCES[6] is a national stratified sample survey that is conducted annually and administered by YouGov (Dagonel 2023; Kuriwaki 2022). Our primary dependent variable is validated voter turnout in a general election.

We use the individual background information in the CCES to examine heterogeneity by individual identity markers (i.e., partisan identity and parental status). We use three dichotomous variables for partisan identity: Democrats, Republicans, and Independent (also includes "not sure"). We use a standard variable for parental status, coded 1 if a respondent was the parent or guardian of any children under the age of 18. A small portion of cases were missing on partisanship and parental status (0.45% and 0.18% respectively), and we drop these observations from our analyses.

We also include a set of covariates to increase precision and account for individual factors potentially related to exposure to strikes and political behavior. We include individual age, education level, home ownership, family income, gender, race, and employment status. We

[6] We combine CCES Policy Preferences data with the partner Cumulative Common Content of the Cooperative (Congressional) Election study at the individual-election-year level. We limit the CCES sample to U.S. citizens. Our results are not sensitive to this decision (see Robustness section).

impute missing values on these covariates using the modal value from the county where the missing observation resides.

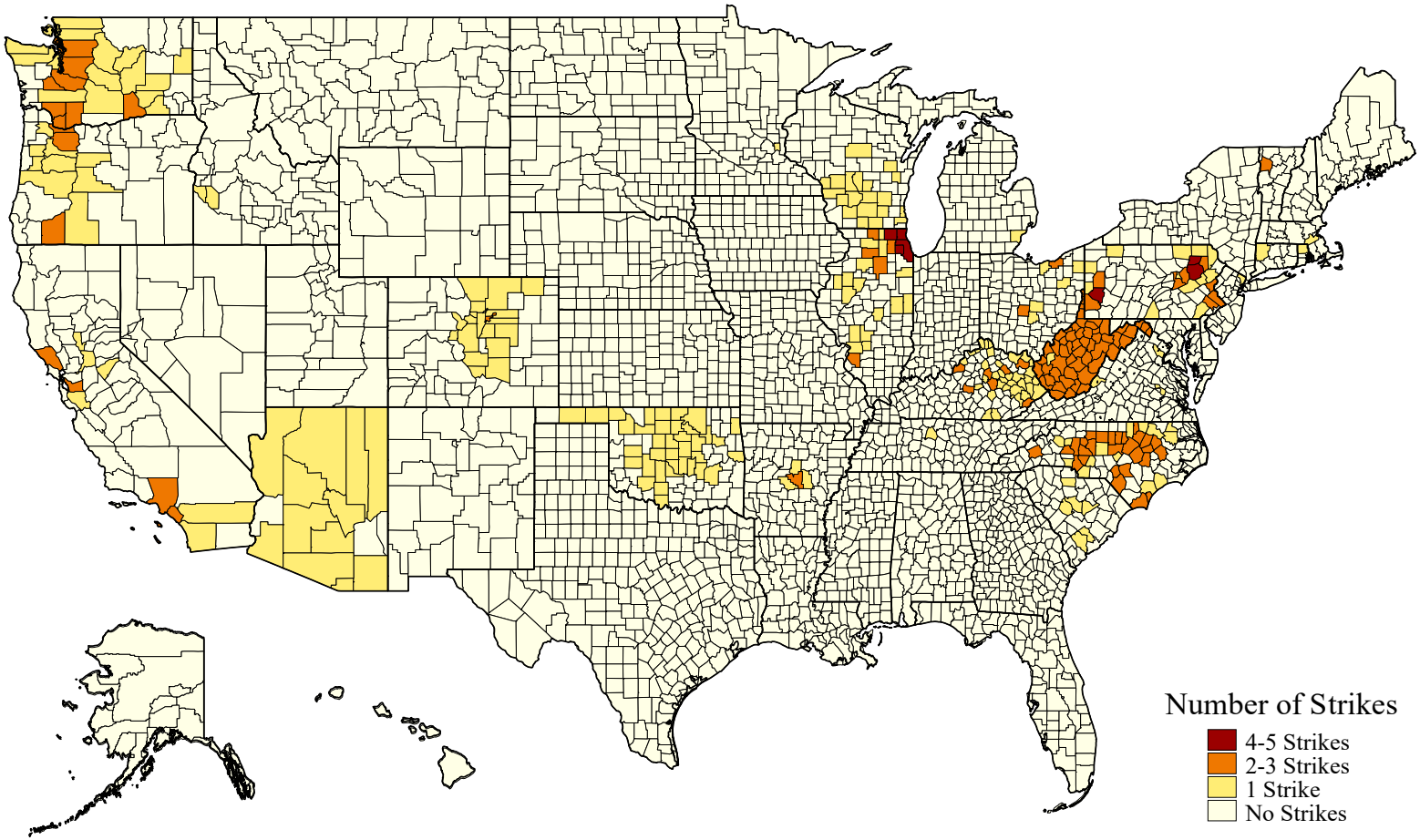
Descriptive Statistics

Most teacher strikes are short, though the longest strike was 34.5 days long. The median strike is two days, and the mean strike is 4.5 days. The modal strike is one day. Strikes occur consistently, with large spurts in 2018 and 2019, when hundreds of thousands of teachers participated in "#Red4Ed" strikes, which were coordinated across districts within states (see Appendix Figure A1).[7]

In Figure 1, we show the graphical distribution of teacher strike events at the county-by-election-cycle level. Strikes occur throughout the US, with large concentrations of strikes in West Virginia, Oregon, North Carolina, Arizona, Washington, and Pennsylvania. The majority of striking counties (63%) experience just one strike event during our time period. Roughly a third (35%) experience two to three strikes, and seven counties in Illinois and Pennsylvania experience four to five strikes during the period.

[7] We estimate the effects of coordinated strikes separately from individual strikes in Appendix C.

Figure 1. The Geographic Distribution of Teacher Strikes, 2007-2020



Notes: Strikes are identified at the county-by-election year level.

In Table 1, we provide descriptive information on striking and non-striking counties. In Panel A, we show that voter turnout in striking and non-striking counties is 49% and 51%, respectively, in the NaNDA dataset. Republican vote share during our panel is 4 percentage points higher in counties without teacher strikes, on average. Striking counties have similar population sizes and portions of parents. They also have about 3 percentage points fewer African Americans, have slightly higher median household incomes, and are more Democratically-leaning in past elections than non-striking counties.

In Panel B, we show descriptive statistics for the CCES respondents across seven elections between 2008-2020. We find higher average turnout rates than in the NaNDA data, potentially because the CCES data include one more presidential election. Shares of parents, ages, genders, levels of education, income, employment, and home ownership are similar in striking and non-striking counties. Respondents in non-striking counties are roughly 2 percentage points more likely to be White or Black than those in striking counties. The share of respondents in striking counties that identify as Democrats is 5 percentage points higher than in non-striking counties, consistent with the findings from the NaNDA data.

Table 1. Descriptive Statistics

	Striking Counties			Not Striking Counties		
	Obs.	Mean	SD	Obs.	Mean	SD
Panel A: NaNDA (2008-2018)						
Voter Turnout (%)	1,920	49.04	(15.42)	16,664	50.94	(16.39)
Republican Presidential Vote Share	960	57.96	(15.34)	8,375	62.15	(15.51)
Population (Log)	1,920	11.16	(1.46)	16,753	10.17	(1.43)
Parent of School Age Child (%)	1,920	20.04	(2.90)	16,753	20.22	(3.34)
Hispanic (%)	1,920	8.06	(11.03)	16,753	8.44	(13.59)
African American (%)	1,920	6.04	(9.16)	16,753	9.38	(15.01)
Median Income	1,920	26554.03	(5711.42)	16,753	25845.53	(5676.42)
Bachelor (%, Among 25+)	1,920	22.04	(10.32)	16,753	19.63	(8.79)
Partisanship Index (%, Centered)	1,919	4.55	(12.92)	16,744	-0.52	(14.29)
Panel B: CCES (2008-2020)						
Voter Turnout (%)	109,345	58.12	(49.34)	267,211	56.27	(49.61)
Interest in Government and Public Affairs (%)	106,542	80.48	(39.64)	259,800	79.47	(40.39)
Support for Education Spending (%)	58,145	64.57	(47.83)	142,401	63.68	(48.09)
Parents (%)	109,160	25.86	(43.79)	266,757	27.51	(44.66)
Age	109,345	46.55	(17.31)	267,211	47.22	(17.29)
Female (%)	109,345	50.59	(50.00)	267,211	52.20	(49.95)
Race/Ethnicity						
White (%)	109,345	71.98	(44.91)	267,211	73.96	(43.89)
Black (%)	109,345	11.12	(31.43)	267,211	12.74	(33.34)
Hispanic (%)	109,345	8.55	(27.96)	267,211	7.18	(25.81)
Other (%)	109,345	8.35	(27.67)	267,211	6.13	(23.98)
Education: Some College or More (%)	109,345	62.60	(48.39)	267,211	57.96	(49.36)
Family Income						
Less than 50,000 (%)	109,345	42.52	(49.44)	267,211	45.93	(49.83)
50,000-100,000 (%)	109,345	30.57	(46.07)	267,211	29.54	(45.62)
Over 100,000 (%)	109,345	16.56	(37.17)	267,211	14.41	(35.11)
Other (%)	109,345	10.35	(30.47)	267,211	10.13	(30.17)
Employed Full Time (%)	109,326	39.19	(48.82)	267,164	38.16	(48.58)
Home Ownership						
Own (%)	109,345	36.53	(48.15)	267,211	33.00	(47.02)
Rent (%)	109,345	63.47	(48.15)	267,211	66.99	(47.03)
Party Identification						
Democrat (%)	108,895	49.00	(49.99)	266,007	43.69	(49.60)
Republicans (%)	108,895	34.62	(47.58)	266,007	38.65	(48.69)
Independent (%)	108,895	16.38	(37.01)	266,007	17.66	(38.13)

Notes: Cumulative weights for multi-year analysis are applied to construct averages using CCES data.

Analytic Approach

We examine the impact of strikes by leveraging variation in the timing of strike exposure across counties using a DiD design. Specifically, we analyze changes in voter turnout in counties affected by strikes and compare them to simultaneous changes in counties unaffected by or not yet experiencing teacher strikes. Importantly, our approach does not require us to assume that strikes occur randomly (Angrist and Pischke 2009). We recognize that striking counties might be different from non-striking counties on both observable and unobservable characteristics. Our strategy uses the trends in non-striking districts as a proxy for what would have occurred in striking districts in the absence of strikes. We estimate the causal effect as the difference between that expected outcome and the actual outcome. This enables us to estimate the causal effect of strikes, assuming that, in the absence of a strike, trends in strike-affected counties would have been parallel to unaffected counties. A similar analytic strategy has been used for other studies of teacher strikes in political science and economics (Jaume and Willén 2019; M. A. Lyon and Kraft 2024; Hertel-Fernandez et al. 2021).

Our model builds upon a generalized DiD estimator with the two differences arising from variation across counties and over time. We provide intuition for our preferred modeling approach by starting with the simple DiD specifications:

$$(1) \qquad Y_{ct} = \beta Strike_{ct} + \lambda X_{ct} + \pi_c + \delta_t + \varepsilon_{ct},$$

$$(2) \qquad Y_{ict} = \beta Strike_{ct} + \lambda X_{ict} + \pi_c + \delta_t + \varepsilon_{ict},$$

where Y_{ct} is an indicator of turnout or Republican vote share in county c in election year t, using the NaNDA data. $Strike_{ct}$ is a dummy variable coded as 1 if a county has experienced a strike. In Equation 2, we replace Y_{ct} with an individual-level, binary measure of turnout, Y_{ict} for use with the CCES data.

Because we do not assume that the effects of teacher strikes are constrained to the immediate electoral cycle, we code all counties with teacher strikes in an election cycle and following election cycles as treated. This allows teacher strikes to have longer effects that could occur in response to policy changes directly caused by teacher strikes (Hassell and Holbein 2024). The terms π_c and δ_t represent county and election year fixed effects, respectively. These two-way fixed effects (TWFEs) address fixed differences over time between counties and any election-specific events, controlling for omitted variables that remain constant across counties or time. TWFE estimators have the potential to be biased when there is staggered timing of treatments and heterogeneous treatment effects (Goodman-Bacon 2021). In the Robustness section, we show that results are nearly identical using the "stacked" approach from Cengiz et al. (2019) to address this concern.[8]

Equation 1 includes a vector of county-level control variables, X_{ct}, to increase precision by accounting for partisanship, population size, education, median income, share of parents, and race/ethnicity.[9] Equation 2 includes the vector of controls, X_{ict}, including individual age, education level, family income, home ownership, gender, race, employment status, parental status, and political affiliation. We use the cumulative weights for multi-year analysis provided in the CCES data. This approach tests whether strikes impact turnout and Republican vote share (*Hypotheses H1, H2a* and *H2b*).

[8] We use this estimator because it seamlessly accommodates interaction terms. Functionally it creates the same model as the Callaway and Sant'Anna (2020) estimator.

[9] We do not include county linear time trends as controls because they may capture part of the treatment effect (Wolfers 2006); however, as an alternate approach for addressing potential parallel trend violations, we use synthetic DiD to construct our comparison group where possible (Arkhangelsky et al. 2021).

To examine how the effects of strikes vary across individuals, we conduct a heterogeneity analysis focusing on whether respondent i is a parent (*H1a and H3a)* and their party identification (*H1b, H1c, and H3b)*. The intuition for these analyses with trait T is as follows:

$$Y_{ict} = \beta_1 Strike_{ct} + \beta_2 Strike_{ct} * T_{ict} + \beta_3 T_{ict} + \lambda X_{ict} + \pi_c + \delta_t + \varepsilon_{ict}. \quad (3)$$

We calculate the linear combination of β_1 and β_2 to estimate the strike effect for the group with the trait.

However, the above approach allows for only 1 strike per county. Multiple strikes are relatively common with 131 of the 355 counties with strikes experiencing them in multiple election cycles during our time period. To deal with this, some scholars examine only the effect of the first event (M. A. Lyon and Kraft 2024) or the biggest event (e.g., Lafortune, Rothstein, and Schanzenbach 2018). Others estimate the effects of all events (Bartanen et al. 2019; Lafortune et al. 2018; Miller 2013; M. A. Lyon and Kraft 2024; Sandler and Sandler 2014). Our preferred specification follows this latter approach where we estimate the effect of all events. We show in the Robustness section that our results are not sensitive to this decision. We create copies of the data for each county experiencing multiple events and estimate the effect of each strike separately in each set using a specification that replaces the county fixed effects with county-by-event-set fixed effects. We weight models to correct for the overrepresentation of counties with multiple strikes. These specifications take the form:

$$Y_{ct} = \beta Strike_{cet} + \lambda X_{ct} + \pi_{ce} + \delta_t + \varepsilon_{cet}, \quad (4)$$

$$Y_{ict} = \beta Strike_{cet} + \lambda X_{ict} + \pi_{ce} + \delta_t + \varepsilon_{icet}, \text{ and} \quad (5)$$

$$Y_{ict} = \beta_1 Strike_{cet} + \beta_2 Strike_{cet} * T_{ict} + \beta_3 T_{ict} + \lambda X_{ict} + \pi_{ce} + \delta_t + \varepsilon_{icet}, \quad (6)$$

where π_{ce} represents county-by-strike-event fixed effects. This allows us to estimate the effects of *all* strikes in a given county rather than just the first strike that we observe. In total, our preferred specification estimates the effect of 371 (NaNDA) or 511 (CCES) strike events.[10]

Findings

Teacher strikes lead to meaningful decreases in voter turnout and Republican vote share. Table 2 shows the results of Equation 4 with election year and county-by-event fixed effects. Recall that county-by-event fixed effects enable us to estimate the dynamic effects of multiple strikes in different years in the same county. In Column 1, we show that strikes cause turnout to decrease by 3.1 percentage points, and we show in Column 2 that the magnitude of this effect slightly increases (3.2 percentage points) when we add time-varying controls for the county population, share of parents, racial/ethnic demographics, and income.[11] This is a meaningfully large effect, equivalent to a 6.3% decrease in turnout relative to the mean voter turnout for non-striking counties (50.94%; see Table 1). In Columns 3 and 4, we also show that strikes cause Republican vote share to decrease by roughly 1 percentage point, both with and without time varying, county-level controls.[12]

In short, we find that teacher strikes significantly reduce political participation and support for traditional union opponents. We cannot, at this stage, determine how the former is

[10] The number of events in the NaNDA data is smaller than the CCES data because the NaNDA data do not include the 2020 elections. Note that both figures are smaller than the 716 strikes noted above because if a county experiences multiple strikes within the same election cycle, they comprise a single strike event. See Appendix Table A1 for details.

[11] We also analyzed the effect of strikes using the synthetic DiD estimator proposed by Arkhangelsky and colleagues (2021). We find even larger effects, with a magnitude of -6 percentage points ($p<.001$). This is consistent with other analyses that drop the 2018 strikes (see Robustness section), as the implementation of this estimator does (Clarke et al. 2023). This suggests that the estimated effects in our preferred specification are likely conservative. We do not use synthetic DiD as our main approach because we find no concerning evidence of differential trends, and the need for a balanced panel conflicts with the structure of the CCES data.

[12] In Appendix Table A2, we also examine how these effects vary depending on the partisan composition of the county and find evidence that effects are stronger in areas that are dominated by one party (either Republicans or Democrats) rather than those that are more competitive between parties.

related to the latter. That is, do teacher strikes persuade potential Republican voters to vote for Democrats, or do they deter them from participating entirely? To that end, we turn to our more fine-grained analyses using individual-level CCES data.

Table 2. Effect of Teacher Strikes on Voter Turnout and Republican Vote Share (NaNDA)

	(1)	(2)	(3)	(4)
	Voter Turnout		Republican Vote Share	
Strike Effect	-0.031***	-0.032***	-0.014**	-0.008+
	(0.006)	(0.005)	(0.005)	(0.005)
Partisanship Index (Dem)		0.178***		-0.120***
		(0.025)		(0.010)
Population (log)		0.083**		-0.097***
		(0.030)		(0.010)
Parent of School Age Child (%)		-0.184+		0.160***
		(0.096)		(0.030)
Hispanic (%)		-0.127		-0.349***
		(0.135)		(0.035)
African American (%)		-0.142		-0.201***
		(0.087)		(0.049)
Median Income		-0.000***		0.000***
		(0.000)		(0.000)
Bachelor (%, Among 25+)		-0.002+		-0.002***
		(0.001)		(0.000)
Observations	18,875	18,875	9,403	9,403
Adjusted R-squared	0.467	0.470	0.943	0.949
Election Year Fixed Effects	X	X	X	X
County X Event Fixed Effects	X	X	X	X
All Strikes	X	X	X	X
Controls		X		X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors clustered at the county level in parentheses. Columns 1 and 2 show the results for all strikes in a given county where the outcome variable is voter turnout (Equation 4). Election years between 2008 and 2018 are included. Columns 3 and 4 show the results for all strikes in a given county where the outcome variable is percentage of votes for Republican Presidential candidate. Presidential Election years (2008, 2012, and 2016) are included.

Table 3 shows that turnout results are very similar when we use the individual-level CCES data, and that the decline in Republican vote share identified above is likely driven by a deterrence effect rather than persuasion.[13] In Column 1, we show that strikes cause turnout to decrease by 2 percentage points. In Column 2 and Figure 2, we show that the effect of teacher strikes varies depending on the partisan affiliation of the respondent. Results suggest that teacher strikes depress voter turnout among Democrats by 1 percentage point, among Republicans by 3 percentage points (-0.009 + -0.023= -0.032), and among Independents by 2 percentage points.

In Column 3, we also find that strikes have a larger effect for parents (-3.5 percentage points) than non-parents (-1.5 percentage points). In Column 4 and Panel B of Figure 2, we allow the effect to vary depending on both parental status *and* partisan affiliation. Overall, we find that estimated effects are largest for Republican parents, though the effect for Republican parents is not statistically distinguishable from Republican non-parents. Similarly, the effect for Democratic parents is larger but not statistically different from Democratic non-parents.

The above analyses examine strike effects within counties where striking districts reside—this includes media markets because counties are uniquely nested within media markets. Our results, therefore, represent a combination of direct exposure to service shutdowns and related social interactions as well as media effects. Some residents likely experience both effects, but other residents in the same county but a neighboring district just experience media effects. To more precisely examine at a group of residents that likely experience *both* media and direct exposure effects, we also analyze strikes at the zip code level. Zip codes are much smaller than counties and may fit more neatly within school district boundaries in states that do not use

[13] We display regression coefficients for control variables in Appendix Table A3.

county boundaries for school districts. We expect effects to be larger in zip-code analyses because more of the treated individuals are directly exposed to the strike.

We show in Appendix Table A4 that effects are larger when we assign strike treatments at the zip code level. We find that teacher strikes reduce Republican turnout by 3.8 percentage points and Republican parent turnout by 4.6 percentage points, on average. Here, we find very little evidence of an effect on Democrats overall, though we do find that strikes reduce turnout amongst Democratic parents by 1.7 percentage points. Taken together, results show that teacher strikes reduce voter turnout, with effects concentrated in Republicans and parents.

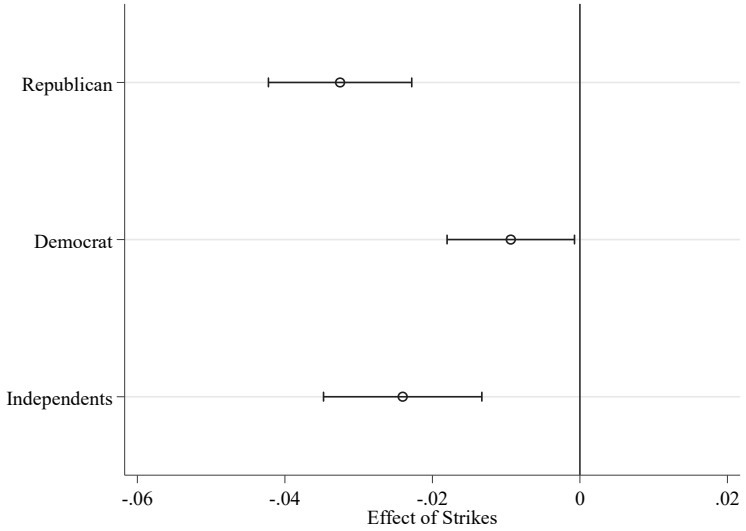
Table 3. Effect of Teacher Strikes on Voter Turnout (CCES)

	(1)	(2)	(3)	(4)
	Voter Turnout			
Strike Effect	-0.019***	-0.009+	-0.015**	-0.006
	(0.005)	(0.005)	(0.005)	(0.006)
Strike Effect X Republican		-0.023***		-0.022***
		(0.005)		(0.005)
Strike Effect X Independent		-0.015**		-0.015*
		(0.005)		(0.006)
Strike Effect X Parent			-0.020*	-0.018
			(0.009)	(0.011)
Strike Effect X Republican X Parent				-0.001
				(0.013)
Strike Effect X Independent X Parent				0.005
				(0.014)
Observations	468,292	468,292	468,292	468,292
Adjusted R-squared	0.171	0.171	0.171	0.171
Election Year Fixed Effects	X	X	X	X
County X Event Fixed Effects	X	X	X	X
All Strikes	X	X	X	X
Controls	X	X	X	X

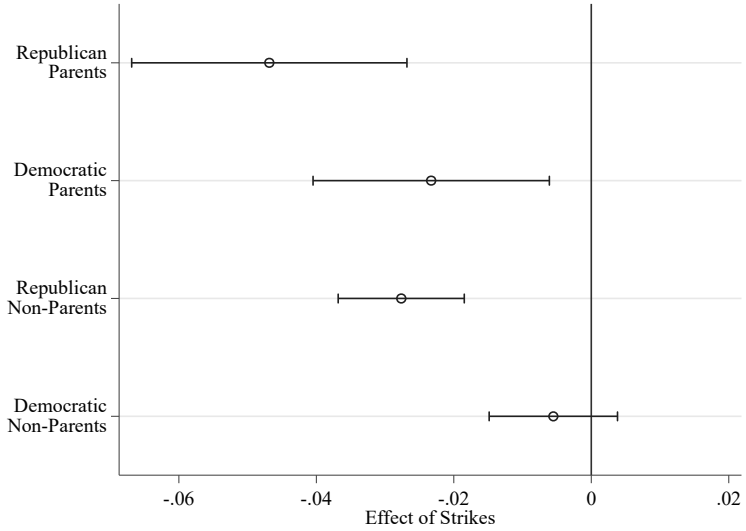
Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors clustered at the county level in parentheses. All columns include the following controls: age, gender, race, education level, family income, home ownership, employment status, child, and political affiliation. Election years between 2008 and 2020 are included.

Figure 2. Effect of Strikes by Subgroup

Panel A. Voter Turnout by Partisanship



Panel B. Voter Turnout by Partisanship and Parental Status



Notes: See estimation details and notes in Table 3. Confidence intervals are calculated at the 90% level.

Dynamic Effects over Time

We also examine whether the effect of strikes is heterogenous over time. We use an approach that uses non-parametric event study estimators as follows:

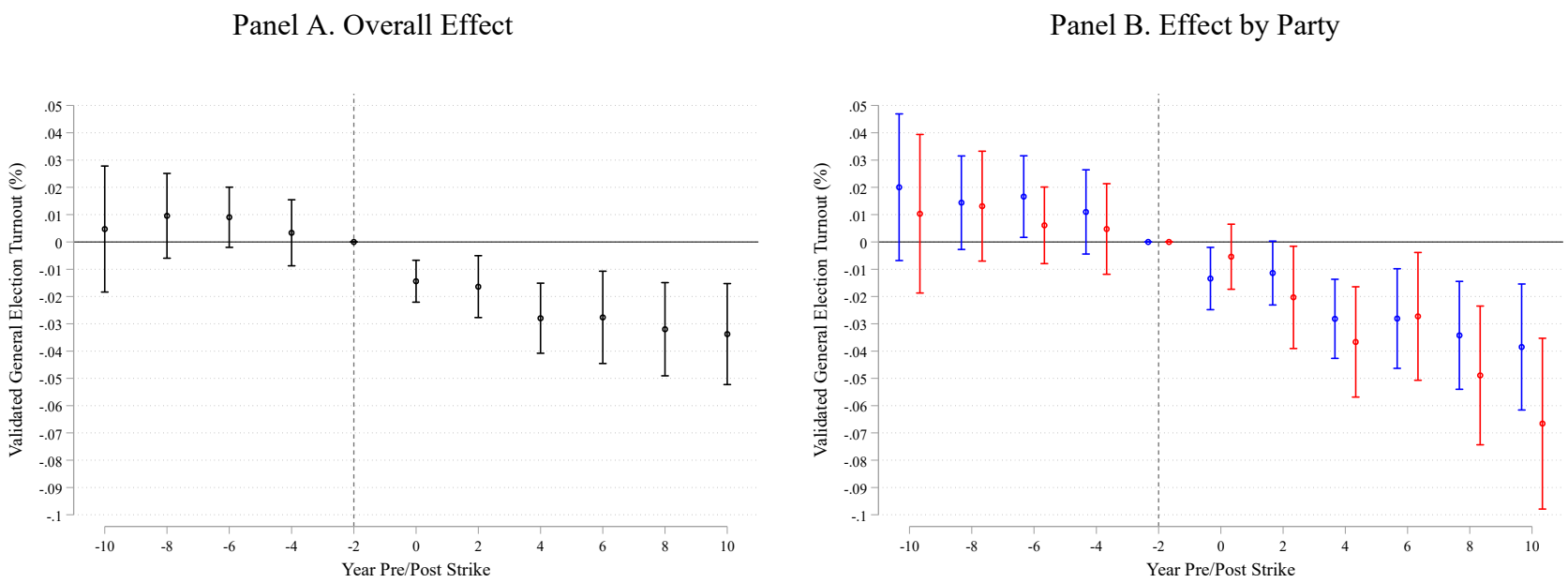
$$(7) \qquad Y_{icet} = \sum_{r=-5}^{5} \beta_r \mathrm{I}(t - t_{ce}^{strike} = r) + \lambda X_{ict} + \pi_{ce} + \delta_t + \varepsilon_{icet},$$

where t_{ce}^{strike} indicates the election year of the strike for county-event ce, and β_r represents the effect of the strike r election cycles later (or before if $r < 0$) relative to the election cycle before the strike, which is excluded. We trim our sample to drop counties that are more than five election cycles (10 years) before or after a strike. The β_0 to β_5 coefficients dynamically estimate the effects of strikes over the five election cycles (10 years) after the strike. A benefit of this approach is that the coefficients β_{-5} to β_{-2} dynamically test for differences in trends prior to strikes between treated and control counties, thus embedding a falsification test for the key assumption of parallel trends (Hassell and Holbein 2024). We also show results that allow for these effects to vary depending on individual partisan identity by estimating separate sets of β_r for respondents identifying as Republicans versus Democrats.

In Figure 3, we show these dynamic estimations of the effects of strikes overall and by partisan affiliation. Similar to above analyses, we find that, on average, strikes lead to a sustained negative effect on voter turnout of between 1 and 2 percentage points. Notably, we find no evidence of differential trends prior to a strike event, providing support for the core parallel trends assumption. When we allow the effect to vary by partisan identity, we find strikes have a larger negative effect on Republican respondents, which grows over time. Increases over time could be due to Republican voters responding to the achievements of the strike demands. Prior literature has found that teacher strikes during this period increase education spending (Lyon and Kraft 2024). It may be that these strike-induced spending increases impact third parties' attitudes

toward education spending and/or their sense of external efficacy, ultimately shaping their inclination to vote, a notion that we examine further in the Mechanisms section.

Figure 3. Dynamic Effects of Strikes on Voter Turnout



Notes: Estimates with 90% confidence intervals from Equation 7. In Panel B, blue lines represent Democrats, while red lines represent Republicans. The baseline mean overall is 56.3%, and for Republicans and Democrats, it is 64.1% and 58%, respectively. In Panel A, observations in striking counties are censored for periods greater than 10 years before and after the strike (n=464,139). In Panel B, we split the sample by party (n=223,715 for Democrats; n=163,088 for Republicans).

Mechanisms

Above, we found that strikes demobilize third parties, particularly Republicans. This may be due to a decrease in political efficacy wherein people feel alienated from the political system as a result of strike outcomes they disagree with and have no say in. We lack a direct measure of political efficacy, so we instead look to third parties' interest in public affairs. If strikes educate the public about the political process in a negative way, making them feel as though the system does not represent them, we would see a negative impact on their desire to follow current affairs. This is supported by prior work demonstrating the positive correlation between news consumption and external efficacy (Gil De Zúñiga et al. 2017). We use an indicator measuring whether individuals responded at least "some of the time" to the question, "Some people seem to follow what's going on in government and public affairs most of the time, whether there's an election going on or not. Others aren't that interested. Would you say you follow what's going on in government and public affairs most of the time, some of the time, only now and then, or hardly at all." We treat "don't know" as missing.

We expect these relationships to vary by the partisanship of the respondent; strikes may positively influence external efficacy for Democrats, who are more likely to support teacher unions and therefore feel more satisfied with the political system as a result of strike concessions. In contrast, we expect strikes to decrease political efficacy for Republicans, who would be more likely to see unions and public sector workers as undeserving.

Appendix Table A5 presents the point estimates from the results of Equation 5 and 6, where Y_{ict} is replaced with support for increased education spending and interest in public

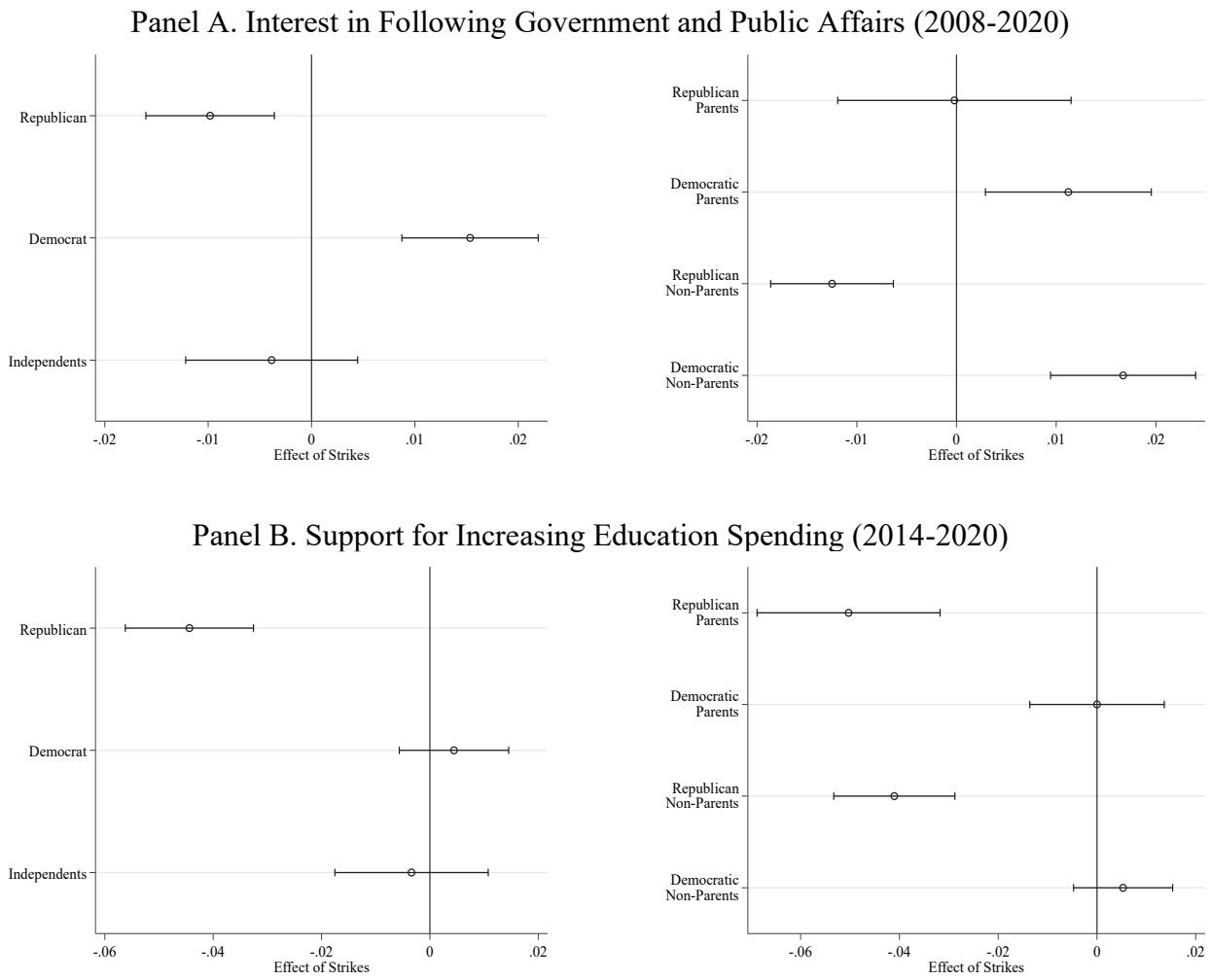
affairs.[14] We show the linear combinations of the interaction terms from Equation 6 in Figure 5. Amongst Republicans, we find that teacher strikes depress interest in government and public affairs by 1 percentage point, while they increase interest in public affairs for Democrats by 1.5 percentage points.

We might also expect reduced political efficacy as a result of teacher strikes to coincide with decreased support for teacher's demands. In particular, strikes might reduce support for teacher demands, e.g., increasing education spending, amongst Republicans who may feel resentment toward what they see as special treatment for teachers (Cramer 2016).[15] This could cause broader distrust in government and a feeling that political leaders are unresponsive to the demands of non-teachers. Indeed, we find that, for Republicans, strikes reduce support for education spending by 4.5 percentage points.

[14] CCES collects information on the degree to which respondents follow government and public affairs in years without elections as well. In Appendix Tables A6 and A7, we show results including all years instead of just election years. Results are nearly identical.

[15] We test whether this is the case using an indicator for whether respondents answered at least "slightly increase" to the CCES question, "Would you like your legislature to increase or decrease spending on education?" (Dagonel 2023).

Figure 4. Effect of Strikes on Public Opinion and Political Efficacy



Notes: See estimation details and notes in Appendix Table A5. Confidence intervals are calculated at the 90% level.

Extensions

Distance to Strikes

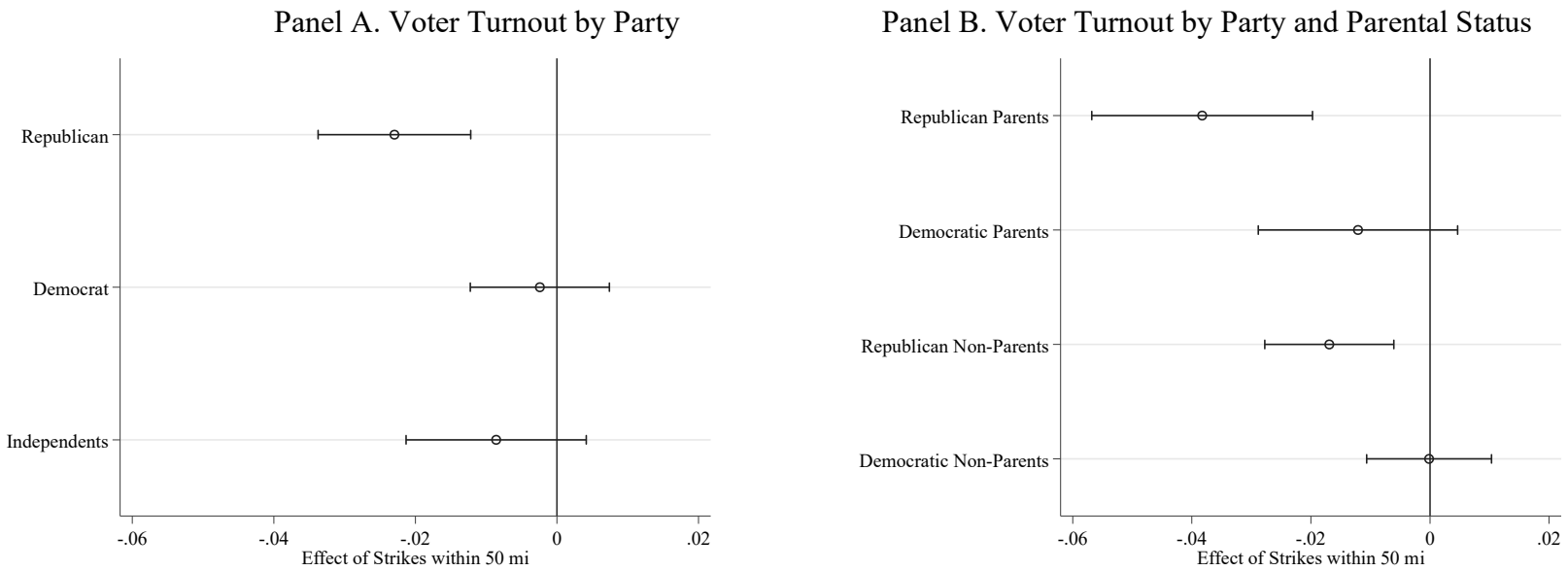
The effects of strikes may not be fully captured in the estimates above, as neighboring counties may be affected by strikes. Striking teachers may live in nearby counties, and individuals may be more aware of and affected by strikes that are closer to them (via friends and family that are affected). We therefore allow the effect of strikes to vary depending on the distance to a strike.

We generate an estimate of the distance to the closest strike for each county. We allow for the strike effect to vary by creating three separate and mutually exclusive terms for counties in which the closest strike is (1) close: within 50 miles or less, (2) proximate: between 51 and 100 miles away, or (3) distant: between 101 and 200 miles away. We then replace our main treatment term, $Strike_{ct}$, in Equations 1 and 2 with these three terms, which are coded 1 for county c if time t is after a strike. We also modify Equation 3 to allow the effect of a close strike to vary depending on partisanship and parental status and show the linear combinations of effects in Figure 4 using CCES data. For simplicity, we do these interactions only with close strikes, though we also show results with strikes that are less than 100 miles away in the Robustness Section, and results are nearly identical. We show the full set of results in Appendix Table A8 and visualize the linear combinations in Figure 5.

First, using NaNDA data on county turnout, we find that the occurrence of a strike decreases voter turnout by 3 percentage points, on average, within 50 miles of the strike, yet we find no evidence that strikes affect voter turnout beyond a 50-mile radius (Appendix Table A8 Columns 1- 2). We find similar results using CCES data (Appendix Table A8, Columns 3-4). In Figure 5 and Appendix Table A8, we examine heterogeneity based on partisanship and parental

status. We find that close teacher strikes cause a 2.3 percentage point decrease in Republican voter turnout (-0.002 + -0.021= -0.023). We also see that effects are larger, on average, for parents (-2.4 percentage points), particularly Republican parents (-3.8 percentage points).

Figure 5. The Effect of Close Strikes on Voter Turnout



Notes: See full estimation details and notes in Appendix Table A8. Confidence intervals are calculated at the 90% level.

Duration

We examine whether the effect of teacher strikes on political mobilization varies depending on strike length. Previous research has extensively examined the relationship between strike duration and employment outcomes (Card 1990). Research on teacher strikes finds that strikes less than 5 days are the most effective signals to political elites (M. A. Lyon and Kraft 2024), but strikes over 10 days decrease student outcomes (M. A. Lyon et al. 2024; Jaume and Willén 2019; Belot and Webbink 2010; Baker 2013; Johnson 2011). Both short and long teacher strikes can successfully spur educational expenditure increases (M. A. Lyon and Kraft 2024).

To explore whether the impact of teacher strikes on voter (de)mobilization varies by duration, we re-estimate Equations 1 and 2 with a continuous variable for the length of the first strike in a given county using the NaNDA and CCES datasets.[16] Our results show that each additional day of a strike leads to a roughly one tenth of a percentage point decrease in turnout (Appendix Table A9, Columns 1-4). We also examine this non-linearly in the same manner as the distance analysis. We find no effect of short strikes on voter turnout. We can rule out negative effects as small as -0.7 percentage points in the NaNDA data. However, we see that strikes lasting 6-10 days lead to a larger decline in voting, an effect of -1.8 to -2.5 percentage points in the NaNDA and CCES data respectively (see Columns 2 and 5). We find suggestive evidence of a similar effect for strikes lasting 10+ days, though estimates are less consistent and precise. In Columns 3 and 6, we examine strikes lasting more than 5 days as a single group and split up strikes lasting less than 5 days to see whether a single day strike may have a different effect than a somewhat longer strike. We find that no evidence that 1 day or 2-5 day strikes affect voter turnout, and see a similar effect for 6+ day strikes as in the

[16] If there were non-consecutive strikes in a county and election cycle, we add up the total days. If there were multiple striking districts in a county and election cycle, we use the longest strike, so as not to inappropriately inflate strike length.

previous specification. In short, we find that the negative effects of teacher strikes on voter turnout are driven by strikes lasting 6-10 days.

Presidential v. Midterm Elections

We investigate whether the effect of teacher strikes on voter turnout varies across presidential and midterm elections. In presidential elections, national issues like the economy typically dominate the media and political discourse, and teacher strikes might not be as prominent. However, in midterms, which often focus more on local and state-level concerns, teacher strikes may be more salient, and local issues such as education and labor disputes may receive more attention, leading to increased voter engagement. To examine this empirically, we split our sample into two distinct samples: one for presidential elections (2008, 2012, 2016, and 2020) and one for midterm elections (2010, 2014, and 2018 for the NaNDA and 2010, 2014, 2018, and 2020 for the CCES).

We present results in Appendix Table A10. Using the NaNDA data, we find that the degree to which teacher strikes reduce voter turnout does not differ for midterm and presidential elections. However, using the individual-level CCES data over a longer time period, we find that teacher strikes decrease average midterm voter turnout by about 4.5 percentage points but have no detectable effect on presidential elections. For midterms, the estimate is largest for Republicans (-6 percentage points). Again, we find that teacher strikes have a larger effect on parents (-7 percentage points) relative to nonparents (-4 percentage points) and the largest effect on Republican parents (-8 percentage points). The mean turnout for Republican parents in midterm elections in non-striking counties is 52%, so an 8 percentage point reduction translates to a decrease of 15%. However, given the differential results across sources, we take this as suggestive evidence that teacher strikes are more demobilizing in midterm elections.

Robustness

We conduct an extensive set of robustness checks using both the NaNDA and CCES data in Appendix D. We show that results are robust to dropping large scale teacher strikes in 2018; including non-citizens as potential voters; adding controls for the presence of large, non-teacher work stoppages, public school enrollment, baseline county turnout, state union membership, and county-level unemployment rate; removing all controls; examining just the first strike in a given county (Equations 1-3); limiting the comparison group to other counties in states that experienced teacher strikes; adjusting how we measure distance; and addressing methodological concerns related to staggered treatment timing and heterogeneous treatment effects. Across these numerous checks using both the NaNDA and CCES datasets, we consistently find that strikes decrease voter turnout and that results are larger for Republican voters.

Limitations

Our findings may not generalize to earlier time periods. Other scholars have found that when states were passing collective bargaining laws (the 1960s to the 1980s), post-law strikes encouraged Republican state legislators in other states not to support collective bargaining laws, meaning that strikes engendered backlash (Anzia and Moe 2016). Moreover, some researchers have found that strikes in the period between 1982 and 2000 were less effective at increasing wages (Massenkoff and Wilmers 2024; Rosenfeld 2006). This could mean that the external efficacy mechanism that we theorize discouraged third parties from participating may not have been as present. In contrast, Paglayan (2019) finds that in states where teachers could collectively bargain and legally strike, they achieved higher salaries and education spending. It is worth noting too that during this period, politics were less polarized, and media was less fragmented (Prior 2005). Altogether, this suggests that our results likely do not generalize to earlier time periods.

Additionally, we might imagine that the effect of strikes on political participation would be different for workers in the striking unit. In our case, the workers would be public school teachers. There is evidence that teacher strikes lead teachers to organize others to vote and to run for office themselves (Hertel-Fernandez 2019, Lyon, Hemphill, and Jacobsen 2022). It would be logical that teacher strikes might also increase teacher turnout in elections. Unfortunately, we are unable to test whether the effect we find varies by teacher status, since the CCES industry categories are not detailed enough to identify this. Nevertheless, this is a fruitful area for future research. It also would be ideal if we were able to estimate the impact of strikes on elections that are more directly relevant—in our case, school board or bond elections—just as Enos, Kaufman, and Sands (2019) look at local ballot initiatives following the L.A. Riots. We plan to examine school board elections in future research.

Conclusion

Existing protest literature would predict that strikes spur additional political participation among third parties, either because residents in surrounding areas become newly sympathetic to strikers and vote in favor of their interests (e.g., Enos, Kaufman, and Sands 2019), or because the disruption caused by strikes leads residents to oppose strikers' demands and vote accordingly (e.g., Wasow 2020). Either way, the application of work on protests to strikes suggests *more* not *less* political participation. However, that is not what we find. Rather, using an original dataset of teacher union strikes and analyzing strikes' effect on both individuals and aggregate turnout rates, we find that recent teacher strikes *demobilize* voters, particularly those that would oppose them (Republicans) and those most reliant on the services that teachers provide (parents). This is true in analyses at both the county and zip code levels.

Of course, we might wonder why, based on our findings, teachers don't strike more frequently. Some have found that teacher strikes become less credible signals if they occur

frequently (M. A. Lyon and Kraft 2024). Additionally, it may be that teachers are not fully aware of the effects of strikes. It is also possible that demobilizing opponents is simply not the goal of teacher strikes. Teacher unions have concrete aims to achieve in contract negotiations, and these are the immediate motivations for striking (M. A. Lyon et al. 2024). The degree to which union leaders are cognizant of the long-term effects of strikes on third parties' political behavior is a worthy subject for future study.

Our results suggest that the main mechanism driving individuals to sit out elections is information about the political process which shapes their sense of external efficacy; we theorize that exposure to teacher strikes makes some individuals feel that government is not responsive to traditional means of participating in politics. As a result, Republicans decrease their political interest and turnout, whereas Democrats increase their interest in following public affairs, even as they cause smaller and less consistent declines in turnout. This suggests that strikes may lead some Democratic supporters to participate in alternate forms of political activity rather than voting. The fact that we find suggestive evidence of stronger effects for midterm elections is consistent with a political efficacy explanation; if strikes make third parties believe that representatives do not care what they think, it follows that this would be more apparent in midterms, where those that vote tend to have higher levels of political interest and be more informed.

We might wonder about the scope conditions of our study. We speculate that the fact that teacher strikes demobilize voters, rather than increasing participation, stems from their combination of service disruption, policy relevance, non-violence, and brevity (the median strike is two days). While we cannot test this mechanism, it may extend to other strikes. However, the effects likely vary based on disruptiveness; for example, park worker strikes may be less disruptive than teacher strikes. Effects likely also vary based on the policy relevance of demand, a particularly salient distinction for sectoral differences (public versus

private sector). More broadly, these findings suggest possible refinements to the disruption theory of protest: protests may be most likely to avoid backlash and demobilize opponents when they are policy-relevant and disruptive enough to capture attention, yet remain non-violent and short enough to avoid motivating opponents to fight back. Empirically testing this on other disruptions besides teacher strikes is outside the scope of our study but is promising for future research.

This study reinforces and adds nuance to the emerging scholarly consensus that protests drive political change (Wasow 2020; Shuman et al. 2022; Branton et al. 2015; Mclaren and Walker 2024; Carey et al. 2014; Gillion 2020; Boehmke et al. 2023). First, our work shows that research on strikes can be used to deepen the prevailing findings on protests, demonstrating the benefits of bringing these two literatures in closer conversation. Second, we show that external efficacy may be an important pathway to demobilization. This theorized mechanism could inform our understanding of disruptive protests in recent years, like college campus protests against the war in Gaza, the BLM protests, and Occupy Wall Street. The involvement of different kinds of participants—young people or people of color, for example—might shape how protest informs third parties about the political process and the extent to which it represents them. Examinations of variations in protest participants and impacts on third parties' political participation constitute an important area for future scholarship.

Third, our study offers a more specific contribution to the literature on strikes. Hertel-Fernandez, Naidu, and Reich (2021) focus on strike effects on mass politics, though, unlike us, they find that exposure to teacher strikes during the 2018 #RedforEd strikes increased parent support for strikers. More recently, Hertel-Fernandez (2024) finds that exposure to grocery store strikes increases support for strikes regardless of how close third parties are to strikers, citing the importance of contextual differences in how protest outcomes affect mass

publics. The differences between Hertel-Fernandez, Naidu, and Reich's (2021) and our findings similarly may be driven by contextual differences. It may be that parental views on the #RedforEd strikes in Hertel-Fernandez, Naidu, and Reich (2021) were atypically favorable, since the strikes were statewide strikes in conservative-leaning states with particularly low teacher salaries. Indeed, when we exclude the #RedforEd strikes, the demobilization effect of teacher strikes increases. Examinations of variations in protest participants, context, and impacts on third parties' political participation constitute an important area for future scholarship. More generally, studying strikes has the potential to improve our understanding of protest more broadly.

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Teacher Strikes and the Demobilization of Republican Voters

Supplementary Appendices

Appendix A. Tables and Figures

Table A1. Sample of Striking Districts by Points in Relative Time

Years Relative to Strike	NaNDA		CCES	
	All Strikes	First Strike	All Strikes	First Strike
-10	224	210	333	218
-8	264	237	385	253
-6	294	258	415	276
-4	330	287	451	304
-2	351	301	479	326
0	370	320	494	341
2	146	110	353	303
4	106	83	146	110
6	76	62	105	82
8	40	33	75	61
10	19	19	40	33
Total Number of Strike Events	371	320	511	354

Notes: Table compares the identifying variation in our preferred DiD specification, which retains multiple strike events ("All Strikes") to a specification that focuses on only a single strike, the first strike, in a given county. We show the number of strike events that contribute to point estimates in each of the years relative to a strike. The total number of strike events represents the number of strikes analyzed across years. The total number of strikes is larger for CCES than for NaNDA because it includes the election year 2020.

Table A2. Effect of Teacher Strikes on Voter Turnout by County Partisanship

	NaNDA		CCES	
	Turnout	Rep. Vote Share	Turnout	Turnout
Strike Effect in Rep. Dominant Counties	-0.024**	-0.003	-0.045***	-0.052***
	(0.008)	(0.008)	(0.007)	(0.008)
Strike Effect in Rep. Dominant Counties* Republican				0.015
				(0.010)
Strike Effect in Competitive Counties	0.001	-0.017	-0.019	-0.020
	(0.030)	(0.011)	(0.012)	(0.015)
Strike Effect in Competitive Counties* Republican				0.003
				(0.016)
Strike Effect in Dem. Dominant Counties	-0.030**	-0.012*	-0.025***	-0.019**
	(0.010)	(0.005)	(0.006)	(0.006)
Strike Effect in Dem. Dominant Counties* Republican				-0.019**
				(0.007)
Observations	18,874	9,402	393,580	393,580
Adjusted R-squared	0.474	0.950	0.168	0.168
Election Year Fixed Effects	X	X	X	X
County X Event Fixed Effects	X	X	X	X
All Strikes	X	X	X	X
Controls	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. Columns 1 and 2 show results for the NaNDA (election year 2008-2018) and all columns include the following controls: partisanship index, population (log), parent of school age child (%), Hispanic (%), African American (%), median income, and Bachelor (%, Among 25+). Columns 1 shows the results for all strikes in a given county where the outcome variable is voter turnout and Column 2 shows where the outcome variable is percentage of votes for Republican Presidential candidate. Column 3 and 4 show results for the CCES (election year 2008-2020). All includes the following controls: age, gender, race, education level, family income, home ownership, employment status, child, and political affiliation. We defined Republican-dominant counties as those with more than 52 percent of the vote cast for the Republican Party in the past six years, Democratic-dominant counties as those with more than 52 percent of the vote cast for the Democratic Party, and competitive counties as those with a vote share between 48 and 52 percent for either party.

Table A3. Effect of Teachers Strikes on Voter Turnout (CCES) with All Controls Presented

	(1)	(2)	(3)	(4)
	Voter Turnout			
Strike Effect	-0.019***	-0.009+	-0.015**	-0.006
	(0.005)	(0.005)	(0.005)	(0.006)
Strike Effect X Republican		-0.023***		-0.022***
		(0.005)		(0.005)
Strike Effect X Independent		-0.015**		-0.015*
		(0.005)		(0.006)
Strike Effect X Parent			-0.020*	-0.018
			(0.009)	(0.011)
Strike Effect X Republican X Parent				-0.001
				(0.013)
Strike Effect X Independent X Parent				0.005
				(0.014)
Some College+	0.131***	0.131***	0.131***	0.131***
	(0.002)	(0.002)	(0.002)	(0.002)
50-100K	0.041***	0.041***	0.041***	0.040***
	(0.002)	(0.002)	(0.002)	(0.002)
Over 100K	0.062***	0.062***	0.062***	0.062***
	(0.003)	(0.003)	(0.003)	(0.003)
Prefer not to say or missing	0.013***	0.013***	0.013***	0.013***
	(0.003)	(0.003)	(0.003)	(0.003)
Black	-0.073***	-0.072***	-0.073***	-0.071***
	(0.004)	(0.004)	(0.004)	(0.004)
Hispanic	-0.088***	-0.088***	-0.088***	-0.087***
	(0.005)	(0.005)	(0.005)	(0.005)
Others	-0.059***	-0.059***	-0.059***	-0.059***
	(0.003)	(0.003)	(0.003)	(0.003)
Female	-0.011***	-0.011***	-0.011***	-0.011***
	(0.002)	(0.002)	(0.002)	(0.002)
Employed Full-Time	0.007***	0.007***	0.007***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)
Parent	-0.037***	-0.037***	-0.034***	-0.055***
	(0.003)	(0.003)	(0.003)	(0.005)
Own home	0.043***	0.044***	0.044***	0.044***
	(0.004)	(0.004)	(0.004)	(0.004)
Age	0.007***	0.007***	0.007***	0.007***
	(0.000)	(0.000)	(0.000)	(0.000)
Republican	-0.008***	-0.005*	-0.008***	-0.015***
	(0.002)	(0.002)	(0.002)	(0.003)
Independent	-0.169***	-0.167***	-0.169***	-0.173***
	(0.002)	(0.003)	(0.002)	(0.003)
Republican # Parent				0.044***
				(0.005)
Independent # Parent				0.027***
				(0.007)
Observations	468,292	468,292	468,292	468,292
Adjusted R-squared	0.171	0.171	0.171	0.171
Election Year Fixed Effects	X	X	X	X
CountyXEvent Fixed Effects	X	X	X	X
All Strikes	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. Election years between 2008 and 2020 are included.

Table A4. Effect of Teacher Strikes on Voter Turnout using Zipcode Level Merge Process (CCES)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Voter Turnout			
Strike Effect	-0.016***	-0.002	-0.012**	0.003	-0.013*	0.003	-0.004	0.014+
	(0.004)	(0.005)	(0.004)	(0.005)	(0.006)	(0.007)	(0.007)	(0.008)
Strike Effect X Republican		-0.036***		-0.038***		-0.042***		-0.044***
		(0.007)		(0.007)		(0.009)		(0.011)
Strike Effect X Independent		-0.015+		-0.019*		-0.006		-0.019
		(0.008)		(0.009)		(0.011)		(0.013)
Strike Effect X Parent			-0.017*	-0.020*			-0.035***	-0.047***
			(0.007)	(0.009)			(0.010)	(0.013)
Strike Effect X Republican X Parent				0.009				0.012
				(0.014)				(0.021)
Strike Effect X Independent X Parent				0.019				0.054*
				(0.017)				(0.026)
Observations	401,727	401,727	401,727	401,727	370,280	370,280	370,280	370,280
Adjusted R-squared	0.184	0.184	0.184	0.184	0.221	0.221	0.221	0.221
Election Year Fixed Effects	X	X	X	X	X	X	X	X
Zipcode Fixed Effects					X	X	X	X
Zipcode X Event Fixed Effects	X	X	X	X				
All Strikes	X	X	X	X				
Controls	X	X	X	X	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. Election years between 2008 and 2020 are included. Columns 1-4 show results including all strikes and Columns 5-8 shows results only including the first strike.

Table A5. Effect of Strikes on Public Opinion and Political Efficacy (CCES)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Support for Education Spending				Interest in Government and Public Affairs			
Strike Effect	-0.013*	0.004	-0.010	0.005	0.004	0.015***	0.004	0.017***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.003)	(0.004)	(0.003)	(0.004)
Strike Effect X Republican		-0.049***		-0.046***		-0.025***		-0.029***
		(0.007)		(0.008)		(0.006)		(0.006)
Strike Effect X Independent		-0.008		-0.002		-0.019***		-0.022***
		(0.008)		(0.009)		(0.005)		(0.006)
Strike Effect X Parent			-0.016**	-0.005			0.001	-0.005
			(0.005)	(0.006)			(0.004)	(0.005)
Strike Effect X Republican X Parent				-0.004				0.018*
				(0.012)				(0.008)
Strike Effect X Independent X Parent				-0.019				0.008
				(0.016)				(0.013)
Observations	250,295	250,295	250,295	250,295	455,719	455,719	455,719	455,719
Adjusted R-squared	0.160	0.160	0.160	0.162	0.168	0.168	0.168	0.168
Election Year Fixed Effects	X	X	X	X	X	X	X	X
County X Event Fixed Effects	X	X	X	X	X	X	X	X
All Strikes	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. Election years between 2014 and 2020 are included for Column (1) through (4), and election years between 2008 and 2020 are included for Column (5) through (8). Interaction terms must be interpreted alongside main effects, see Figure 5 for a visualization of the linear combinations.

Table A6. Interest in Government and Public Affairs (CCES, Continuous Years, All Strikes)

	(1)	(2)	(3)	(4)
	Voter Turnout			
Strike Effect	0.002	0.009*	0.001	0.009*
	(0.003)	(0.004)	(0.003)	(0.004)
Strike Effect X Republican		-0.015**		-0.018***
		(0.005)		(0.005)
Strike Effect X Independent		-0.011*		-0.014**
		(0.005)		(0.005)
Strike Effect X Parent			0.006	0.001
			(0.004)	(0.004)
Strike Effect X Republican X Parent				0.011+
				(0.006)
Strike Effect X Independent X Parent				0.005
				(0.010)
Observations	601,560	601,560	601,560	601,560
Adjusted R-squared	0.165	0.166	0.165	0.166
Election Year Fixed Effects	X	X	X	X
County X Event Fixed Effects	X	X	X	X
All Strikes	X	X	X	X
Controls	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. Continuous years between 2008 and 2021 are included.

Table A7. Interest in Government and Public Affairs (CCES, Continuous Years, First Strike Only)

	(1)	(2)	(3)	(4)
	Voter Turnout			
Strike Effect	0.009+	0.015*	0.007	0.013*
	(0.005)	(0.006)	(0.006)	(0.007)
Strike Effect X Republican		-0.008		-0.006
		(0.007)		(0.008)
Strike Effect X Independent		-0.021*		-0.023*
		(0.010)		(0.011)
Strike Effect X Parent			0.007	0.009
			(0.007)	(0.007)
Strike Effect X Republican X Parent				-0.007
				(0.011)
Strike Effect X Independent X Parent				0.000
				(0.024)
Observations	461,178	461,178	461,178	461,178
Adjusted R-squared	0.167	0.167	0.167	0.168
Election Year Fixed Effects	X	X	X	X
County Fixed Effects	X	X	X	X
Controls	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. Continuous years between 2008 and 2021 are included.

Table A8. Effect of Strikes on Turnout by Distance

	NaNDA		CCES				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Voter Turnout				Voter Turnout		
Close Strike Effect	-0.031***	-0.031***	-0.016*	-0.011*	-0.002	-0.007	-0.000
	(0.004)	(0.003)	(0.007)	(0.005)	(0.006)	(0.006)	(0.006)
Proximate Strike Effect	-0.003		-0.008				
	(0.005)		(0.009)				
Distant Strike Effect	0.005		-0.004				
	(0.004)		(0.007)				
Close Strike Effect X Republican					-0.021***		-0.017*
					(0.006)		(0.007)
Close Strike Effect X Independent					-0.006		-0.007
					(0.007)		(0.009)
Close Strike Effect X Parent						-0.017*	-0.012
						(0.007)	(0.011)
Close Strike Effect X Republican X Parent							-0.009
							(0.012)
Close Strike Effect X Independent X Parent							0.007
							(0.019)
Observations	18,569	18,569	374,111	374,111	374,111	374,111	374,111
Adjusted R-squared	0.471	0.471	0.177	0.177	0.177	0.177	0.177
Election Year Fixed Effects	X	X	X	X	X	X	X
County Fixed Effects	X	X	X	X	X	X	X
All Strikes Controls	X	X	X	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. Columns 1 and 2 show results for the NaNDA (election year 2008-2018) and all columns include the following controls: partisanship index, population (log), parent of school age child (%), Hispanic (%), African American (%), median income, and Bachelor (%, Among 25+). Column (3) through (7) show results for the CCES (election year 2008-2020) and all columns include the following controls: age, gender, race, education level, family income, home ownership, employment status, child, and political affiliation. Close strikes are 50 miles or less away. Proximate strikes are between 51 and 100 miles away. Distant strikes are between 101 and 200 miles away. Counties that are more than 200 miles away from the closest strike comprise the uncoded comparison group. Election years between 2008 and 2020 are included. Interaction terms must be interpreted alongside main effects, see Figure 4 for a visualization of the linear combinations.

Table A9. Effect of Strike Length on Voter Turnout

	NaNDA			CCES		
	(1)	(2)	(3)	(4)	(5)	(6)
		Voter Turnout			Voter Turnout	
Length (Continuous)	-0.001+			-0.001*		
	(0.001)			(0.001)		
5 Days or Less		0.011			-0.001	
		(0.009)			(0.010)	
6-10 Days		-0.018*			-0.025***	
		(0.007)			(0.006)	
11+ Days		-0.018			-0.005	
		(0.032)			(0.017)	
1 Day			0.012			-0.005
			(0.011)			(0.013)
2-5 Days			0.008			0.005
			(0.017)			(0.013)
6+ Days			-0.018*			-0.019**
			(0.009)			(0.006)
Observations	18,574	18,574	18,574	374,111	374,111	374,111
Adjusted R-squared	0.469	0.469	0.469	0.177	0.177	0.177
Election Year Fixed Effects	X	X	X	X	X	X
County Fixed Effects	X	X	X	X	X	X
All Strikes Controls	X	X	X	X	X	X

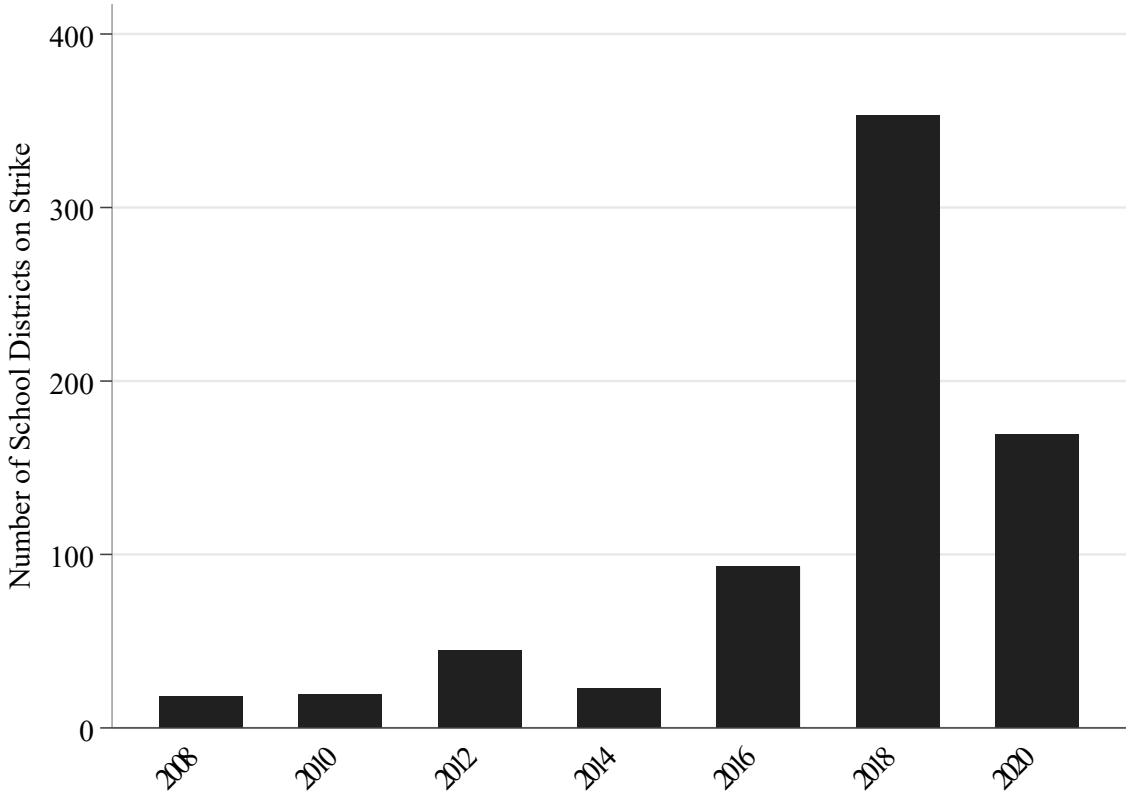
Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. Columns 1-3 include following controls: partisanship index, population (log), parent of school age child (%), Hispanic (%), African American (%), median income, and Bachelor (%, Among 25+). Column 4-6 include the following controls: age, gender, race, education level, family income, home ownership, employment status, child, and political affiliation. Posthoc tests find that coefficients for 5 Days or Less and 6-10 Days are significantly different (p<.01) in Columns 2 and 5, and coefficients for 5+ Days and 1 Day are significantly different in Column 3 (p<.05).

Table A10. Effect of Teacher Strikes on Presidential and Midterm Election Voter Turnout

	NaNDA	CCES				NaNDA	CCES			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Midterm Elections Voter Turnout					Presidential Elections Voter Turnout				
Strike Effect (Presidential Election)	-0.029***	-0.045***	-0.032***	-0.038***	-0.024*	-0.026+	-0.001	0.006	0.004	0.010
	(0.004)	(0.008)	(0.009)	(0.008)	(0.010)	(0.015)	(0.006)	(0.007)	(0.007)	(0.007)
Strike Effect X Republican			-0.028***		-0.028**			-0.020**		-0.019**
			(0.008)		(0.009)			(0.006)		(0.007)
Strike Effect X Independent			-0.021**		-0.027**			-0.010		-0.006
			(0.008)		(0.009)			(0.007)		(0.008)
Strike Effect X Parent				-0.030*	-0.033+				-0.023*	-0.018
				(0.012)	(0.018)				(0.010)	(0.012)
Strike Effect X Republican X Parent					0.002					0.000
					(0.022)					(0.014)
Strike Effect X Independent X Parent					0.033					-0.012
					(0.021)					(0.018)
Observations	9,407	182,351	182,351	182,351	182,351	9,316	239,043	239,043	239,043	239,043
Adjusted R-squared	0.669	0.200	0.200	0.200	0.201	0.509	0.141	0.141	0.141	0.141
Election Year Fixed Effects	X	X	X	X	X	X	X	X	X	X
County X Event Fixed Effects	X	X	X	X	X	X	X	X	X	X
All Strikes	X	X	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. Columns 1 and 6 include following controls: partisanship index, population (log), parent of school age child (%), Hispanic (%), African American (%), median income, and Bachelor (%, Among 25+). Column 2-5 and 7-10 include the following controls: age, gender, race, education level, family income, home ownership, employment status, child, and political affiliation. Midterm Elections include 2010, 2014, 2018, and Presidential Elections include 2008, 2012, 2016 and 2020 (CCES).

Figure A1. Number of School District Strikes by Election Year (Original Database of Teacher Strikes)



Notes: The figure shows the number of school district strikes by election year.

Appendix B. Merge Process

We merged the strike level data to the individual level, CCES data at the county-election year level. First, we identified all counties in which school districts had experienced strikes by merging our original strike dataset with 2021 School District Geographic Relationship Files (https://nces.ed.gov/programs/edge/geographic/relationshipfiles) downloaded from National Center for Education Statistics. We then merged these data with the individual level, CCES data at the county-election year level, identifying if a strike had taken place in a given election cycle in a given county.

Some county FIPS codes in CCES did not match with the counties identified using the geographic relationship files downloaded from IES. They are listed below. All of these county FIPs codes had changed over time.

County of residence	Frequency	Percent	Cumulative
02201	2	6.90	6.90
02232	7	24.14	31.03
02261	15	51.72	82.76
02280	4	13.79	96.55
46113	1	3.45	100.00
Total	29	100	

If the FIPS code had just changed or the county had been renamed, we simply replaced the previous county code with the one in CCES. If the counties had diverged into more than one county, we determined which divided area the respondents were living in and used the county code for that area (see table below). We did this by referring to the respondents' zip code. We used the "United States Zip Code Database" (https://www.unitedstateszipcodes.org/zip-code-database/), to find the matching county for each zip code. Then we replaced the FIPS code based on that. The detailed process and how the cases have changed are illustrated in below table. Using this process, we were able to match all county FIPs codes in the CCES with the county FIPS code in the IES Geographic Relationship files.

Old County_fips in CCES dataset do not match those in the strike dataset	Identified New County_fips in CCES dataset that now matched those in the strike dataset
02201	02198, 02275 ⓾ Prince of Wales-Hyder Census Area, AK **(FIPS code = 02198).** In 2008, Prince of WalesHyder Census Area was created from the remainder of the former Prince of Wales-Outer Ketchikan Census Area (FIPS code = 02201) after part (Outer Ketchikan) was annexed by Ketchikan Gateway Borough (FIPS code = 02130and another part was included in the new Wrangell Borough. This entity has a category code in the 2013 and 2006 NCHS schemes, but not in the 1990 census-based scheme.

	➓ Wrangell City and Borough, AK **(FIPS code = 02275).** In 2008, Wrangell City and Borough was created from part of Wrangell-Petersburg Census Area (FIPS code = 02280) and part of Prince of Wales-Outer Ketchikan Census Area (FIPS code = 02201). This entity has a category code in the 2013 and 2006 NCHS schemes, but not on the 1990 census-based scheme. ➓ Above wordings cited from: https://www.cdc.gov/nchs/data/data_acces_files/County-Geography.pdf
02232	02105, 02230 ➓ Hoonah-Angoon Census Area, AK **(FIPS code = 02105).** In 2007, Skagway-HoonahAngoon Census Area (FIPS code = 02232) was split into Hoonah-Angoon Census Area and Skagway Municipality **(FIPS code = 02230).** Hoonah-Angoon Census Area has a category code in the 2013 and 2006 NCHS schemes, but not in the 1990 census-based scheme. ➓ Above wordings cited from: https://www.cdc.gov/nchs/data/data_acces_files/County-Geography.pdf
02261	02063, 02066 ➓ Chugach Census Area, Alaska **(FIPS code = 02063)** was created from part of former Valdez-Cordova Census Area (FIPS code = 02261) effective January 02, 2019. Estimates for this area appear on Vintage 2020 and later bridgedrace population files ➓ Copper River Census Area, Alaska **(FIPS code = 02066)** was created from part of former Valdez-Cordova Census Area (FIPS code = 02261) effective January 02, 2019. Estimates for this area appear on Vintage 2020 and later bridged-race population file ➓ Above wordings cited from: https://www.cdc.gov/nchs/nvss/bridged_race/county_geography-_changes1990-present.pdf
02280	02195, 02275 ➓ Petersburg Census Area, AK **(FIPS code=02195).** Petersburg Census Area was created from part of the former Wrangell-Petersburg Census Area (FIPS code = 02280) in 2008. This entity has a category code in the 2013 and 2006 NCHS schemes, but not in the 1990 census-based scheme. ➓ Wrangell City and Borough, AK **(FIPS code = 02275).** In 2008, Wrangell City and Borough was created from part of Wrangell-Petersburg Census Area (FIPS code = 02280) and part of Prince of Wales-Outer Ketchikan Census Area (FIPS code = 02201). This entity has a category code in the 2013 and 2006 NCHS schemes, but not on the 1990 census-based scheme. ➓ Above wordings cited from: https://www.cdc.gov/nchs/data/data_acces_files/County-Geography.pdf
46113	46012 ➓ Oglala Lakota County, SD. Shannon County, SD **(FIPS code = 46113)** was renamed Oglala Lakota County and assigned anew

	FIPS code (46102) effective in 2014. Oglala Lakota County has a category code in all three of the NCHS schemes. ⑩ Above wordings cited from: https://www.cdc.gov/nchs/data/data_acces_files/County-Geography.pdf

Appendix C. Heterogeneity by Strike Coordination

Some teacher strikes occur individually, typically when collective bargaining negotiations between a local school district and the local teachers' union have stalled. However, there are also instances of coordinated, cross district teacher strikes in which multiple local school districts go on strike at the same time. Both individual and coordinated strikes involve teacher driven work stoppages, yet coordinated strikes are more likely to be illegal than individual strikes. The #RedforEd strikes that began in 2018 were a prominent example of cross-district, coordinated teacher strikes within states. Coordinated strikes are more outwardly focused, with demands that are more publicly oriented, typically centered around policies controlled at the state level. As such, we expect that coordinated strikes may have larger effects on the public.

We test whether the effects of US teacher strikes vary depending on whether they are individual or coordinated by re-estimating Equations 4 and 5 with an interaction between $Strike_{cet}$ and a dichotomous term for whether or not the strike was coordinated acorss districts. The specifications take the following form,

(7) $$Y_{ct} = \beta_1 Strike_{cet} * \beta_2 Coordinated\ Strike_{cet} + \lambda X_{ct} + \pi_{ce} + \delta_t + \varepsilon_{cet},$$ and

(8) $$Y_{ict} = \beta_1 Strike_{cet} * \beta_2 Coordinated\ Strike_{cet} + \lambda X_{ict} + \pi_{ce} + \delta_t + \varepsilon_{icet}.$$

The term β_1 indicates the effect of individual district strikes, and we calculate the effect of coordinated strikes as $\beta_1 + \beta_2$. We do this using both the NaNDA and CCES data and present results in Table C1.

We find suggestive evidence that coordinated strikes have a larger negative effect than individual district strikes (leading to turnout declines of 3-4 pp in CCES and NaNDa

respectively). Specifically, for the NaNDA panel, we find that individual district strikes cause turnout to decline by 1.5 pps, though we lack the statistical precision to reach standard levels of significance. We then see that the effect of teacher strikes varies significantly depending on whether its coordinated. We find that coordinated strikes case 3.9 pp declines in turnout. Similarly, using the CCES data, we find that individual strikes also cause turnout to decline by 1.5 pp, and this is estimated precisely (p<.01). We also find that coordinated strikes reduce turnout by 3 pp, though the interaction term lacks precision. Taken together, we take these results as suggesting that effects are somewhat larger for coordinated strikes but not dramatically different from individual district strikes.

Table C1. Variation in Strike Effects on Turnout by Coordination

	NaNDA	CCES
Strike Effect	-0.015	-0.015**
	(0.010)	(0.005)
Strike Effect X Coordinated	-0.024*	-0.010
	(0.011)	(0.008)
Linear Combination: Coordinated Strike Effect	*-0.039***	*-0.025***
	(0.006)	*(0.007)*
Observations	18,874	468,292
Adjusted R-squared	0.470	0.171
Election Year Fixed Effects	X	X
County X Event Fixed Effects	X	X
All Strikes	X	X
Controls	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors clustered at the county level in parentheses. Coordinated strikes are defined as instances in which multiple school districts go on strike at the same time. Results display coefficients of interest and their linear combination from Equations 7 and 8.

Appendix D. Robustness

We conduct a series of robustness checks to demonstrate that our results are not driven by potential sources of bias or sensitive to empirical specifications. In Appendix Table D1, we show results with differing sample restrictions. First, we exclude strikes that occurred in 2018, when #RedforEd teacher strikes were widely taking place. Compared to the estimated effects in the main models (Columns 1, 3, and 4), the estimated effects increase in magnitude to -5 percentage points for NaNDA and remain essentially constant for CCES (Columns 2, 5, and 6). In both cases, we still find a significant demobilizing effect. Additionally, for the CCES, we conducted analyses without the sample restriction of self-identified citizens (Columns 7 and 8) and show that the results remain nearly identical to the main findings.

Table D1. Sample Restrictions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	NaNDA		CCES					
	Main	Exclude 2018 Strikes	Main		Exclude 2018 Strikes		Including Non-citizens	
Strike Effect	-0.032***	-0.054***	-0.019***	-0.009+	-0.011*	-0.003	-0.020***	-0.009+
	(0.005)	(0.012)	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)
Strike Effect*Republican				-0.023***		-0.017**		-0.024***
				(0.005)		(0.006)		(0.005)
Post Estimation								
Democrat				-0.009+		-0.003		-0.009+
				(0.005)		(0.006)		(0.005)
Republican				-0.033***		-0.021***		-0.033***
				(0.006)		(0.006)		(0.006)
Observations	18,874	17,531	468,292	468,292	423,004	423,004	477,520	477,520
Adjusted R-squared	0.470	0.455	0.171	0.171	0.171	0.171	0.176	0.176
Election Year FE	X	X	X	X	X	X	X	X
CountyXEvent FE	X	X	X	X	X	X	X	X
All Strikes	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. NaNDA controls include: Partisanship Index, Population (log), Parent (%), Hispanic (%), African American (%), Bachelor (%, among 25+). CCES controls include: Age, Gender, Race, Education Level, Family Income, Home Ownership, Employment Status, Child, and Political Affiliation. Columns 1, 3, and 4 show our main model. Columns 2, 5, and 6 exclude strikes that occured in 2018. Columns 7 and 8 show results removing the sample restriction of self-identified citizens. FE=Fixed Effects.

In Appendix Tables D2-3, we present results where we shift the covariates that we include. First, we show that even when excluding all control variables, we obtain similar results, indicating that strikes reduce turnout by about 2-3 percentage points, on average with Republicans experiencing the largest effects (Table D2 Column 2; Table D3 Columns 3 and 4).

We then included several new control variables sequentially in our main model. First, we control for public school enrollment to account for the fact that teacher strikes might be more demobilizing in places with greater reliance on public schools relative to private schools. When there is a high degree of school choice, it's possible that teacher strikes are less demobilizing. We add the percentage of public school enrollment[17] as controls (Table D2 Column 3; Table D3 Columns 5 and 6), showing that the result is almost identical to the main finding.

We also account for differing experiences with strikes besides teacher strikes by including a control for state non-teacher work stoppages[18] (Table D2 Column 4; Table D3 Columns 7 and 8). Additionally, we account for differing levels of unionization across states by interacting baseline (2008) state union membership[19] and a linear year trend (Table D2 Column 5; Table D3 Columns 9 and 10). Note that we use the baseline value because a time varying value would potentially be affected by teacher strikes.

Additionally, it is possible that teacher strikes may be more likely to occur in places where individuals are less likely to vote even prior to the strike. We therefore also account for differing levels of voting at baseline by including the interaction between baseline (2008) turnout and a linear year trend (Table D2 Column 6; Table D3 Columns 11 and 12). Again, we use the baseline value because our outcome is the time varying value. Nevertheless, this allows us to

[17] Public school enrollment comes from the ACS 5-year estimates.
[18] These data come from the Bureau of Labor Statistics, *Detailed Monthly Listing, 1993-present*.
[19] Hirsch, Barry T., David A. Macpherson, and William E. Even. (2025). Union Membership, Coverage, and Earnings from the CPS. https://www.unionstats.com/ We use state total percentage of union membership.

account for the fact that places that have higher or lower voting at baseline may evolve differently over time.

Finally, we also recognize that experiences with the Great Recession could have shaped both a propensity to strike and voter turnout if places that were hit harder during the Great Recession are more likely to strike and have weaker turnout. We account for this and any other employment related local shocks by account for the county-level unemployment rate[20] (Table D2 Column 7; Table D3 Columns 13 and 14).

Across all of these checks, the results show that the estimated effects from our preferred specification are very robust to the addition of these controls, with an overall magnitude of approximately -2 to -3 percentage points.

[20] U.S. Bureau of Labor Statistics. Local Area Unemployment Statistics. County-level Annual Average Data. https://www.bls.gov/lau/tables.htm#cntyaa

Table D2. Robustness to Changes in Covariates (NaNDA)

	(1) Main	(2) Without Controls	(3) Enrollment	(4) Non-teacher Strike	(5) Union Trend	(6) Turnout Trend	(7) Unemployment
Strike Effect	-0.032***	-0.031***	-0.032***	-0.031***	-0.023***	-0.036***	-0.032***
	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Public School Enrollment (%)			-0.000				
			(0.000)				
Non-teacher Strikes in State (Number)				-0.009***			
				(0.001)			
Baseline Union Membership * Year					-0.054***		
					(0.006)		
Baseline Turnout * Year						-0.056***	
						(0.002)	
County Unemployment Rate (%)							-0.005***
							(0.001)
Observations	18,874	18,874	18,874	18,874	18,874	18,472	18,820
Adjusted R-squared	0.470	0.467	0.470	0.472	0.474	0.495	0.470
Election Year Fixed Effects	X	X	X	X	X	X	X
CountyXEvent Fixed Effects	X	X	X	X	X	X	X
All Strikes	X	X	X	X	X	X	X
Controls	X		X	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. NaNDA controls include: Partisanship Index, Population (log), Parent (%), Hispanic (%), African American (%), Bachelor (%, among 25+). Columns 1 shows our main model. Columns 2 shows the results with control variables removed. Remaining Columns show where we add additional control variables noted on the left.

Table D3. Robustness to Changes in Covariates (CCES)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	CCES							
	Main		Without Controls		Enrollment		Non-teacher Strike	
Strike Effect	-0.019***	-0.009+	-0.025***	-0.012*	-0.019***	-0.009+	-0.019***	-0.009+
	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Strike Effect*Republican		-0.023***		-0.022***		-0.023***		-0.023***
		(0.005)		(0.006)		(0.005)		(0.005)
Public School Enrollment (%)					-0.000	-0.000		
					(0.001)	(0.001)		
Non-teacher Strikes in State (Number)							-0.004***	-0.004***
							(0.001)	(0.001)
Post Estimation								
Democrat		-0.009+		-0.012*		-0.009+		-0.009+
		(0.005)		(0.006)		(0.005)		(0.005)
Republican		-0.033***		-0.034***		-0.033***		-0.032***
		(0.006)		(0.006)		(0.006)		(0.006)
Observations	468,292	468,292	469,148	469,148	468,278	468,278	468,292	468,292
Adjusted R-squared	0.171	0.171	0.043	0.074	0.171	0.171	0.171	0.171
Election Year Fixed Effects	X	X	X	X	X	X	X	X
CountyXEvent Fixed Effects	X	X	X	X	X	X	X	X
All Strikes	X	X	X	X	X	X	X	X
Controls	X	X			X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. CCES controls include: Age, Gender, Race, Education Level, Family Income, Home Ownership, Employment Status, Child, and Political Affiliation. Columns 1 and 2 show our main model. Columns 3 and 4 show the results with control variables removed. Remaining Columns show where we add additional control variables noted on the left.

Table D3. Robustness to Changes in Covariates (CCES), Continued

	(9)	(10)	(11)	(12)	(13)	(14)
			CCES			
	Union Trend		Turnout Trend		Unemployment	
Strike Effect	-0.016**	-0.006	-0.019***	-0.009+	-0.020***	-0.009+
	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Strike Effect*Republican		-0.025***		-0.025***		-0.023***
		(0.005)		(0.005)		(0.005)
Baseline Union membership (2008) * Year	-0.033***	-0.033***				
	(0.007)	(0.007)				
Baseline turnout (2008) * Year			0.001	0.001		
			(0.004)	(0.004)		
County Unemployment Rate (%)					0.000	0.000
					(0.000)	(0.000)
Post Estimation						
Democrat		-0.006		-0.009+		-0.009+
		(0.006)		(0.005)		(0.005)
Republican		-0.030***		-0.034***		-0.033***
		(0.006)		(0.006)		(0.006)
Observations	467,558	467,558	442,781	442,781	463,875	463,875
Adjusted R-squared	0.171	0.171	0.170	0.170	0.171	0.171
Election Year Fixed Effects	X	X	X	X	X	X
CountyXEvent Fixed Effects	X	X	X	X	X	X
All Strikes	X	X	X	X	X	X
Controls	X	X	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. CCES controls include: Age, Gender, Race, Education Level, Family Income, Home Ownership, Employment Status, Child, and Political Affiliation. Columns 1 and 2 show our main model. Columns 3 and 4 show the results with control variables removed. Remaining Columns show where we add additional control variables noted on the left.

In Appendix Table D4, we address the methodological concern that TWFE estimators have the potential to be biased when there is staggered timing of treatments and heterogeneous treatment effects (Goodman-Bacon 2021). We show results using the "stacked" approach utilized by Cengiz et al. (2019).[21] We create and stack distinct samples where each stack includes a distinct cohort of treated counties for which the strike occurred in the same election year. As control units, we only include counties that never experienced a strike during our panel. We then interact all model terms with a series of cohort fixed effects and pool treatment estimates for each stack to calculate the overall treatment effect. This circumvents the possible bias introduced by heterogeneous treatment effects by estimating cohort-specific DiD analyses in which the control counties never experience strikes. Overall, these results consistently support the finding that strikes reduce voter turnout by approximately 2 to 3 percentage points (Columns 2, 5, and 6).

[21] We use this estimator because it seamlessly accommodates interaction terms. Functionally it creates the same model as the Callaway and Sant'Anna (2020) estimator.

Table D4. Alternative DiD Estimator

	(1)	(2)	(3)	(4)	(5)	(6)
	NaNDA		CCES			
	Main	Cengiz et al.	Main		Cengiz et al.	
Strike Effect	-0.032***	-0.027***	-0.019***	-0.009+	-0.019***	-0.010*
	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)
Strike Effect*Republican				-0.023***		-0.022***
				(0.005)		(0.004)
Post Estimation						
Democrat				-0.009+		-0.010*
				(0.005)		(0.004)
Republican				-0.033***		-0.032***
				(0.006)		(0.005)
Observations	18,874	102,149	468,292	468,292	2,100,136	2,100,136
Adjusted R-squared	0.470	0.464	0.171	0.171	0.176	0.176
Election Year Fixed Effects	X	X	X	X	X	X
CountyXEvent Fixed Effects	X	X	X	X	X	X
All Strikes	X	X	X	X	X	X
Controls	X	X	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. NaNDA controls include: Partisanship Index, Population (log), Parent (%), Hispanic (%), African American (%), Bachelor (%, among 25+). CCES controls include: Age, Gender, Race, Education Level, Family Income, Home Ownership, Employment Status, Child, and Political Affiliation. Columns 1, 3, and 4 show our main model. Columns 2, 5, and 6 use the "stacked" approach utilized by Cengiz et al. (2019). We create and stack distinct samples where each stack includes a distinct cohort of treated counties for which the strike occurred in the same election year. As control units, we only include counties that never experienced a strike during our panel. We then interact all model terms with a series of cohort fixed effects and pool treatment estimates for each stack to calculate the overall treatment effect.

In Appendix Table D5, we examine the effect of the first strike in a given county (Equation 1), rather than all strikes in a county (Columns 2, 5, and 6). Effects using this specification are nearly identical but slightly larger in magnitude relative to our preferred specification.

In Appendix Table D6, we consider a few specifications where we'd expect the effect to be smaller due to spillovers to neighboring areas. First, we restrict our sample to states that experienced teacher strikes during the surveyed period (Columns 2, 5, and 7)—this means that we are limited the counterfactual counties to those that are in states that also experienced strike. These are precisely the counties where we might expect a spillover effect to be present, so we are likely underestimating the true effect of teacher strikes for those closest to them. We still find a demobilizing effect of strikes that is, as expected, smaller in magnitude, suggesting that the effects are considerably larger in counties where strikes occurred but that there is some spillover to neighboring counties. Related, we also replicate the distance analysis with a dichotomous indicator for $Close\ Strike_{ct}$ coded as 1 when a strike occurs less than 100 miles away (rather than less than 50 miles away in the main text), and again we continue to find a strike effect, though it is somewhat smaller and less precisely estimated effects (Columns 3, 8, and 9).

Table D5. First Strike Only

	(1)	(2)	(3)	(4)	(5)	(6)
	NaNDA		CCES			
	Main	First Strike	Main		First Strike	
Strike Effect	-0.032***	-0.034***	-0.019***	-0.009+	-0.020**	-0.010
	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.007)
Strike Effect*Republican				-0.023***		-0.021**
				(0.005)		(0.007)
Post Estimation						
Democrat				-0.009+		-0.010
				(0.005)		(0.007)
Republican				-0.033***		-0.031***
				(0.006)		(0.008)
Observations	18,874	18,574	468,292	468,292	374,111	374,111
Adjusted R-squared	0.470	0.470	0.171	0.171	0.177	0.177
Election Year Fixed Effects	X	X	X	X	X	X
CountyXEvent Fixed Effects	X		X	X		
County Fixed Effects		X			X	X
All Strikes	X		X	X		
Controls	X	X	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. NaNDA controls include: Partisanship Index, Population (log), Parent (%), Hispanic (%), African American (%), Bachelor (%, among 25+). CCES controls include: Age, Gender, Race, Education Level, Family Income, Home Ownership, Employment Status, Child, and Political Affiliation. Columns 1, 4, and 5 show our main model. Columns 2, 5, and 6 estimate the effect of just the first strike in a county using Equations 2 and 3.

Table D6. Persistent Effects Even When Examining Only Striking States or Strike Distance up to 100 Miles Away

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		NaNDA				CCES			
	Main	Only Striking States	Distance 100	Main		Only Striking States		Distance 100	
Strike Effect	-0.032***	-0.015*	-0.018***	-0.019***	-0.009+	-0.024***	-0.012*	-0.010	-0.003
	(0.005)	(0.006)	(0.003)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.007)
Strike Effect*Republican					-0.023***		-0.027***		-0.017**
					(0.005)		(0.006)		(0.006)
Post Estimation									
Democrat					-0.009+		-0.012*		-0.003
					(0.005)		(0.006)		(0.007)
Republican					-0.033***		-0.039***		-0.020**
					(0.006)		(0.006)		(0.007)
Observations	18,874	6,883	18,569	468,292	468,292	312,495	312,495	374,111	374,111
Adjusted R-squared	0.470	0.512	0.470	0.171	0.171	0.166	0.166	0.177	0.177
Election Year Fixed Effects	X	X	X	X	X	X	X	X	X
CountyXEvent Fixed Effects	X	X		X	X	X	X		
County Fixed Effects			X					X	X
All Strikes	X	X		X	X	X	X		
Controls	X	X	X	X	X	X	X	X	X

Notes: + p<.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors, clustered at the county level in parentheses. NaNDA controls include: Partisanship Index, Population (log), Parent (%), Hispanic (%), African American (%), Bachelor (%, among 25+). CCES controls include: Age, Gender, Race, Education Level, Family Income, Home Ownership, Employment Status, Child, and Political Affiliation. Columns 1, 4, and 5 show our main model. Columns 2, 6, and 7 show results where we only include states that experienced any teacher strikes during the study period. Columns 3, 8, and 9 show distance analysis using a dichotomous treatment indicator for a strike 100 or less miles away.