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How Do Teachers' Unions Influence Vaccine Mandates?

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Abstract

The COVID-19 pandemic presented an array of policy problems for school districts across the country. This included balancing social distancing during in-person learning. The creation of the COVID-19 vaccine made in-person learning a more viable option again. However, the political polarization that surrounded COVID-19 extended to vaccines, with many communities experiencing hurdles in vaccinating their populace. Previous research shows how teachers' unions influenced school district reopenings during the height of the pandemic in fall of 2020; this paper seeks to expand on this literature by looking at how teachers' unions influence the adoption of vaccination mandates and testing. I test whether a school district has a collective bargaining agreement (CBA) with a teachers' union, the page length of that CBA. Using an OLS regression, I find that if a teachers' union has a CBA with its school district, the district is 33% more likely to adopt a vaccination and testing mandate than a district without a CBA. Additionally, the page length CBA has a weaker, but still significant relationship in encouraging the adoption of a vaccination and testing mandate in a school district.

Keywords: Teachers' unions, COVID-19, vaccination mandates, collective bargaining

As COVID-19 began spreading through the United States in March of 2020, state governments across the country declared states of emergencies and shut down their states. Figuring out how to safely continue education in school districts became a large policy concern as children's learning was disrupted. Online learning became the dominant form of learning for students. However, online learning encountered many problems. Besides the difficulties in acquiring technology to sustain online learning like internet connection and laptops, evidence suggests that online learning was not as effective as learning in person, especially for younger students (Tomasik et al., 2021). When the school year in the fall of 2020 began, involved parties, such as school districts, unions, state and local governments, assessed the costs and benefits of returning to in-person learning. The politically polarized narratives regarding COVID-19 made the discussions on how to approach the 2020-2021 school

year difficult. Groups had to be organized and possess the power to achieve preferred outcomes. As the vaccine against COVID-19 came into play, this opened up new discussions on how to fight the pandemic and protect populations in schools.

In this paper, I examine how teachers' unions influence the adoption of COVID-19 vaccination mandates in their school districts. I leverage my own dataset of 49 school districts and their collective bargaining agreements (CBAs) against the vaccination policies that the school districts adopt. I find that a district with a CBA is 33% more likely to adopt a vaccination and test mandate, and that there is some support for the argument that the more pages in a CBA, the more likely the school district will adopt a vaccination and testing mandate. These findings add to the discussion of how teachers' unions have influenced school district policies as it relates to the COVID-19 pandemic. This helps illuminate the potential roles that

unions may play in the event of future public health crises.

The paper is structured as follows. In the first section I discuss the current events of how COVID-19 has affected the education system in the U.S. and the literature that proceeded to explain how teachers' unions influenced changing situations in school districts. Then I provide an explanation for the variables used in this study. In the second section, I describe the collection of those variables in detail. Next, section three covers the analysis of the collected data. Lastly, I provide concluding remarks, and where this research can be expanded upon.

Theories of Unions and how they respond to COVID-19

COVID-19 and Unions

As states across the country shut down economies and forced lockdowns onto their citizens, school districts had to contend with teaching children remotely. While federal funding supplied capital to close many online infrastructure gaps ([Jordan, 2021](#)), teaching in-person was still preferred due to online learning not being as effective. However, there are still costs associated with in-person learning. The main costs were increased potential exposure to COVID-19, the capital required to increase sanitary standards, exacerbated staffing issues, and the lack of space to maintain social distancing. Additionally, there were chances of further disruption to learning by switching from in-person back to online learning due to COVID-19 outbreaks. The benefits, on the other hand, were that students were likely to have better educational outcomes under in-person learning, opportunities for children to socialize, arguably less technological issues, and it would reduce costs of parents caring for their children at home to do other things like go to work. In sum, there are several aspects to consider when districts go back in-person. Teachers' unions play an important role here by representing teachers in these discussions. Given that teachers bear a number of these listed burdens and more, it is the union's responsibility to mitigate these burdens for its members.

Unfortunately, there continue to be broader political disagreements on how to balance a return to pre-COVID-19 living while the disease still spreads across the country. These debates impact the

discussions on reopening schools. The main point of contention since the late summer and fall of 2020 is whether we should adopt more restrictions to mitigate the spread of the virus, such as mask mandates, social distancing, and vaccination mandates, or if we should limit or have no restrictions at all as a way to return to pre-COVID-19 living. The politicization of the issue was very public with then-President Trump pushing for schools to reopen in the fall of 2020 despite experts warning otherwise ([Feuer, 2020](#)). Partisanship prevented policy solutions to stem the virus, with Democrats being more "pro-restriction" than Republicans who were more "anti-restriction" ([Grossman et al., 2021](#)). Since policies to prevent further COVID-19 spread were being stalled, teachers' unions played a large role in getting such policies passed. Many studies looked at union influence in school districts and found that school districts with stronger teachers' unions were more likely to delay teaching in-person ([DeAngelis & Makridis, 2021](#); [Hartney & Finger, 2021](#); [Marianno et al., 2021](#)) or even adopt mandates for school populations to wear masks to prevent the spread of COVID-19 ([Dean et al., 2021](#)).

The primary way to return to a safe, in-person learning environment is to have a substantial amount of each school district's community vaccinated against COVID-19 because increased immunity stems the impact and spread of the disease. The introduction of the COVID-19 vaccines and their widespread access in the spring of 2021 offered a chance to mitigate the advancement of the disease across the country. Yet the disagreements on vaccines and vaccination mandates are a barrier to fighting COVID-19. Given the influence that teachers' unions had on the reopening of schools during the 2020-2021 school year ([Hemphill & Marianno, 2021](#)), it is pertinent to ask, how do teachers' unions influence the adoption of vaccination mandates for employees in school districts? Do teachers' unions even have an incentive to support employee vaccination mandates? The push for online learning suggests they likely support the mandates. Unions have a vested interest in keeping their members safe. The lack of large vaccination rates endangers their members. Thus, they should have a preference towards some kind of incentive for school staff to get vaccinated.

Unfortunately, the polarization around vaccines presents an internal problem for unions. If

there were to be a strict vaccine mandate and teachers outright refused to get vaccinated, unions would lose membership and school districts would lose teachers. Therefore, unions and districts may be averse to a strict vaccination mandate. Instead, they may prefer a vaccination and testing mandate. The difference between strict vaccination mandates and vaccination and testing mandates is that the vaccination and testing mandate gives the teachers the option to avoid vaccinations by taking periodic COVID-19 tests. This is in contrast to the vaccination mandate which requires all staff get vaccinated. Vaccination and testing mandates still ensure some degree of safety for people in schools by tracking COVID-19 cases that may occur. Additionally, the vaccination and testing mandate keeps pressure on teachers and staff to get vaccines to avoid the costs associated with having to get tested for COVID-19 and wait for results periodically.

Theories of Group Power

Assuming unions prefer vaccination and testing mandates, I am concerned with whether a union is able to influence a school district to adopt a vaccination and testing mandate. My research question is then: does the strength of a teachers' union predict whether a school district will adopt a COVID-19 vaccination and testing mandate? Measuring the strength of a teachers' union is necessary in this case. The strength of the teachers' unions will be measured using Marianno et al.'s (2021) methodology. Marianno et al. (2021) used Bachrach and Baratz (1962) theory of interest group power and found that unions with longer-term collective bargaining, otherwise more entrenched power, were more likely to delay in-person learning. Collective bargaining agreements (CBAs) are contracts that typically set salaries, class sizes, planning periods, and spending levels (Hoxby, 1996; Rose & Sonstelie 2010; Strunk, 2011). However, CBAs will likely have few or no mentions of COVID-19 related policies because these contracts can last several years. This is why Marianno et al.'s (2021) use of Bachrach and Baratz's (1962) theory can be advantageous. Bachrach and Baratz (1962) focused on the two faces of power that were exercised by groups to influence others. There is the short face of power and the long face of power. The short face of power includes tactics that groups use which are visible to the public. These tactics are in reaction to proposed policies and hope to influence the

outcome of said policy. For example, when groups make official statements to the press in regards to a salient topic, this would be considered a use of the first face of power. The long face of power, however, is a deterrence tactic against unfavorable policies so that the policies will not be put on agendas in the first place. An example of the second face of power is when groups use their connections with other important groups or individuals outside the public sphere to influence policies and agendas before those policies and agendas are even set. In other words, groups exercising the second face of power use their influence amongst contained groups that have direct influence on the outcome of policies. This is opposed to involving the public in an effort to expand the conflict to the groups benefit as the short face of power does. Due to data limitations, I will not focus on the short face of power. However, this is not too concerning since Marianno et al. (2021) did not find statistical significance for the short face of power in their paper.

In this analysis, I will utilize CBAs between teachers' unions and school districts for the long face of power. CBAs serve as a good measure for the long face of power because they show that the union has bargaining capabilities with the school district and a likelier chance of accomplishing its goals that would be difficult without the CBA. To elaborate, unions with CBAs could entrench their power within the school districts by negotiating a contract with their districts. Unions with CBAs have more leverage, and do not need to expand their conflicts with school districts to the public as much as a union without a CBA does. With that, I also surmise that the longer a CBA, the more likely that a school district would adopt a vaccination and testing mandate. This is because a CBA with more pages indicates more rights, regulations, and other guarantees in favor of the union—in other words, it indicates a stronger union.

Therefore, I am left with two hypotheses:

Hypothesis A: a school district that has a CBA with a teachers' union is more likely to adopt a vaccination and testing mandate than a school district without a CBA.

Hypothesis B: the more pages in a CBA between a teacher's union and a school district the more likely

the school district will adopt a vaccination and testing mandate.

Data

Independent Variables

To gather the data, I located the largest 50 school districts in the country from the National Center for Education Statistics (2021). Then, I collected unique data on union strength by looking at each school district to see what teachers' union the school districts negotiated with and whether the union had a CBA. This information is typically found in labor relation sections of school district websites and, occasionally, within the websites of teachers' unions under negotiated contract sections. Some states ban collective bargaining. Those states being Texas, North Carolina, Tennessee, and Georgia. Thus, school districts in these states were documented as having no CBA. When I could not locate a CBA in a school district, I contacted the school district and/or the teachers union to see if they had a CBA in place. If a school district was in the process of negotiating a CBA and did not have one for the 2021-2022 school year but did have a CBA for the 2020-2021 school year, the older contract was used. This is because previous research found that the length of CBAs is relatively static over time (McDonnell & Pascal, 1988; Cowen & Fowles, 2013; Ingle & Wisman, 2017). Thus, using the older ones should not be a problem for this study.

To measure the relative strength of teachers' union CBAs, I then documented the number of pages for the CBA by hand. I use this as one of the independent variables to proxy the strength of a teachers' union in relation to Marianno et al. (2021) that found a moderate negative relationship for the number of pages in a CBA and the likelihood that a school district will teach in person during the fall 2020 semester of the COVID-19 pandemic. The rationale here is that the more pages there are in a CBA, the power of a teachers' union is broader and more nuanced. Therefore, theoretically, a CBA with 426 pages would indicate that this teachers' union would be more powerful than a union with a 50-page CBA or one without a CBA at all.

From this data, I created two independent variables: the presence of a CBA and the number of pages in the CBA. The first independent variable, whether there were CBAs, is a binary variable coded as

a 1 being the presence of a CBA and a 0 being the absence of a CBA. Figure 1 shows data about this variable. The average of this variable is 0.571, meaning that of the sampled districts, most had a collective bargaining agreement.

Figure 1

Number of CBA Agreements

The second independent variable, the CBA page numbers, is a ratio variable indicating the number of pages in a CBA. The average pages in an agreement are 82 pages with a range of 0 to 426 pages. This information is displayed in Figure 2.

Figure 2

CBA Page Numbers

Dependent Variable

To measure my dependent variable, I investigated whether the school district had adopted a vaccination and testing mandate. To elaborate, I searched the internet whether school districts had the option of requiring teachers to either receive a COVID-19 vaccination or take periodic tests for COVID-19. I used this rather than a COVID-19 vaccination-only mandate because of the politically polarizing nature of the COVID-19 vaccines. While teachers' unions and school districts want to preserve the health and safety of staff and students, both groups want to retain teachers. Giving teachers the option of not taking the vaccine avoids some of the political backlash while still incentivizing high vaccination rates. Protests have been a common form of expression of disagreement with these policies (McAndrew, 2021; Downey, 2021). There were instances where school districts were not allowed to adopt vaccination mandates because of state law. Texas, for example, has many school districts that were coded as not having vaccination and testing mandates because of an executive order banning COVID-19 vaccine mandates. The few school districts that adopted a strict COVID-19 vaccination mandate were still coded as having a vaccination and testing mandate because it is essentially still the same effect in both cases—incentivizing higher vaccination rates. As an anecdote, this appears to be mostly exclusive to the largest of school districts. Four of the largest five school districts have a vaccination only mandate, with one other school district in this sample outside of the largest five school districts (Philadelphia City School District, the 19th largest district in the country) to have a vaccination only mandate. Figure 3 displays information on the vaccination and testing mandates variable. This binary variable is a 0 where there is no vaccination and test mandate and a 1 where there is a vaccination and testing mandate. With the average being 0.428, Figure 3 indicates that most school districts did not adopt a vaccination and testing mandate.

Figure 3*Number of Vaccination and Testing Mandates* **Analysis**

Using two linear regression models, I find support for both of my hypotheses. Table 1 describes the relationship between the Vaccination and Tests dependent variable and the CBA. Table 2 examines the effect of CBA Page Numbers on school district policy. Starting with Model 1, there is a moderately strong, positive relationship when a teachers' union has a CBA with its school district and when a vaccination and test mandate is in place in the school district. Specifically, the presence of a CBA is statistically significant at the 0.05 level, with a coefficient of .333. Substantively, this shows that a district that negotiated a CBA with a union is 33% more likely to have a vaccination mandate than a district without a CBA. Therefore, hypothesis A has support, and I can reject the null hypothesis.

Table 1*Model 1, Presence of CBA*

Vaccination and tests	Coefficient	Standard Error
Presence of CBA	0.3333**	0.1375
Constant	0.2381***	0.104
Observations	49	

Table 2*Model 2, CBA Page Numbers*

Vaccination and tests	Coefficient	Standard Error
CBA Page Number	0.001*	0.001
Constant	0.324***	0.09
Observations	49	

Note: all models estimated using a linear regression.

*** $p < .01$; ** $p < .05$; * $p < .10$

Model 2 tests the second hypothesis. This model, on the other hand, is only statistically significant at the 0.10 level, with a coefficient of .001. This means that for every 1 unit increase in the number of pages in a CBA, there is a 1% greater probability that a school district will adopt a vaccination mandate. Regardless, the statistical significance means that I can reject the null hypothesis at the 0.10 level. The results are more interesting when one considers that some of the school districts with CBAs that have a high page count also have a strict vaccination mandate rather than a vaccine and testing mandate. For example, New York City Public Schools, Los Angeles Unified, and the City of Chicago (SD 299) all have CBAs with 238 pages, 426 pages, and 381 pages, respectively, and strict vaccination mandates. However, there are counter points, like Clark County¹ and Philadelphia City which both have a strict vaccination mandate. Both have CBAs under 100 pages but possess strict vaccine mandates. Conversely, Dade County, the fourth largest school district in the country, which also has a 274-page CBA, does not have a strict vaccination mandate. Further testing could be done to isolate whether there is a threshold for page numbers that may predict the adoption of a vaccination mandate.

Conclusion

Does the strength of a teachers' union predict whether a school district will adopt a COVID-19 vaccination mandate? In this paper, I argued yes. Unions have a vested interest in keeping their members safe. Their previous actions to delay school reopening suggests that they would be in favor of vaccination mandates. However, due to political polarization surrounding vaccines and COVID-19, a strict vaccination mandate may be unfeasible. So, I posit that the combination of a vaccination and testing mandate would be a better option to encourage better vaccination rates against COVID-19.

To test my research question, I used the presence and page length of collective bargaining agreements (CBAs) for my independent variables to measure teachers' unions' strength. This is similar to how Marianno et al. (2021) conducted their study

based off of Bachrach and Baratz (1962) theory of interest group power. CBAs are a useful application of Bachrach and Baratz long face of power. CBAs are a good representation of a union's ability to negotiate favorable policies relative to the school districts they operate in. Union's negotiating power allows them to directly influence policies at the source of the policy and does not require the public to be involved to support the union's endeavors. My first hypothesis was, a school district that has a CBA with a teachers' union is more likely to adopt a vaccine and testing mandate than a school district without a CBA. I also follow Marianno et al.'s (2021) methodology of using the page numbers of a CBA to represent the strength of the union. The more pages in the CBA indicates more rights, regulations, and other guarantees in favor of the union. My second hypothesis is the more pages in a CBA between a teacher's union and a school district the more likely the school district will adopt a vaccination mandate.

I find support for both of my hypotheses. A school district that has a CBA with a teachers' union is 33% more likely to adopt a vaccination and testing mandate compared to a school district without a CBA. The second hypothesis has weaker evidence, but the findings are still statistically significant. For every 1 unit increase in the number of pages in a CBA, there is a .001 higher chance that a school district will adopt a vaccination and testing mandate. Substantively, this has interesting applications for unions that have very large CBAs with school districts. School districts like New York City Public Schools, Los Angeles Unified, and the City of Chicago (SD 299) have CBAs with 238 pages, 426 pages, and 381 pages, respectively, and all have strict vaccination mandates compared to a vaccination and testing mandates. This is not a rule of thumb given that Philadelphia City School District and Clark County School district also have vaccination mandates and CBAs under 100 pages, or that Dade County with a 274-page CBA does not have a strict vaccination mandate. Regardless it is an interesting observation and worthy of future study.

This study does have some limitations. I was unable to account for some of the political polarization

¹ Clark County's vaccination mandate was just passed under a vote by the school board and has yet to be implemented as of the time this paper was written

that may explain the adoption of vaccination and testing mandates across the country. A number of studies showed there were relationships between vote shares for President Trump and the likelihood of schools teaching in person in the fall of 2020. Trump vote shares in school districts may also predict whether or not school districts adopt vaccination and testing mandates. This would be a good area for future study. Another area for future study is employing Bachrach and Baratz's (1962) short face of power in addition to the long face, to see if there would be different findings from Marianno et al.

This paper adds to the literature of unions' abilities to achieve policy goals, particularly in rapidly changing and dynamic political environments. A great deal of effort and power is required to alter policies that had to be made with such short notice. Capturing how unions reacted in the midst of a global pandemic is important for future widespread emergencies and how unions or other similar groups would react then. This also adds to discussions about political polarization and how it impacts policy measures meant to protect people—in this case school populations. Especially in contemporary politics, polarization can alter the policy playing fields that actors work in. This paper gives clues as to the entrenched powers that have advantages in the face of rampant polarization.

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