REACH
National Center for
Research on Education
Access and Choice

Why Did So Many Public Schools Stay Remote During the COVID Crisis?

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Overview

COVID-19 has become one of the greatest health crises ever to face the United States. Among other broad social and economic effects, the pandemic led to the closure of almost all schools to in-person instruction in spring 2020. Heated controversies emerged about whether to reopen schools in person in fall 2020, and the debate around reopening continues today. In this brief, we extend our earlier work on the initial months of the COVID outbreak and describe the patterns of school reopening during fall 2020 and spring 2021. What predicted whether schools opened in person, hybrid, or remote, and what does this tell us about the underlying reasons behind education leaders' decisions?

Previous studies have concluded that political factors were the most important predictors of school reopening, more so than public health. We also find that political factors were key, but there is substantial evidence that they were not the only, or perhaps even the main, factors involved. We examine how a wide variety of community and school district characteristics may have affected the likelihood of schools reopening using a method called regression analysis. Examining reopening decisions in fall 2020, we find the following:

- **School reopening decisions were likely based on many interrelated factors, so understanding them is more challenging than it seems at first glance.** Political affiliations are closely correlated with demographics, socioeconomic status, and health. These factors are so intertwined that separating cause and effect can be difficult.
- **Demographics—especially race and poverty—strongly predicted fall 2020 school reopenings.** Specifically, school districts with more Black and Hispanic residents were more likely to have remote instruction. Other things being equal, districts with more people living in poverty were also more likely to have remote instruction.
- **Health considerations also predicted school reopening decisions.** We find some evidence that communities with higher COVID positivity rates were more likely to have remote instruction. The strong role for demographics mentioned above is likely related to health factors, as Black and Hispanic people have faced greater COVID health risks.
- **Political factors were also important.** Consistent with other studies, we find that a higher Democratic vote share was associated with more remote instruction. We also find some evidence that union power predicted more remote instruction, but to a much lesser extent than the Democratic vote share.

- **Most other factors we examined did not consistently predict school reopenings.** Higher broadband access sometimes predicted more remote schooling, but instructional spending, charter school enrollment, and private school enrollment did not consistently predict school reopening.

The results are generally similar for fall 2020 and spring 2021 except that political factors and health considerations played a smaller role than in the fall.

While the COVID crisis may be diminishing and schools are likely to be operating almost entirely in person this coming fall, the lessons learned from recent events will shape policies in public education for years to come. Especially in our politically polarized world, it is important not to over-state the role that politics played in these important decisions. Politics mattered, but probably no more than demographic and health factors.

Prior Research on the Factors Affecting Reopening Decisions

Multiple studies have also examined factors driving reopening decisions, and they come to the same conclusion: political factors predict reopening more strongly than health factors. This conclusion received widespread attention in part because it seemed to reinforce the narrative that our communities are becoming more politically polarized and that our political orientations are increasingly driving seemingly non-political decisions. We might have hoped that decisions about school reopenings would be based on their health effects and that schools would open in person when it was safe to do so and remain remote otherwise.

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The first political factor to garner widespread attention was the Democratic voting share in the 2016 presidential election. This was not entirely surprising because former President Trump downplayed the severity of the virus and, with former Secretary of Education Betsy DeVos, placed considerable public pressure on schools to reopen in person.

This narrative intersected with the role of teacher unions, which are more politically aligned with Democrats, and whose leaders have been more reticent to reopen schools in person. As the main job of unions is to advocate for their members, including adults who are especially susceptible to COVID, keeping schools closed seemed like the safest thing for teachers and their families. With child-care centers closed, some teachers had young children to care for, and many teachers were in at-risk categories that would place them in harm’s way if they were forced to be in schools where the virus could spread.

So far, this does sound like a story about politics alone, but the situation is more complex. First, the fact that unions opposed reopening was itself partly driven by health considerations for their union members. This highlights the difficulty of separating political and health factors, a central theme of this report. Second, and more broadly, voting behavior has become more aligned with demographics in recent decades. Ninety-one percent of Black voters, for example, voted for the 2016 Democratic candidate for president, Hillary Clinton, and these same Black adults were also at greater risk of contracting COVID because they were more likely to work in jobs that required in-person activity. When various factors are so highly correlated, it can be difficult to understand which is causing which.

How Did We Carry Out the Analysis?

The goal of the project was to better understand how and why schools responded to the COVID crisis the way they did. As some other studies have done, we use a statistical approach called regression analysis that estimates the role of each factor holding everything else constant. This means, for example, when we estimate the role of Democratic vote share, we are essentially comparing school districts that are different in their vote shares, but similar in terms of demographics, COVID positivity rates, and other measures.

There are two main limitations of this method. The first is that, if we omit an important predictor of school reopening, then the role of included factors will be distorted. For example, the Democratic vote share is positively correlated with the share of residents who are Black or low-income; therefore, if we did not account for the share of the population that is Black or low-income, then this would make the role of the Democratic vote share larger than it really is. One strength of our study is that we are able to include a larger number of measures to avoid this omitted measure problem.

A second challenge is the interconnection between the various factors noted earlier. Taking the above example, if the only way that demographics matter is by leading people to vote for one political party, then controlling for demographics will lead us to understate the role of politics. The same is true for health outcomes. Given that people of color are more susceptible to COVID health complications, controlling for demographics leads us to understate the role of health in school reopening decisions. This second problem is less driven by our use of regression analysis than by the inherent complexity of the decision-making process we are trying to understand. School reopening decisions were likely driven by an array of interrelated factors, which makes it difficult to separate cause and effect. So, when we interpret our results, we are mindful of the different reasonable interpretations.

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What Specific Regression Analysis Did We Use?

All of our regression estimates control for state-specific effects so that we are focusing on variation in decisions within states. In essence, we are studying the variation in districts’ decisions within each state then taking the average result across all states. This is helpful to account for the variation in the number of districts across states and the large number of state factors, such as their COVID policies, that affected individual districts’ decisions. The results are generally the same when we do not account for state effects, however.

The results we report are not weighted by state or district size. This is because we are interested in what explains the districts’ decisions generally. The decision of a small district, therefore, is just as important as a large district’s decision. Again, the main findings are largely unaffected when we give more weight to districts that have more students.

Our analysis also uses different measures of instructional mode. We start by creating a single measure where remote instruction is at one end of the continuum, in-person instruction is at the other extreme, and hybrid falls between the two. In other estimates, we allow the three instructional modes to be separate using a method called ordered logit regression. In additional analyses, we group hybrid with remote, or exclude hybrid. The results we report focus on the first measure, which captures the extent of reopening in a single measure.

When we interpret the regression results, we only say that a measure is related to school reopening when the results are consistent across most of the methods and data sources we used.

What Data Did We Use?

We measure reopening decisions of traditional public school districts using two data sets from private organizations—Burbio and MCH—both of which allow us to measure district reopening status in fall 2020 and spring 2021. We focus specifically on the initial reopening status in the fall (late August) and in the spring (mid-February). These data have been widely used throughout the crisis and represent the most comprehensive data available. Each data source provides records of whether and when traditional public school districts opened in person, hybrid, or remote.

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Demographic Measures. We include district-level measures of community race/ethnicity, poverty, and education levels from the U.S. Census Bureau.

Health Measures. In our main results, we focus on the COVID positivity rate (by county) because this is the information that was most widely accessible to education leaders. In other analyses, we added the COVID hospitalization and death rates. As we have noted in our prior work, the COVID positivity rate can be distorted by the public health practices that are related to school reopening. With all the health measures, we use data from just before the fall and spring reopening decisions.

Political Measures. We include the percentage of votes for Hillary Clinton (Democrat) in the 2016 presidential election and whether the district has collective bargaining. Importantly, collective bargaining data are only available for a nationally representative sample of 24% of all districts in the country. (We still include districts in the analysis when this measure is missing.)

School Measures. We include instructional and support expenditures (separately) as well as total district enrollment and share of students in the geographic district that enrolled in charter and private schools, all from the federal National Center for Education Statistics (NCES).

Other Measures. We include measures of community broadband access and the number of students per square mile (a measure of population density). (In additional analyses not reported in this brief, we also examine occupations and commuting patterns, as well as the change in unemployment rate once COVID started.)

In what follows, we report the regression estimates for all the measures. Note that all the results are from a single regression model where we also control for all the other factors listed. We also discuss, but do not report, results from analyses where we do not control for other factors to highlight how the various factors are correlated, as well as other analyses that test whether our results are sensitive to how we carried out the analysis.

One challenge is that most of the above measures are on different scales. In regression analysis, the estimates tell us the role of each factor when we change it by one "unit." But we cannot directly compare a change in the Democratic vote share to a change in the COVID positivity rate. These are inherently different. To address this, we standardize all measures so that the estimates reflect the effect of a one standard deviation increase in that measure on the probability of remote learning. If we were to rank all school districts on each measure, a one standard deviation change is equivalent to moving from the 50th to the 84th percentile of districts. This allows us to understand whether one factor played a larger role than other factors.

What Factors Predicted Fall 2020 Reopening Decisions?

We started our analyses by estimating the correlation between each measure and remote learning without controlling for other factors in a regression analysis. Remarkably, every factor described in this study is associated with reopening decisions in mostly predictable ways. But these correlations are not very informative because of the fact that each measure is potentially related to every other measure.

The figures below show the role each factor played in reopening decisions, after accounting for all the other measures listed. We report school reopening data from Burbio for elementary schools, though the results are generally very similar with middle and high schools and with the MCH data.

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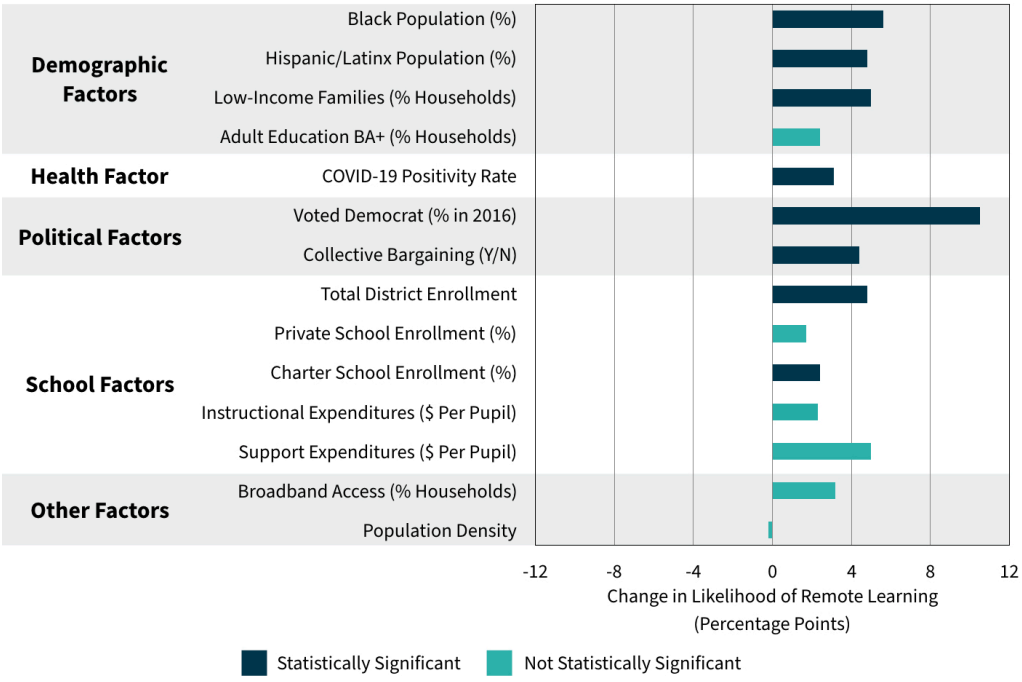
When the bar in Figure 1 is to the right of the zero line, it means that districts were more likely to provide remote-only instruction when the corresponding measure was larger. When the bar is to the left of the zero line, it means the opposite, that districts were less likely to provide remote-only instruction when the corresponding measure was larger.

Demographics are Strong Predictors of Remote Learning

Figure 1 shows that increasing the percent of Black, Hispanic, and people in poverty in a district by one standard deviation was associated with a 5.6, 4.8, and 5.0 percentage point increase in the likelihood of remote instruction, respectively, compared with fully in-person. (To put these numbers in perspective, note that one standard deviation changes in the Black, Hispanic, and poverty measures are 13, 17, and 6 percentage points, respectively.) Also, additional analyses suggest that race and ethnicity are strong predictors when we focus on demographics of students in schools instead of the community as a whole.

Demographics may play a key role in reopening decisions because some demographic groups, like people living in poverty, are more likely to work in low-wage jobs (e.g., store cashiers, restaurant dishwashers) that provide little or no sick leave and require more physical labor. These people are also more likely to be employed in essential services (nurses, police, fire) and occupations with more exposure to infections and close proximity to other people. With these added health risks, parents with jobs that have to be done in person may have been more concerned about sending their children to school in person.

Figure 1. Predictors of Fall 2020 Remote Learning (Burbio, elementary schools)



Notes: Figure 1 displays results using Burbio school district reopening data in a regression with state fixed effects. The initial unit of measure in each predictor is indicated in the labels (e.g., "%"), but these are all converted to standard deviation units. In other words, each bar reflects the change in probability of remote learning involved when increasing the measure by one standard deviation, which is the same as an increase from the 50th percentile (the median) to the 84th percentile.

In some analyses not shown, the percentage of adults with bachelor's degrees was associated with more remote instruction. This might seem surprising given that low-income status is associated with lower education levels. One possible explanation is that parents with higher levels of education were more likely to have white collar jobs that allowed these families to adapt to remote learning more easily.

Another reason demographics matter is that Black and Hispanic individuals are more likely to die from COVID than their White counterparts, according to CDC data. This may be a result of preexisting health conditions; people of color are more likely to have preexisting health conditions like high blood pressure and diabetes. Given the close interplay between demographics, parental work situations, and COVID health risks, it is not surprising that demographics played such a large role in reopening decisions.

Health Was a Significant Predictor of Remote Learning

Figure 1 shows that a higher COVID positivity rate was associated with an increased probability of remote learning. If a district's COVID positivity rate increased by one standard deviation (i.e., 17 positive cases per 100,000 people per day), then we would expect the likelihood of remote instruction to increase by 3.1 percentage points. We also carried out analyses using COVID hospitalization and mortality rates. Hospitalizations were generally not related to reopening decisions, but increased COVID mortality rates were sometimes associated with more remote instruction.

While the relatively weak role for COVID positivity might imply that health was not a key determinant of school reopening, it is important to emphasize, again, that the other predictors are partly masking the role of health. The share of the district population that is Black, Hispanic, or low-income strongly predicted school reopening, and these same demographic measures are associated with higher COVID risk.

These results have two immediate implications. The first is that health outcomes likely mattered more than prior studies have suggested, but in ways that are harder to detect. Also, given the potential long-term effects of remote learning, these results reinforce concerns that the negative effects of remote learning may fall disproportionately on students of color and those living in poverty. Prior research suggests that remote learning is less effective than in-person learning, and students of color and those living in poverty experienced much more remote learning than their White and higher income peers.

> *"...these results reinforce concerns that the negative effects of remote learning may fall disproportionately on students of color and those living in poverty."*

Politics Also Predicted Remote Learning

Figure 1 shows that teacher collective bargaining (union power) is associated with more remote instruction. Again, it is difficult to disentangle the roles played by these various factors. Teacher unions have greater influence in urban areas, which are also more densely populated and therefore face greater potential health risks, compared with rural areas.

The Democratic vote share was a key predictor of school reopening even after controlling for a rich set of factors. A one standard deviation increase in the Democratic vote share (i.e., 14 percentage points) is associated with a 10.5 percentage point increase in the likelihood of remote learning. This reinforces that politics played a significant role. When we compared community voting behavior with school demographic factors, politics appeared to be comparable in strength to race.

Other Factors Generally Did Not Predict Remote Learning

Certain characteristics of schools might have made it easier for them to reopen and serve students well in person. We see no relationship, however, between school reopening mode and instructional spending, support spending, broadband access, or the share of students enrolled in charter or private schools. (The role for charters is statistically significant in Figure 1, but this result is inconsistent across the other methods we used that are not shown.)

The fact that broadband is not related to school reopening might be especially surprising because remote learning depended on fast internet connections. It may be that, by fall of 2020, districts had found ways to provide internet access in other ways (e.g., providing laptops and internet hotspots) that our broadband measures do not capture.

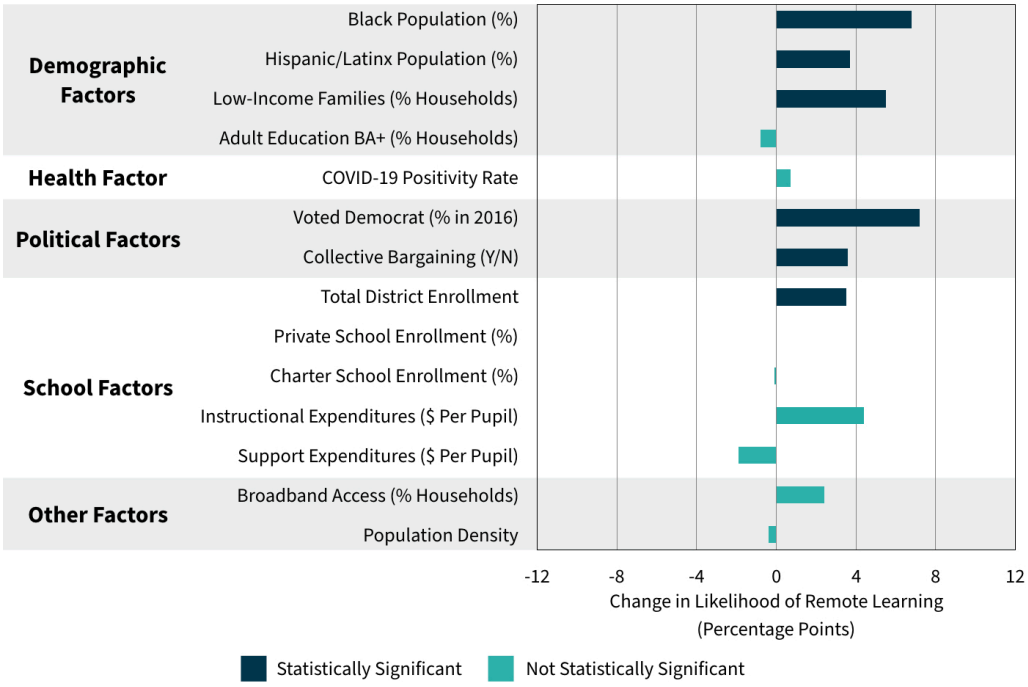
Some had argued that districts with more financial resources, or competition from charter and private schools, might also induce traditional public schools to reopen in person, but we see no evidence of this either.

The one other factor that does consistently predict remote learning is total district enrollment. This may be partly capturing the role of unions, which are more powerful in large districts. Also larger districts, due to economies of scale, might have stronger technology services that would have enabled remote learning.

What Factors Predicted Spring 2021 Reopening Decisions?

The factors predicting spring 2021 remote learning were similar to our results for fall 2020. The estimates for demographics stayed roughly the same, but the role for political and health factors both declined (Figure 2). The main substantive change is that the role for the COVID positivity rate dropped and became statistically insignificant. One possible explanation is that the districts that decided to open also instituted COVID testing regimes that led to more frequent testing, which itself could affect the community positivity rate and the relationship between positivity and reopening mode.

Figure 2: Predictors of Spring 2021 Remote Learning (Burbio, elementary schools)



Notes: Figure 2 is the same as Figure 1 except that it focuses on reopening data as of February 2021.

Conclusion

The purpose of this study is to better understand why a majority of public school districts decided to maintain remote and hybrid instruction in fall 2020 and spring 2021. In contrast to the conventional wisdom that school reopenings were politically motivated, we find a more complex story. Political factors certainly mattered when deciding whether to reopen schools. In every analysis we carried out, the Democratic vote share was among the strongest predictors of remote learning. However, demographic and health factors were also predictors of remote instruction.

The strong role for demographics likely reflects a mix of political and health considerations. Schools in predominantly Black and Hispanic neighborhoods might have been less likely to reopen in person because these groups, on

average, tend to support Democrats or because they were genuinely at a greater health risk of reopening in person. Regardless of the reasons, the fact that demographics are such strong predictors signals that even after COVID is contained, America will still be addressing a crisis in education that varies across groups.

We do not conclude that there is any one factor behind the school reopening decisions, but only that the causes have been much more complex than they have seemed. Whenever we see a pattern that is related to how people vote, it is tempting to believe that political beliefs are the underlying reason. Sometimes that may be true. However, if we rush to that judgment, perhaps confirming the increasingly widely held belief of political polarization, we run the risk of worsening that polarization. We therefore hope that our analysis has added to a richer understanding of school reopening decisions.

How Does This Relate To Other REACH Research?

As a result of the COVID-19 crisis, the REACH Center has expanded its work to focus on research that can inform how policymakers and practitioners respond to the crisis. In the summer of 2020, we released a report about how schools responded to the COVID crisis in spring 2020. The key outcomes at that time were how extensively, and how quickly, schools shifted to remote instruction. As in the current report, we found that demographics, especially the education level of adults in the school neighborhood, were strong predictors of school responses to the crisis.

In January, REACH also released a study of the effects of school reopening on COVID health outcomes. We found that school reopening did not influence the number of COVID hospitalizations when the community's baseline COVID spread was low, but that there is some evidence of rising COVID rates when schools opened in districts where the baseline COVID rate was above 36-44 COVID hospitalizations per 100,000 residents per week. We are also continuing to update these data for every county in the country, so that districts can determine the level of safety.

In forthcoming studies, the REACH team is conducting stakeholder interviews and surveying parents to understand how COVID may be affecting both policymaker and parental decision-making around school choice with a specific focus on marginalized students. REACH researchers are also examining whether students are changing schools due to COVID and the role that transportation may play in these decisions.

About the National Center for Research on Education Access and Choice (REACH)

Founded in 2018, REACH provides objective, rigorous, and applicable research that informs and improves school choice policy design and implementation, to increase opportunities and outcomes for disadvantaged students. REACH is housed at Tulane University with an Executive Committee that includes researchers from Tulane, Michigan State University, Syracuse University, and the University of Southern California.

The research reported here was exclusively funded by the Institute of Education Sciences, U.S. Department of Education, through Grant R305C180025 to The Administrators of the Tulane Educational Fund. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

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