



COVID-19, Online Learning, and Absenteeism in Detroit

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How much school students attend is a powerful indicator of their wellbeing and a strong predictor of their future success in school. Prior research has documented the myriad in-school and out-of-school factors that contribute to high levels of student absenteeism, many emerging from the root causes of poverty and disengagement. The shift to online learning during the COVID-19 pandemic likely disrupted prior barriers to attendance and may have created new ones. This sequential explanatory mixed-methods study examined student absenteeism during the 2020-21 school year in Detroit. We used administrative data to show whether and how attendance patterns changed, and we linked family survey and interview data to explain those patterns. We found that 70% of students were chronically absent, with 40% of parents reporting that computer problems contributed to absenteeism. While measures of socioeconomic disadvantage and computer/internet issues were associated with lower attendance and higher probability of chronic absenteeism, reported levels of hardship during the pandemic were not. Despite significant investment in technology, the district's strategies for engaging students were not sufficient in overcoming economic hardships and the new challenges of online learning.

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Abstract

How much school students attend is a powerful indicator of their wellbeing and a strong predictor of their future success in school. Prior research has documented the myriad in-school and out-of-school factors that contribute to high levels of student absenteeism, many emerging from the root causes of poverty and disengagement. The shift to online learning during the COVID-19 pandemic likely disrupted prior barriers to attendance and may have created new ones. This sequential explanatory mixed-methods study examined student absenteeism during the 2020-21 school year in Detroit. We used administrative data to show whether and how attendance patterns changed, and we linked family survey and interview data to explain those patterns. We found that 70% of students were chronically absent, with 40% of parents reporting that computer problems contributed to absenteeism. While measures of socioeconomic disadvantage and computer/internet issues were associated with lower attendance and higher probability of chronic absenteeism, reported levels of hardship during the pandemic were not. Despite significant investment in technology, the district's strategies for engaging students were not sufficient in overcoming economic hardships and the new challenges of online learning.

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School attendance is one of the most reliable non-academic indicators of student success in school, and student absences have a near-linear relationship with achievement (Allensworth & Easton, 2007; Ansari & Gottfried, 2021; Gershenson et al., 2017). Chronic absenteeism also has harmful effects on student attainment and socioemotional outcomes (Gottfried, 2014; Santibañez & Guarino, 2021) and has been described as a “wicked problem” (Childs & Lofton, 2021) because of the complex and varied factors that contribute to it, and the implications for other social policy sectors beyond education in solving it (Lenhoff & Singer, 2022; Pyne et al., 2023; Singer et al., 2021). Excessive absences, particularly those that are “unexcused,” are important indicators of student wellbeing and the social and economic support families may need (Gershenson et al., 2017; Gottfried, 2009; Pyne et al., 2023).

The COVID-19 pandemic disrupted traditional public schooling across the U. S. and may have exacerbated the long-standing social and economic problems that contribute significantly to student absenteeism (Singer et al., 2021). In the cities with the highest rates of chronic absence (e.g., Detroit, Milwaukee, Philadelphia, Washington, D.C.) most students attended school online in 2020-21, and, nationally, Black students were more likely than white students to attend school online rather in person (Camp & Zamarro, 2022). In addition, mandated social distancing, business closures, and severe illness created socioeconomic, physical and mental health, and educational challenges for students and their families (Davis et al., 2020; Duckworth et al., 2021; Levinson et al., 2021). These challenges, many of which were more significantly experienced by Black and low-income families (Camp & Zamarro, 2022; Haderlein et al., 2021), may have contributed to increased student absenteeism in 2020-21. Policymakers, educators, and community organizations need to understand the extent of these challenges and their relationship with student attendance,

so they can design policies and programs to better support students during future disruptions to schooling. In this study, we document the pandemic's effect on student attendance during the first full school year of the COVID-19 pandemic, exploring the factors that contributed to an increase in absenteeism and the strategies used by schools to increase attendance.

Literature Review

Regular school attendance is both a critical input into the educational development of young people (Gottfried, 2014) and an indicator of child and family wellbeing (Kearney, 2008). The more students attend school, the better their school outcomes are likely to be (Gershenson et al., 2017); the more students miss school, the more likely they are to be experiencing challenges at home, in their neighborhoods, and in their schools (Gottfried & Gee, 2017; Singer et al., 2021). The COVID-19 pandemic magnified the importance of attendance as both an input and indicator. School closures and disruptions that reduced instructional time and in person schooling resulted in student learning that was significantly lower than in pre-pandemic years (Kuhfeld, Soland, & Lewis, 2022; Kuhfeld, Soland, Lewis, et al., 2022). In addition, high rates of absenteeism indicated that students were uniquely disconnected from school, possibly portending declines in public school enrollment in subsequent years (Fuller et al., 2023; Haderlein et al., 2021). Little empirical research has documented the factors associated with absenteeism during the pandemic or the students who were most likely to be chronically absent during this school year. As policymakers and educators work to support student academic recovery, it is critical to understand how prior causes of absenteeism may have been exacerbated, what new causes of absenteeism arose, and how the typical responses to absenteeism worked in the pandemic context. Here, we review the literature on the causes of absenteeism, the practices schools typically use to reduce it, and the effect of the pandemic on student attendance.

Causes of Absenteeism

School attendance can be understood ecologically (Lenhoff, Singer, & Gottfried, 2022; Sugrue et al., 2016), with many factors and processes in students' lives interacting across time to contribute to attendance on a given day and whether, across a school year, they are categorized as chronically absent, or absent 10% or more of enrolled school days. Broadly, the literature has documented two root causes of chronic absenteeism: *poverty* and the attendant lack of resources and supports to get to and from school (e.g., Childs & Lofton, 2021; Gottfried & Gee, 2017; Lenhoff, Singer, Stokes, et al., 2022; Singer et al., 2021) and *disengagement* leading to school refusal (Kearney, 2008).

Poverty

Individual and community poverty create barriers to regular school attendance (Romero & Lee, 2008; Sugrue et al., 2016). At the individual level, transportation, housing, and health barriers arise from poverty or are made more challenging because of it. Poverty can create scheduling conflicts for parents, as they juggle school drop-offs, strict work schedules, and a lack of affordable childcare, with limited transportation resources. Indeed, "getting to school" requires a reliable set of resources and social support often unavailable to poor families, resulting in mobility injustice that produces educational inequity (Bierbaum et al., 2021; Lenhoff, Singer, Stokes, et al., 2022). Students facing housing insecurity also experience high rates of absenteeism, as their routines are often disrupted, they may be staying far from school, and their families juggle conflicting priorities (Fantuzzo et al., 2012). Health-related barriers to school attendance are often created or exacerbated by poverty, with challenges to accessing reliable healthcare for managing chronic illness (e.g., asthma), health maintenance, and urgent medical needs (Moonie et al., 2006; Pourat & Nicholson, 2009). Community poverty and unemployment are also strongly associated with

chronic absenteeism (Romero & Lee, 2007; Singer et al., 2021). Concentrated poverty can create gaps in public services and infrastructure to support school attendance, such as public transportation, public safety, and affordable housing (Lenhoff, Singer, Stokes, et al., 2022). Concentrated poverty within schools can also overburden limited educational resources to support families in improving their attendance.

Disengagement

The second primary root cause of absenteeism documented in the literature is disengagement from school, often leading to school refusal (Kearney, 2008). This phenomenon, most clearly demonstrated among adolescents in middle and secondary school, typically emerges at the intersection of individual mental health and the school environment. Students may have a learning disability, behavioral disorder, or anxiety toward school that may make the typical schooling environment challenging to negotiate (Kearney & Albano, 2004). In turn, schools may not be allocating sufficient resources to adequately support students, or they may be using punishment, accountability, or culturally insensitive means by which to control student behavior and maintain order (Kearney, 2008; McNeely et al., 2002). Students may then resist school attendance altogether, show up late, or skip certain classes. While disengagement is primarily conceived as a problem at the individual level, disengagement at scale may result from a collective peer experience (e.g., traumatic event, poor instruction) or common set of environmental conditions (e.g., weak school culture, over punishment).

Practices to Reduce Absenteeism

Since the passage of the Every Student Succeeds Act, districts and schools have developed new roles and strategies to manage student attendance and decrease chronic absenteeism (Jordan, 2017; Jordan & Miller, 2017; Lenhoff, Edwards, et al., 2022). Advocates have organized these

practices into playbooks for schools that include basic needs services for all students, communication strategies, incentives, and some collaborative efforts to connect families with outside resources (Jordan, 2023). In addition, some schools employ punitive strategies, such as suspension or truancy court referral, for students who are rarely present. Although the effectiveness of many of these practices is still unknown, there is some evidence that communication strategies that inform parents about how many days of school their students have missed and the importance of attendance decrease chronic absenteeism by 10-15% (Robinson et al., 2018; Rogers & Feller, 2018). In addition, communication with the aim of building stronger relationships with families and identifying needed supports, such as healthcare or housing, has also been shown to increase attendance (Anderson et al., 2004; Kerr et al., 2012; Smythe-Leistico & Page, 2018). The community schools model, in particular, has been shown to reduce chronic absenteeism by 7-8 percentage points (Johnston et al., 2020). However, the limited evidence suggests that punitive strategies and incentives are not effective at increasing attendance among chronically absent students and may instead exacerbate the problem (McNeely et al., 2021; Mueller & Stoddard, 2006; Robinson et al., 2019).

The COVID-19 Pandemic and Attendance

Student absenteeism increased nationally during the COVID-19 pandemic, with estimates from U.S. Department of Education data suggesting that about 2 million more students (1.7 times) were chronically absent in 2020-21 than in prior years (Chang et al., 2022). The negative effects of the pandemic on attendance were felt most acutely by students who were already missing high levels of school (Fuller et al., 2023). While the U.S. poverty rate declined significantly when families received stimulus payments and extra unemployment benefits through the CARES Act at the onset of the pandemic, it increased once those benefits stopped and was 0.6 percent higher in

December 2020 than in January 2020 (Parolin et al., 2022). Even when parents maintained their employment through the pandemic, many of them had to balance work with supervising online schooling for their children (Russell et al., 2020). Attending school online also required families to have access to computer devices and the internet so that their children could participate. Limited technology access, particularly among low-income families, was a barrier to accessing schooling (Stelitano et al., 2020). Students with reliable access to the Internet were more engaged in schooling at the initial onset of the pandemic in Spring 2020, even controlling for family socioeconomic indicators (Domina et al., 2021). It is not yet clear how these events affected the relationship between family socioeconomic characteristics and student attendance in high poverty urban contexts.

There is some empirical evidence that students became more disengaged from school during the pandemic, especially as schooling moved online and live instruction was infrequent (Aguilar et al., 2022; Darling-Aduana et al., 2022; Domina et al., 2021). Educators had limited training and support for the sudden switch to online instructional platforms (Hamilton et al., 2020), and parents and students were asked to fill instructional gaps (Russell et al., 2020). Prior research on the efficacy of online schools suggests that they do not provide a high-quality learning experience for many students (Ahn & McEachin, 2017; Fitzpatrick et al., 2020). The move to online school also required family resources such as reliable internet, a computer device, and sufficient tech knowledge to navigate the many applications and guidelines from schools and teachers. Families with children who struggled with online learning experienced increased mental distress (Davis et al., 2020), which may have in turn led to a decrease in attendance. In addition, students were asked to make space in their homes to log onto school for many hours each day, further straining families physically and stretching their childcare resources, especially when they

had multiple children and/or work commitments in or outside the home (Adams & Todd, 2020). Since Black and Hispanic students were more likely than white students to attend school online in 2020-21 (Camp & Zamarro, 2022), the stressors of online learning may have been felt most acutely by students historically marginalized in U.S. schools.

Although absenteeism increased nationwide during the pandemic, it is not clear why that was the case, how the factors that contribute to absenteeism may have been different during the pandemic than during a typical school year, and what school practices were used to engage with families to encourage attendance. Understanding the experiences of students in high absenteeism contexts during the pandemic may shed light on how schools could approach the issue of absenteeism in the future. Therefore, our research questions were:

1. How did attendance patterns change during the first full academic year of the COVID-19 pandemic (2020-21)?
2. How did COVID-19 effects (e.g., mental health, logistical, and financial challenges; changes to employment; online learning) shape attendance patterns?
3. How did schools address absenteeism during the pandemic?

Methodology

We employed a sequential explanatory mixed-methods design to answer these questions (Hewitt & Mansfield, 2021). We combined survey data from a representative sample of Detroit Public Schools Community District (DPSCD) families at the end of the 2020-21 school year, students' attendance records, and interviews with families and school staff to identify how experiences during the pandemic and socioeconomic circumstances in general shaped attendance during this critical school year. Detroit is an important site for understanding the effects of the pandemic on student attendance. Detroit had the highest rate of chronic absenteeism among major

cities in the country prior to the pandemic (Singer et al., 2021), although many other large cities also experience high levels of chronic absenteeism and face similar structural challenges related to poverty. In 2015-16, 38% of students in Milwaukee, 32% in Philadelphia, and 31% in Washington, D.C., were chronically absent. Detroit was also an early site of COVID-19 case surges in the United States (“Michigan Coronavirus Map and Case Count,” 2020). DPSCD is the largest school district in Detroit, enrolling about half of the city’s 100,000 students, with the other half enrolled in charter schools and suburban school districts (Lenhoff, Singer, Pogodzinski, et al., 2022; Singer, 2020). During the 2020-21 school year, DPSCD offered limited in person schooling, with individual schools allocating student spots to classrooms where teachers opted to teach in person and opening in person learning centers where students could log onto online classes from the school building, which required fewer staff to supervise than traditional classrooms. Most students in the district attended school only online the entire school year. Despite Detroit’s many school choice options, in person learning was very limited, as most charter schools remained online throughout the year (Singer et al., 2023).

Administrative Data and Analysis

To measure attendance patterns and the relationship between student and school characteristics and attendance, we used confidential student-level administrative data from the Detroit Public Schools Community District from years 2018-19, 2019-20, and 2020-21. The student-level data included demographics (e.g., race, gender, exceptional student status, grade) and daily attendance records for each day of the school year, which we used to calculate students’ attendance rate and their chronic absence status. The dataset included 52,244 K-12 students who were enrolled in DPSCD during the 2020-21 school year. Importantly, although Michigan allowed districts to report that students were present all week if they had at least one online two-way

interaction with their teacher per week during the 2020-21 school year, the attendance data from the district reported daily absences using pre-pandemic rules, counting a student absent if they missed more than half of the day's instruction. During the pandemic, teachers in DPSCD continued to take attendance twice daily, marking students as present in the morning and afternoon if they engaged with the student in any way through online platforms or in person. Thus, the daily attendance data from DPSCD allowed us to study attendance in 2020-21 and compare it to prior years in a way that the public data, and restricted-use data from the state, precludes.

Survey Data and Analysis

In partnership with DPSCD, we fielded a survey of DPSCD families from June 22, 2021, to July 20, 2021, to measure the associations between attendance patterns and student-level characteristics and experiences not found in administrative data. The population for the survey included all DPSCD students with either a phone number or email address through which they could be recruited (N=26,362). We separated the population by school type, aiming for a representative sample of students enrolled in neighborhood DPSCD schools (with school attendance boundaries) and application/exam-based DPSCD schools (where enrollment depends on an application or entrance exam score). We randomly sampled students from each group to complete the survey through replicate sampling (Lavrakas, 2008). Each replicate sample group included 200 students, and we released the survey to subsequent groups as we received responses from the previous groups until we reached the target number of responses. A survey link was sent to parents via text message or, if a phone number was not available, via email. Parents could click on the survey link and complete the survey on their phone or other device. We offered a \$10 gift card to respondents who completed the survey.

The survey asked about their socioeconomic circumstances, their experiences with COVID-19, their child's learning modality, and attendance issues. Socioeconomic questions included household size and income, parental employment status, parent marital status, and housing stability. Our key SES variables included a measure of household income-to-poverty ratio, whether any parent was employed full-time, whether the student lived in a single-parent household, and whether the student experienced an eviction during the 2020-21 school year. Four questions about COVID-19 asked parents to rate the extent to which they experienced financial distress, health complications or loss, emotional or mental health difficulty, and logistical or scheduling difficulties due to the pandemic. Ratings were on a five-point Likert scale from strongly disagree to strongly agree, and we constructed binary indicators of whether or not a respondent agreed or strongly agreed that they experienced each hardship due to the pandemic. We also asked parents to rate how often computer and internet problems were a reason for their students' absences on a five-point Likert scale (never, rarely, sometimes, often, always); and we asked parents to indicate whether their children were in online instruction for the entire school year or not. For this analysis, we considered a survey response as complete if respondents had at most one missing answer for our key variables of interest. We used this criterion so that included observations would require at most one variable to be imputed for our regression analysis. In total, we included 776 respondents—341 from neighborhood schools (response rate = 6.63%) and 435 from application/exam schools (response rate = 10.32%). A comparison of student characteristics from the full population and our weighted and unweighted samples, as well as a comparison between the populations and unweighted respondents by school type, can be found in Appendix A. We pooled the responses from the neighborhood and application/exam schools and used raking (Lavrakas, 2008) to weigh the responses to match the district population. For the weighting

process, we accounted for school type, grade level, gender, race/ethnicity, and attendance quantile (twenty quantiles, ranging from 100% attendance to 0-9% attendance). For our regression analysis, we imputed missing variables with a regression-based multiple imputation method. We predicted values for missing independent variables based on the observation's other independent variables (all of which were non-missing due to our inclusion criteria).

Though the response rates for the survey were low, they are consistent with trusted national telephone surveys like Pew, which have seen response rates around 9% for the last decade (Keeter et al., 2017), as well as other credible survey research in Detroit that occurred contemporaneously (Gerber & Morenoff, 2021). There are modest differences between the respondents and full population, mainly in terms of their attendance rates (Appendix A). For both neighborhood and application/exam schools, slightly fewer students who were chronically absent had parents who responded to the survey compared to the full population. Thus, to the extent that these differences bias our findings, they may understate the relationship between chronic absence and the various educational and pandemic-related challenges we cover in our analysis.

After linking parent survey responses to student administrative data, we ran a series of stepwise OLS regressions to estimate the associations between student characteristics, socioeconomic circumstances, and COVID-19 experiences (independent variables) and the percent of days absent in 2020-21 (dependent variable). We also ran linear probability regression models with the same independent variables and chronic absence status (greater than or equal to 10% days absent) as the binary dependent variable. The analyses were based on the following regression model:

$$Y_i = \beta_0 + \beta_1(\text{COVID-19 Challenges})_i + \beta_2(\text{Online Learning})_i + \beta_3(\text{Computer Issues})_i + \beta_4(\text{Demographics})_i + \beta_5(\text{SES})_i + \varepsilon_i$$

where Y is the outcome of interest (i.e., percentage of days absent or chronic absence); *COVID-19 Challenges* includes the four binary variables indicating whether a student and their parents had experienced financial, logistical, health, or mental health difficulties due to the pandemic; *Online Learning* is a binary indicator of whether or not students participated in online learning for the entire school year; *Computer Issues* is the categorical variable indicating the frequency with which computer problems were a reason for student absences; *Demographics* includes variables for student race or ethnicity, gender, special education status, and grade level. Standard errors were robust.

In our stepwise approach, we started with estimates based on student demographic and SES variables only; then estimated separate models that added COVID-19 challenges, online instruction, and computer issues to the demographic and SES variables; and finally estimated a model including all key variables as described in the equation. We ran robustness checks using tobit regressions models, to account for the possibility that our outcome variables were not normally distributed. There were no differences in the coefficients.

Finally, we estimated a version of the models that included a measure of prior-year attendance. While these models help account for prior attendance patterns, not all observations in 2020-21 were enrolled in the district in 2019-20, so the results are not entirely comparable. These models were based on the following equation:

$$Y_i = \beta_0 + \beta_1(\text{COVID-19 Challenges})_i + \beta_2(\text{Online Learning})_i + \beta_3(\text{Computer Issues})_i + \beta_4(\text{Demographics})_i + \beta_5(\text{SES})_i + \beta_6(\text{Prior Attendance})_i + \varepsilon_i$$

where *Prior Attendance* is a 2019-20 measure of attendance corresponding to the outcome variable (i.e., either prior-year percent of days absent or chronically absent in 2019-20), and the other variables are the same as described above.

Qualitative Data and Analysis

To further explain our quantitative findings, we conducted a secondary analysis of data from related studies of absenteeism that we were conducting as part of a research-practice partnership with the district. Like our quantitative analysis, we were guided by a theoretical understanding of absenteeism as the result of overlapping conditions, resources, and processes within students' ecosystems (Bronfenbrenner & Morris, 2006; Gottfried & Gee, 2017; Lenhoff, Singer, & Gottfried, 2022; Sugrue et al., 2016). We sought to further contextualize our quantitative findings by uncovering the experiences of families whose children were chronically absent and the experiences of school staff who worked to improve attendance during the pandemic.

The first set of supplementary qualitative data we draw on comes from an evaluation of a cash assistance program to support families whose children were chronically absent. Each family received \$1,800—dispersed in amounts and increments that the families chose—throughout the 2020-21 school year through a community-based organization in their school neighborhood. We interviewed a parent from each family three times during the school year over the telephone, once before the cash assistance began and twice after cash was dispersed. We asked them about how COVID-19 was affecting their health, family logistics, and financial situation, and what challenges their children faced in attending and engaging in school. Families were compensated with a \$25 gift card to participate in the interviews. Table 1 summarizes the families and their children's absence rates.

[Table 1 about here]

Using the qualitative analysis software Dedoose, we first descriptively coded interview excerpts into the following broad parent codes: attendance issues during COVID; effects of COVID on family; financial issues; school experiences during COVID. We then organized those

excerpts into analytic child codes. Finally, we wrote a memo to synthesize themes within each parent code, which are described in our findings. Table 2 displays our parent codes, child codes, and the number of excerpts coded for each child code.

[Table 2 about here]

The second qualitative project we draw from was a study of district attendance staff's engagement in a networked improvement community to collaborate on a theory of the problem of absenteeism, share and develop new knowledge about attendance practice, and experiment with changes in practice. This study builds on a developmental evaluation of district attendance practice from 2018-20 (Lenhoff, Edwards, et al., 2022). During the 2020-21 school year, we conducted 16 participant observations of networked improvement community meetings and district professional development related to attendance. We also conducted interviews with 21 attendance staff in seven case study schools, and we facilitated three focus group interviews with an additional nine attendance staff. We also took notes at 12 meetings with district officials overseeing attendance improvement in the district. The primary focus of the interviews was on participants' theories of improvement related to reducing absenteeism, but we also asked questions about the attendance challenges they encountered during the pandemic and the strategies they were using to reduce absenteeism, including how they were spending most of their time. Our analysis for the current study focused on summarizing themes from these latter questions. We conducted a similar coding approach in line with the parent interview data, and we focused on the interview excerpts and observation notes coded as barriers during COVID (98 excerpts) and changes in responsibilities and strategies (92 excerpts) as we wrote analytic memos. We drew on insights from our previous research (Lenhoff, Edwards, et al., 2022) to understand how barriers to attendance and attendance

practices had shifted during the pandemic. We used the analytic themes from these interviews to deepen our interpretation of the major findings from the survey.

Findings

How Attendance Patterns Changed in 2020-21

Student attendance rates in DPSCD were significantly lower in 2020-21 compared to the last complete school year before the pandemic (2018-19), falling from an average of 82% to 68%, (Table 3). Chronic absenteeism was also higher in 2020-21, with 70% of students missing 10% or more of the school year, compared to 62% in 2018-19. In addition, 54% of students were severely chronically absent, missing 20% or more of enrolled school days (Figure 1). More than 7,000 students, or about 21% of those enrolled in the district in 2018-19 and 2020-21, were chronically absent in 2020-21 when they had not been before the pandemic (Table 4).

[Tables 3 and 4 about here]

Although attendance rates throughout the school year were lower in 2020-21 than before the pandemic, seasonal patterns were similar to pre-pandemic school years. The patterns of chronic absence in DPSCD by student characteristics were similar to previous years, but at elevated levels. Absenteeism was highest in the early elementary grades and high school, and students who received special education services had higher absenteeism (Gee, 2018). However, absenteeism was much higher in 12th grade than in other grades; 87% of 12th grade students were chronically absent in 2020-21 (see Appendix B).

[Table 5 about here]

How COVID-19 Shaped Attendance

Financial, Mental Health, and Logistical Challenges

More than 50% of all families in the district reported financial, mental health, and logistical challenges during the pandemic (Table 5). Thirty-six percent of DPSCD families had a family member who got sick or died of COVID-19 during the 2020-21 school year. Many families also experienced significant employment challenges, and 29% strongly agreed that their family had “experienced financial distress due to COVID.” For instance, while 13% of families had a parent who worked more, 64% had a parent who worked less or lost their job during the pandemic, with 39% of parents reporting that all parents in the household had worked less or lost their job. Although housing instability was likely reduced because of the temporary ban on evictions, 9% of DPSCD families still reported they were evicted or otherwise forced to leave a living situation in the last year, including 12% of severely chronically absent students, as shown in Table 3.

[Table 5 about here]

Self-reported levels of COVID-19 hardship, however, were not significantly associated with percent days absent or chronic absence (Table 6). The survey data (discussed above) and interview data (discussed below) offer two explanations. First, COVID-19 had a wide-reaching impact, with many families reporting negative health, financial, and logistical impacts. Second, a family’s access to technology, ability to manage online learning at home, and prior socioeconomic circumstances mitigated the impact of these pandemic-induced hardships on attendance. Still, even when parents were able to buffer against the impact of COVID-19 on their children’s attendance, these hardships took a significant toll on their emotional and financial well-being.

[Table 6 about here]

Prior to the pandemic, many parents reported that it was most challenging to get their children to school when they had limited social support (Lenhoff, Singer, Stokes, et al., 2022).

These challenges were exacerbated during the pandemic, as parents were responsible for overseeing their children's online education. As one mother shared:

“Them going to school in person helped me out so much. And with them being out of school, it's such a burden on me, with me being a single mom. I don't have no support or help. This is all on me, so it's so hard right now.”

Other parents discussed how having their children attend school online negatively affected their employment. This mother, for instance, had limited hours she could work because she had to supervise her children during online school:

“I'm still unemployed, I'm still looking for work, but I'm trying to look for a job like on the weekend, or maybe a midnight shift. So I can be there for the kids for their online schooling because I'm a single mother so I'm the only person they have to help them.”

Some parents shared how they felt they had been laid off because they had to take time off work to watch their children during virtual school. One mom said:

“They chose to lay me off because I called off a couple of days because I didn't have a babysitter and I had to stay home with the kids because they were not able to go to school. I didn't have a choice because I can't leave the kids home alone when they can't go to school.”

Parent and student mental health challenges were also common among the families we surveyed. Overall, 57% of parents agreed or strongly agreed that mental health had been a challenge during the pandemic. As one parent shared,

“They're telling me that they can't focus, they're having too hard of a time focusing, being able to concentrate. So, yeah definitely, the mental aspect is very difficult...You know, because one thing that I, you know, take very seriously with my kids is school.”

These challenges were widespread among students at high and low levels of attendance, suggesting that supporting student and family mental health will be critical for school systems as they seek to recover from the pandemic.

Although self-reported financial hardship during the pandemic was not associated with absenteeism, socioeconomic circumstances continued to be associated with attendance. For instance, severely chronically absent students' families had an average household income of \$18,215, compared to \$30,197 for moderately chronically absent students and \$36,277 for not chronically absent students. Severely chronically absent students also faced more significant employment and housing challenges than other students.

These patterns were reinforced in our regression results (Table 7). A one unit increase in a family's income-to-poverty ratio was associated with a 3% decrease in the percentage of days absent. Students who had at least one parent who worked full-time had 7% fewer days absent than students with no full-time working parents. When including prior-year measures of attendance or absenteeism, the relationship between these socioeconomic measures and attendance weakens or becomes statistically non-significant, highlighting the relationship between persistent socioeconomic disadvantages and cumulative absenteeism (Singer et al., 2021).

[Table 7 about here]

Technology and Online Learning

In addition to the persistence of socioeconomic barriers to attendance, our findings reveal the emergence of technology issues as new barriers to attendance during the pandemic (Table 8). Nearly 40% of parents reported that computer issues were a reason why their child was often or always absent, and 30% reported that internet connectivity was a problem for attendance. Of the students who shifted from not being chronically absent in 2018-19 to being chronically absent in

2020-21, computer and internet challenges were major issues. Whereas 17% of parents whose children were not chronically absent both years cited internet problems as a major reason for absence, 35% of parents whose children became chronically absent in 2020-21 had internet problems. Similarly, 21% who were not chronically absent both years had computer problems, compared to 42% of those who were not chronically absent previously but became chronically absent in 2020-21.

[Table 8 about here]

Our regression estimates reinforce that, while socioeconomic challenges are the primary drivers of absenteeism in Detroit, technology issues were likely responsible for the uptick in absenteeism during the 2020-21 school year (see Table 7). Students who sometimes, often, and always had computer issues missed significantly more school than those who never or rarely had issues. Always having computer issues was associated with a 27 percentage-point increase in absences and 35% higher odds of being chronically absent compared to students who never had computer issues. In addition, unlike the socioeconomic measures, frequent computer issues still had a large and statistically significant association with attendance rates and chronic absenteeism even after controlling for prior year attendance measures. Coefficients for internet issues were lower but followed a similar pattern – as the severity of internet issues increased, attendance last year became worse (see Appendix B).

Students who were in online instruction all year had fewer days absent and were less likely to be chronically absent. Darling-Aduana et al. (2022) similarly found that students who had more online instructional days had higher attendance rates in 2020-21. While this might seem counterintuitive, our analysis suggests that there are likely several explanations. First, students in families with greater financial precarity were more likely to attend school in person for at least

part of the year. Second, students who experienced more frequent technology problems were more likely to attend school in person some of the year. The district gave many parents a choice whether to enroll their children in online or in-person instruction, and families who had a difficult time with online instruction may have been more likely to choose to come back in person when that was a more widely available option in Spring 2021. In fact, only 52% of parents who reported that their child was “always” absent due to a computer issue were online all year, whereas 72% of parents who said their child was “never” absent due to computer issues stayed online all year. This gap suggests that families that more easily engaged in online learning were more likely to stay online when given the choice. While attending school in person may have reduced barriers to attendance related to technology for some families, it likely reintroduced typical barriers to attendance, such as transportation challenges (Sattin-Bajaj, 2018). In addition, students who attended school in person were asked to stay home (and were counted as absent) when they were sick or quarantined, whereas as online students may have logged on and been marked as present even while sick.

The parents we interviewed described significant technology issues. As one mother shared, “A lot of days they have trouble with the computer....Because my daughter can't even get into her Microsoft Teams for some reason. And she hasn't been sitting [in class] for a week.” Other parents shared about problems with devices and Wi-Fi: “She will get on. But then her computer dies and then she'll go back with her phone and then the phone dies also.” These problems were exacerbated by financial strain. When asked why her child missed school some days, one mom said, “Technical issues with the computer, the Wi-Fi messes up. I have the \$10-a-month Wi-Fi. So, I don't know if I have to pay more money. I can't afford it right now...but half the time the Wi-Fi doesn't work.” In sum, Detroit families faced significant challenges during the pandemic that meaningfully shaped their children's attendance. In addition to the acute problems with technology that are likely to be

muted with most students back to school in person, more than 50% of families experienced economic hardship that may continue to negatively impact attendance for years to come.

District Approach to Supporting Attendance During the Pandemic

In prior years, DPSCD's approach to addressing absenteeism included a multi-tiered system of support implemented through a school attendance team, data monitoring to determine when students were nearing chronic absence, and parent outreach through phone calls and home visits (Lenhoff, Edwards, et al., 2022). In 2020-21, attendance staff most frequently used strategies related to communicating with families and helping with tech issues. In this section, we describe the district's approach to supporting student attendance during the pandemic and analyze how that approach aligned with families' experiences and needs.

[Table 9 about here]

Communication Strategies

The predominant form of outreach families received about attendance was through phone calls, with 72% of families reporting being contacted this way (Table 7). Other forms of communication were much less frequently used, with text messages being reported by 27% of families and emails by 19%. All other communication was reported by fewer than 10% of families, and 16% of families reported no communication about their child's attendance.

While phone calls were the most frequent activity reported by attendance staff, home visits were perhaps the most significant source of stress. In our interviews with attendance support staff, conducting home visits was mentioned as a predominant work activity. Home visits were initially seen as controversial, given concerns about COVID-19 transmission, but over the course of the school year "the volume had really increased." For example, when we asked one attendance staff member how he was spending most of his time, he said, "Home visits. Home visits through the

roof...Those are students that are chronically severe.” In addition, DPSCD experienced a 3.7% decline in student enrollment in the 2020-21 school year (Levin, 2022). Attendance staff reported that they were asked to conduct home visits not only for attendance problems, but also to identify students to come back to school or drop from the rolls:

Last week, the principal sent me a list of students. It was about 30 kids or something like that. She's wanting an update on all of them...The list was pretty much from students that we were trying to see who we should drop. From that list, some students they said when the learning center starts back up, they'll be back in school.

Learning centers were hybrid options that permitted students to physically come to a school building to participate in online instruction. They reduced the demand for in-person staff while providing an option for families who could not supervise online instruction at home. As the staff member's quote above illustrates, the district's emphasis on home visits blurred the line between addressing enrollment and attendance.

For the great emphasis that the district placed on home visits, however, only 8% of families reported receiving a home visit for attendance. Attendance staff were limited in the number of visits they could conduct. One attendance staff member explained that “on a typical day, I've got eight to ten families I'm going to visit,” and her time each week was split between home visits, other family communication, and school-based responsibilities. Overall, attendance staff expressed challenges with knowing how to prioritize their time with limited resources and new demands. As one staff person shared:

There are more severely chronic children. The number has like tripled...So you have to decide, and then you look at your [moderate] chronic children and that number, of course, had gone down a little, because they had all moved to that [severe] category. So now, it's

deciding how to go about your work. Those [moderate] students or those at risk students...

Where are you going to put your focus?

These overwhelming demands created a climate in which school staff were working tirelessly while still not fully meeting families' needs for students to engage in regular school participation.

Technology and Tech Support

DPSCD implemented two major technology initiatives to support attendance as students shifted to online learning. First, the district partnered with business and philanthropic organizations to create the Connected Futures program, which donated a laptop with LTE data (enabling internet access without a wired connection) to every student who was enrolled in 2019-20 (Wisely, 2020). For newly enrolled students in 2020-21, the district issued loaner computers. Second, in December 2020, the district installed 13 technology hubs in school buildings throughout the city for hardware repairs, software installation, or informal training on the applications needed to engage in online school (Catolico, 2020). Parents could come to the hubs, which were open during school hours, to get their children's computers repaired and ask questions about the online platforms. Forty-nine percent of district families used a technology hub. Of the 51% of families who did not use a hub, 20% reported that they could not get to a hub when they needed support, 9% reported that the hubs were not open during hours convenient to them, and 6% did not know about the hubs (Table 3).

While the parents we interviewed shared that their children used the donated laptops to log on to school, many said that the devices were low quality and not designed for high volume use on multiple applications at one time. As one parent said, "The computers keep messing up. I have to keep taking the computers to get fixed." Another shared that "the computers are constantly lagging, shutting down. They couldn't get in their classes."

While attendance staff reported similar responsibilities and goals for their work as previous years, they had added responsibilities of assisting with technology distribution and problems. As one attendance staff person said:

So at the beginning, ... the priority was to make sure all of those Connected Future devices have been deployed to the students because, of course, if they didn't have those devices they could not connect academically to learning.... So, I assisted with the deployment of those devices, calling those parents, going to the home.

Attendance staff universally shared that the demands of their jobs increased considerably during the 2020-21 school year, particularly since communicating with families was more difficult when there were few in-school opportunities.

When students missed school because of technology issues, someone from the school usually contacted them with a phone call. Parents had mixed experiences with this type of support. For some parents, this kind of communication was viewed as helpful, and it improved over the course of the year. As one parent said: “They started sending emails and telling us exactly how to log.” Another shared that “It's getting better, finally. I'm in more communication now with her teacher.” School staff reiterated that online instruction created a learning curve for all parties and that support improved over time: “Virtual is something new to everybody. It was new to the teachers, it was new to the principals and everybody. It's a new world. Make sure that the kids can log on. That was the biggest part because if they can't log on, then they're not attending class.”

Some of the parents in our study, however, felt that the school only cared about being able to mark their child as present, and they did not offer support or sympathy when computer or internet issues arose:

I've spoken to principals, I've spoken to the attendance lady. I've spoken with several people, and it seems like they just don't care. All they worry more about is their attendance, not actually what's going on with [my children]...They only give me a call when they wasn't being online. They didn't care about them not being able to get online due to the fact that they had no service, their computers didn't work. Now that they're online, they don't even call to see what's going on with them or anything.

This sentiment suggests that parent outreach about attendance, absent authentic relationships, can be viewed as punitive or focused on bureaucratic accounting of students rather than as attempts to understand family needs and offer supports. Overall, despite increased efforts to engage students in online learning and adjust to this new normal, many students still struggled with technology, were not able to access the provided support (e.g., technology hubs), and, in some cases, came back to school in person because of technology problems that went unaddressed.

Discussion and Implications

By combining administrative records with original survey data and in-depth qualitative interviews, this study provides a rich, holistic accounting of Detroit student experiences during the pandemic and the challenges they faced in accessing school. Although Detroit has a unique context for student attendance (Singer et al., 2021), our findings are helpful for school leaders across the U.S. who are considering how best to support students and families who have experienced extreme pandemic-related hardship (Childs et al., 2022). In addition, they offer useful insights to better prepare for future disruptions to in-person schooling due to new pandemics, climate disasters, or community crises. Computer and internet issues were major contributors to the increase in chronic absence during the 2020-21 school year. However, now that most students are back in person, the social and economic factors that contributed to high rates of chronic absence in previous years

(Childs & Lofton, 2021; Singer et al., 2021) have likely been exacerbated by increased financial and mental health challenges (Davis et al., 2020). Indeed, chronic absenteeism rates in DPSCD for 2021-22 were comparable to 2020-21 (Altavena, 2022). Students in families who faced greater economic precarity (e.g., lower income-to-poverty ratio, no fully-employed parent, facing eviction) were more likely to be severely chronically absent. There were also significant socioeconomic differences between moderately and severely chronically absent students, suggesting that reducing chronic absenteeism will require social and economic supports beyond what schools alone can provide.

Our findings indicate that, despite major philanthropic investment to provide computers and internet to all students in the district, these efforts were insufficient to ensure that students attended and were engaged in school. Based on parent and staff interviews, the devices were not built for daily video-conferencing and multiple educational platforms. Relyea et al. (2022) found that higher-achieving students were more likely to choose the online only option than lower performing students, suggesting that the most financially stretched and academically vulnerable students were more likely to be in person. As districts continue to experiment with online learning as a regular or as-needed option for student engagement (Pitts et al., 2022), more research should investigate the types of devices that are easiest for families to use given the demands of the software required by schools.

In addition, technology support should be well-communicated and available for families when they need it. Approximately 10% of all families in the district needed tech support but could not access it because they could not physically get to the technology hubs and another 5% could not access because they were not available during the hours of operation. Although these specific challenges may dissipate with lower levels of online learning, they indicate that a significant

number of families may not be well-served by resources offered at school buildings or during school hours. They also reinforce the idea that equitable and adequate school transportation is a prerequisite to accessing educational opportunity (Edwards, 2021; Sattin-Bajaj, 2018). State and district policymakers should consider how expanding school options, even virtually, without addressing underlying inequities in mobility, may exacerbate gaps in educational opportunity. They should consider ways to actively engage families in the design and distribution of new schooling options, taking into account how family resources may shape access (Bierbaum et al., 2021).

Finally, although school and district staff worked hard to address new and varied challenges in their efforts to improve attendance, chronic absenteeism rose to 70%, and 54% of students missed 20% or more enrolled school days in 2020-21 (36 days or more for a student enrolled all year). While attendance staff spent most of their time communicating with families through phone calls and home visits, families sought more varied types of communication and more support with technology, emphasizing the importance of these supports for student engagement (Domina et al., 2021; Haderlein et al., 2021)). We found that the practices of attendance staff were somewhat misaligned with student needs for engagement. Given the significant role that structural and environmental conditions play in student attendance in Detroit (Singer et al., 2021), these findings suggest that efforts to re-engage students in regular school attendance will require more coordinated efforts with social support agencies and policy change in sectors outside of schools.

More than ever, the city and state governments, community organizations and nonprofits, and educators across students' educational ecosystems must challenge the status quo to improve conditions for getting to school (Childs & Grooms, 2018), working to reduce poverty and increase

school engagement. As districts and cities determine how best to use federal and state dollars to support pandemic recovery and beyond, they should consider how to strengthen that ecosystem by ensuring that students have resources for learning in and outside of school, and by actively engaging families in discussions about what they need and how best to deliver those resources. They should work together to address the root causes of poverty, unemployment, and health inequities (Childs & Lofton, 2021), while also adjusting school policy and practices to better support families and engage students as they go to great lengths to ensure strong attendance. This is not a matter of will—Detroit parents want their children in school (Lenhoff et al., 2021). Now, the systems charged with supporting families must create the conditions they need to help get them there.

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Tables

Table 1

Parent Interview Participants and Point-in-Time Absence Rates during the 2020-21 School Year

| School | # Children in Schools | # Chronically Absent in 2019-20 | Children’s Cumulative Average % of Days Missed | | | |
|---------------|------------------------------|--|---|------------------|--------------------|--------------------|
| | | | <i>2019-20</i> | <i>Fall 2020</i> | <i>Winter 2021</i> | <i>Spring 2021</i> |
| 1 | 4 | 4 | 20% | 57% | 62% | 62% |
| 1 | 1 | 1 | 24% | 28% | 29% | 20% |
| 1 | 2 | 1 | 9% | 68% | 65% | 70% |
| 1 | 3 | 1 | 6% | 1% | 2% | 1% |
| 1 | 3 | 1 | 7% | 38% | 38% | 42% |
| 2 | 4 | 4 | 13% | 22% | 19% | 18% |
| 2 | 2 | 2 | 31% | 63% | 61% | 60% |
| 2 | 2 | 2 | 23% | 12% | 18% | 29% |
| 2 | 1 | 1 | 36% | 23% | 19% | 17% |
| 2 | 1 | 1 | 20% | 27% | 19% | 12% |

Note: Attendance varied among children within the ten families to an extent, but not drastically (e.g., all students were moderately or severely absent). Thus, for ease of interpretation, we present the average attendance among children within the families.

Table 2

Parent and Child Codes Applied to Parent Interview Data

| Parent Code | Child Codes (Number of Excerpts) |
|--------------------------------|--|
| Attendance Issues During COVID | Engagement issue (4) Health issue (14) Schedule issue (13) Tech challenge (29) Other issue (3) |
| Effects of COVID on Family | Economic effects (28) Health effects (8) Mental/emotional effects (44) |
| Financial Issues | Hard to afford expenses (17) Lost or insufficient social services (9) Lost work (16) No major expenses (2) |
| School Experience During COVID | Hard to manage distance learning (20) In-person better for learning (41) Safety concerns about in-person learning (17) Schools provide some tech support (15) Tech issues (28) Uneven communication from schools (28) |

Table 3

DPSCD Attendance Rate Over Time

| | Full School Year | | | Truncated School Year | | |
|--|------------------|---------|---------|-----------------------|---------|---------|
| | 2018-19 | 2019-20 | 2020-21 | 2018-19 | 2019-20 | 2020-21 |
| Average Attendance Rate | 82% | - | 68% | 84% | 81% | 70% |
| Percent Chronically Absent | 62% | - | 70% | 54% | 52% | 64% |
| Percent Chronically Absent by First Semester | 52% | - | 64% | 52% | 51% | 64% |

Note. This table uses student-level data on every K-12 student enrolled in the district each year. Truncated school year includes days 1-114 of the school year, based on the number of days in 2019-20 when daily attendance was taken in the district. Daily attendance was not taken when schools initially shut down (starting 3/16/20) because of stay-at-home COVID-19 orders. Full school year attendance data is not available for the 2019-20 school year due to those shutdowns.

Table 4*Changes in Chronic Absence Status Over Time*

| | Number of Students | Percent |
|---|-----------------------|---------|
| Chronically Absent in 2018-19 and 2020-21 | 16,582 | 48% |
| Not Chronically Absent in 2018-19 and 2020-21 | 7,582 | 22% |
| Chronically Absent in 2018-19 and not in 2020-21 | 3,120 | 9% |
| Not Chronically Absent in 2018-19 but Chronically Absent in 2020-21 | 7,225 | 21% |
| Total | 35,363 | 100% |

Note. This table includes all K-12 DPSCD students with attendance records in DPSCD in both 2018-19 and 2020-21.

Table 5*Families' Experiences During the COVID-19 Pandemic (Weighted Survey Sample)*

| | N | Weighted Mean |
|---|-----|---------------|
| Any Parent Worked More during COVID | 770 | 0.13 |
| Any Parent Less Hours/Lost Job during COVID | 775 | 0.64 |
| All Parent Less Hours/Lost Job during COVID | 776 | 0.39 |
| Evicted during COVID | 775 | 0.09 |
| Family Member Sick or Died of COVID | 774 | 0.36 |
| Mental Health Challenges during COVID | 772 | 0.60 |
| Financial Challenges during COVID | 774 | 0.56 |
| Logistical Challenges during COVID | 772 | 0.54 |
| Often/Always Reason for Absences during COVID | | |
| Lack of Transportation | 770 | 0.12 |
| Child's Health | 762 | 0.16 |
| Parent's Health | 760 | 0.13 |
| Child Refused | 759 | 0.13 |
| Computer Issues | 771 | 0.39 |
| Internet Issues | 766 | 0.30 |
| Log-on Issues | 767 | 0.06 |
| Issues with Teachers | 765 | 0.09 |
| Issues with Other Students | 764 | 0.03 |
| Online Learning All Year | 770 | 0.58 |

Note: N varies due to missing data from respondents. All variables are dummy (0 or 1) variables.

Table 6

SES and COVID Factors by Chronic Absence Status in 2020-21 (Weighted Survey Sample)

| | Not Chronically Absent (30% of students) | Moderately Chronically Absent (16% of students) | Severely Chronically Absent (54% of students) |
|--|---|--|--|
| Household Composition | | | |
| Number of Children | 2.50 ³ | 2.75 | 3.00 ¹ |
| Number of Adults | 1.93 ³ | 1.94 ³ | 1.69 ¹² |
| Single Parent/Guardian | 44% ²³ | 60% ¹³ | 75% ¹² |
| Household Income | \$37,224 ³ | \$30,097 ³ | \$18,521 ¹² |
| Income-to-Poverty Ratio | 137% ³ | 111% ³ | 67% ¹² |
| Highest Parent Education | | | |
| High school or less | 37% ³ | 48% ³ | 66% ¹² |
| Some college | 25% | 31% | 20% |
| Associate’s Degree | 12% | 7% | 6% |
| BA or higher | 26% ²³ | 14% ¹ | 7% ¹ |
| Any Parent Employed Full-Time | 63% ³ | 55% ³ | 35% ¹² |
| Evicted during COVID-19 | 2% ³ | 9% | 12% ¹ |
| Any Parent Less Hours/Lost Job during COVID | 65% | 62% | 65% |
| All Parents Less Hours/Lost Job during COVID | 34% ³ | 31% ³ | 44% ¹² |
| Family Member Got Sick or Died from COVID | 29% ³ | 36% | 41% ¹ |
| Mental Health Challenges COVID | 57% | 66% | 59% |
| Financial Challenges COVID | 52% | 52% | 59% |
| Logistical Challenges COVID | 51% | 53% | 55% |
| Online Learning All Year | 66% ³ | 65% ³ | 52% ¹² |

¹Statistically significantly different from “Not Chronically Absent” students ($p < 0.01$)

²Statistically significantly different from “Moderately Chronically Absent” students ($p < 0.01$)

³Statistically significantly different from “Severely Chronically Absent” students ($p < 0.01$)

Table 7

Regressions Estimating the Percentage of Days Absent and Probability of Chronic Absence, 2020-21 School Year

| | (1) Pct. Days Absent | (2) Pct. Days Absent | (3) Chronically Absent | (4) Chronically Absent |
|---|----------------------------|----------------------------|------------------------------|------------------------------|
| Family SES | | | | |
| Income-to-Poverty | -0.03** | -0.01 | -0.07** | -0.05* |
| Any Parent Full-Time | -0.07* | -0.05 | -0.04 | -0.03 |
| Single Parent | 0.08* | 0.05 | 0.12** | 0.08 |
| Evicted in 2020-21 | 0.09 | 0.11 | 0.13** | 0.13* |
| COVID-19 Challenges | | | | |
| Health | 0.00 | 0.00 | 0.05 | 0.06 |
| Mental Health | -0.03 | -0.01 | 0.02 | 0.00 |
| Logistics | -0.01 | 0.00 | -0.01 | 0.00 |
| Financial | -0.03 | -0.04 | -0.04 | -0.06 |
| Online Instruction Only | -0.08** | -0.09*** | -0.08* | -0.06 |
| Computer Issues (reference = Never) | | | | |
| Rarely | 0.05 | 0.06 | 0.09 | 0.08 |
| Sometimes | 0.10** | 0.06 | 0.15** | 0.13* |
| Often | 0.20*** | 0.16*** | 0.33*** | 0.29*** |
| Always | 0.27*** | 0.22*** | 0.35*** | 0.29*** |
| Race (reference = Black) | | | | |
| Hispanic | -0.12* | -0.08* | -0.21** | -0.16** |
| Other Race | -0.07 | -0.06 | 0.02 | 0.02 |
| Special Education | -0.04 | -0.03 | 0.06 | 0.04 |
| Female | -0.07 | -0.04 | -0.04 | -0.02 |
| Grade Level (reference = K-2nd) | | | | |
| 3 rd -5 th | -0.01 | 0.00 | -0.08 | -0.06 |
| 6 th -8 th | 0.05 | 0.04 | 0.02 | 0.01 |
| 9 th -12 th | 0.21*** | 0.15*** | 0.18*** | 0.15** |
| Prior-Year Absences | - | 0.80*** | - | - |
| Prior-Year Chronically Absent | - | - | - | 0.25*** |
| Constant | 0.27*** | 0.16** | 0.54*** | 0.44*** |
| R ² | 0.38 | 0.46 | 0.28 | 0.32 |
| N | 776 | 648 | 776 | 648 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Outcome is the percentage of days absent (models 1 and 2) or whether a student was chronically absent (i.e., 10% or more days absent; models 3 and 4). Standard errors are robust. Analytic weights are applied (see Appendix A). Models that include “prior year” measures drop observations that are not observed in the 2019-20 school year (N=128). While results are informative they should not be directly compared to the main models.

Table 8

Often/Always Reasons for Absences by Chronic Absence Status in 2020-21 (Weighted Survey Sample)

| | Not Chronically Absent (30% of students) | Moderately Chronically Absent (16% of students) | Severely Chronically Absent (54% of students) |
|------------------------|--|---|---|
| Lack of Transportation | 8% ³ | 9% | 16% ¹ |
| Child’s Health | 8% ³ | 15% | 20% ¹ |
| Parent’s Health | 7% ³ | 9% | 17% ¹ |
| Child Refused | 3% ³ | 8% ³ | 20% ^{1,2} |
| Computer Issues | 16% ^{2,3} | 31% ^{1,3} | 54% ^{1,2} |
| Internet Issues | 15% ³ | 20% ³ | 41% ^{1,2} |
| Log-on Issues | 4% ³ | 5% ³ | 13% ^{1,2} |
| Teachers | 3% | 6% | 8% |
| Other Students | 1% | 2% | 4% |

¹Statistically significantly different from “Not Chronically Absent” students ($p < 0.01$)

²Statistically significantly different from “Moderately Chronically Absent” students ($p < 0.01$)

³Statistically significantly different from “Severely Chronically Absent” students ($p < 0.01$)

Table 9*Attendance Communication and Support from School*

| | N | Mean |
|--|-----|------|
| Communication Received | | |
| Phone Call | 766 | 0.72 |
| Text Message | 766 | 0.27 |
| Home Visit | 766 | 0.08 |
| Email | 766 | 0.19 |
| Video Call | 766 | 0.10 |
| App-based Communication | 766 | 0.06 |
| No Communication | 766 | 0.16 |
| Communication Preferences | | |
| Phone Call | 749 | 0.86 |
| Text Message | 749 | 0.53 |
| Home Visit | 749 | 0.09 |
| Email | 749 | 0.35 |
| Video Call | 749 | 0.17 |
| App-based Communication | 749 | 0.12 |
| Ever Used District Technology Hub | 763 | 0.49 |
| Reasons for Not Using Tech Hubs ⁺ | | |
| I didn't need tech support. | 385 | 0.55 |
| I received tech support elsewhere. | 385 | 0.12 |
| I couldn't get to the hubs when I needed support. | 385 | 0.20 |
| The hubs were not open during convenient hours. | 385 | 0.09 |
| I owned or bought tech to replace the district tech. | 385 | 0.01 |
| I didn't know about the tech hubs. | 385 | 0.06 |

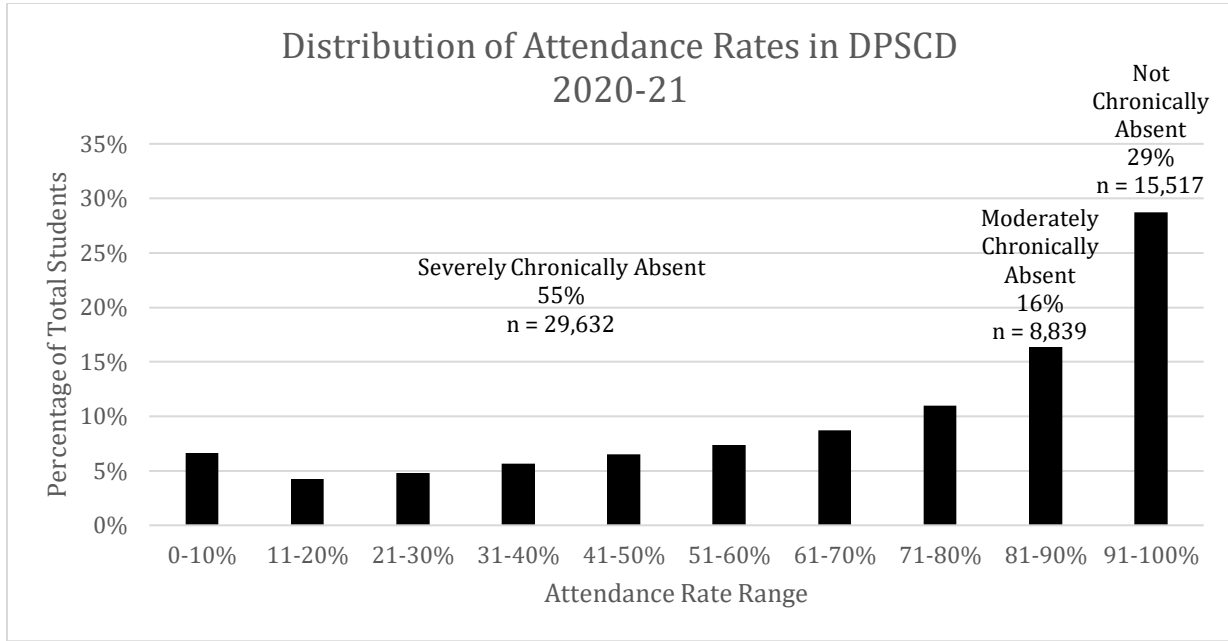
Note: N varies due to missing data from respondents. All variables are dummy (0 or 1) variables.

⁺We asked respondents the "reasons for not using tech hub" question only if they indicated that they never used a tech hub. We asked respondents to select any reasons that applied.

Figures

Figure 1

Distribution of Attendance Rates in DPSCD, 2020-21



Appendices
Appendix A: Details on Methodology

Table A1

DPSCD Student Population and Sample, 2020-21

| | Population (N=52,758) | Unweighted Sample (N=776) | Weighted Sample (N=776) |
|--------------------|--------------------------|------------------------------|----------------------------|
| School Type | | | |
| Neighborhood | 0.76 | 0.44 | 0.76 |
| Application/Exam | 0.24 | 0.56 | 0.24 |
| Grade Level | | | |
| Kindergarten | 0.07 | 0.05 | 0.07 |
| 1st | 0.08 | 0.07 | 0.08 |
| 2nd | 0.09 | 0.08 | 0.09 |
| 3rd | 0.08 | 0.09 | 0.08 |
| 4th | 0.08 | 0.09 | 0.08 |
| 5th | 0.08 | 0.09 | 0.08 |
| 6th | 0.07 | 0.07 | 0.07 |
| 7th | 0.07 | 0.04 | 0.07 |
| 8th | 0.07 | 0.04 | 0.07 |
| 9th | 0.09 | 0.11 | 0.09 |
| 10th | 0.08 | 0.10 | 0.08 |
| 11th | 0.07 | 0.08 | 0.07 |
| 12th | 0.07 | 0.08 | 0.07 |
| Female | 0.49 | 0.51 | 0.49 |
| Race/Ethnicity | | | |
| Black | 0.82 | 0.86 | 0.82 |
| White/MENA | 0.03 | 0.03 | 0.03 |
| Hispanic | 0.13 | 0.09 | 0.13 |
| Asian | 0.01 | 0.01 | 0.01 |
| Other Race | 0.01 | 0.01 | 0.01 |
| Chronically Absent | 0.70 | 0.54 | 0.70 |

Table A2

Comparison of Survey Respondents and Non-Respondents by School Type

| | <i>Neighborhood DPSCD School</i> | | <i>Application/Exam DPSCD School</i> | |
|-----------------------|----------------------------------|---------------------------------|--------------------------------------|---------------------------------|
| | Population (N=40,107) | Unweighted Sample (N=341) | Population (N=12,651) | Unweighted Sample (N=435) |
| School Type | | | | |
| Neighborhood | 1.00 | 1.00 | - | - |
| Application/Exam | - | - | 1.00 | 1.00 |
| Grade Level | | | | |
| Kindergarten | 0.08 | 0.06 | 0.05 | 0.04 |
| 1st | 0.10 | 0.09 | 0.05 | 0.05 |
| 2nd | 0.10 | 0.10 | 0.05 | 0.06 |
| 3rd | 0.09 | 0.15 | 0.05 | 0.06 |
| 4th | 0.10 | 0.13 | 0.05 | 0.05 |
| 5th | 0.09 | 0.10 | 0.04 | 0.08 |
| 6th | 0.08 | 0.10 | 0.05 | 0.05 |
| 7th | 0.07 | 0.05 | 0.05 | 0.04 |
| 8th | 0.07 | 0.04 | 0.05 | 0.05 |
| 9th | 0.07 | 0.06 | 0.14 | 0.15 |
| 10th | 0.05 | 0.04 | 0.17 | 0.15 |
| 11th | 0.05 | 0.05 | 0.13 | 0.11 |
| 12th | 0.05 | 0.04 | 0.13 | 0.12 |
| Female | 0.47 | 0.43 | 0.57 | 0.58 |
| Race/Ethnicity | | | | |
| Black | 0.83 | 0.85 | 0.80 | 0.87 |
| White/MENA | 0.03 | 0.03 | 0.02 | 0.03 |
| Hispanic | 0.12 | 0.10 | 0.16 | 0.09 |
| Asian | 0.01 | 0.01 | 0.01 | 0.01 |
| Other Race | 0.01 | 0.01 | 0.03 | 0.01 |
| Chronically Absent | 0.75 | 0.66 | 0.50 | 0.43 |

Appendix B: Supplementary Data Analysis

Table B1

Chronic Absence by Demographics in 2020-21

| | Chronically Absent |
|--------------------------------------|--------------------|
| Kindergarten | 75% |
| 1st | 74% |
| 2nd | 72% |
| 3rd | 66% |
| 4th | 63% |
| 5th | 64% |
| 6th | 67% |
| 7th | 69% |
| 8th | 68% |
| 9th | 68% |
| 10th | 68% |
| 11th | 69% |
| 12th | 87% |
| Gender ¹ | |
| Female | 67% |
| Male | 72% |
| Race/Ethnicity | |
| Black | 74% |
| White ² | 59% |
| Hispanic | 50% |
| Asian | 40% |
| Special Education Status | |
| Receives Special Ed. Services | 73% |
| Doesn't Receive Special Ed. Services | 67% |
| English Language Learner Status | |
| English Language Learner | 48% |
| Not an English Language Learner | 72% |

¹ DPSCD does not report gender identities other than male and female.

² Students who are ethnically Middle Eastern or North African (MENA) are often categorized as “white” in the administrative data (Wang, 2020). Since Detroit and the metro Detroit area has a large MENA population (Cwiek, 2014), the “white” category likely includes both white and MENA students.

Table B2

Stepwise OLS Regression Estimating the Percentage of Days Absent, 2020-21 School Year

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-----------------------------------|----------|----------|----------|----------|----------|----------|---------|----------|----------|----------|
| Family SES | | | | | | | | | | |
| Income-to-Poverty | - | -0.06*** | - | - | - | - | -0.03** | -0.05*** | -0.01 | -0.02* |
| Any Parent Full-Time | - | -0.08* | - | - | - | - | -0.07* | -0.08* | -0.05 | -0.05 |
| Single Parent | - | 0.07 | - | - | - | - | 0.08* | 0.06 | 0.05 | 0.04 |
| Evicted in 2020-21 | - | 0.13 | - | - | - | - | 0.09 | 0.10 | 0.11 | 0.11 |
| COVID-19 Challenges | | | | | | | | | | |
| Health | - | - | 0.03 | - | - | - | 0.00 | 0.01 | 0.00 | 0.00 |
| Mental Health | - | - | -0.05 | - | - | - | -0.03 | -0.03 | -0.01 | -0.02 |
| Logistics | - | - | -0.01 | - | - | - | -0.01 | 0.00 | 0.00 | 0.01 |
| Financial | - | - | 0.02 | - | - | - | -0.03 | -0.04 | -0.04 | -0.04 |
| Online Instruction Only | - | - | - | -0.11** | - | - | -0.08** | -0.09** | -0.09*** | -0.09*** |
| Computer Issues | | | | | | | | | | |
| Rarely | - | - | - | - | 0.06 | - | 0.05 | - | 0.06 | - |
| Sometimes | - | - | - | - | 0.13*** | - | 0.10** | - | 0.06 | - |
| Often | - | - | - | - | 0.24*** | - | 0.20*** | - | 0.16*** | - |
| Always | - | - | - | - | 0.34*** | - | 0.27*** | - | 0.22*** | - |
| Internet Issues | | | | | | | | | | |
| Rarely | - | - | - | - | - | 0.07 | - | 0.03 | - | 0.00 |
| Sometimes | - | - | - | - | - | 0.03 | - | 0.00 | - | -0.04 |
| Often | - | - | - | - | - | 0.14** | - | 0.10* | - | 0.07 |
| Always | - | - | - | - | - | 0.23*** | - | 0.15** | - | 0.12* |
| Race | | | | | | | | | | |
| Hispanic | -0.18*** | -0.14*** | -0.18*** | -0.18*** | -0.16*** | -0.19*** | -0.12* | -0.15*** | -0.08* | -0.09** |
| Other Race | -0.12*** | -0.09 | -0.11 | -0.12* | -0.11* | -0.13** | -0.07 | -0.09 | -0.06 | -0.07 |
| Special Education | -0.03 | -0.05 | -0.03 | -0.02 | -0.02 | -0.02 | -0.04 | -0.05 | -0.03 | -0.05 |
| Female | -0.08* | -0.07* | -0.08* | -0.08* | -0.06 | -0.08* | -0.07 | -0.08** | -0.04 | -0.05 |
| Grade Level | | | | | | | | | | |
| 3 rd -5 th | -0.03 | -0.02 | -0.04 | -0.02 | -0.03 | -0.04 | -0.01 | -0.01 | 0.00 | 0.00 |
| 6 th -8 th | 0.03 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 | 0.05 | 0.05 | 0.04 | 0.04 |
| 9 th -12 th | 0.12* | 0.17*** | 0.13** | 0.16** | 0.16*** | 0.14** | 0.21*** | 0.21*** | 0.15*** | 0.15*** |
| Prior-Year Absences | - | - | - | - | - | - | - | - | 0.80*** | 0.91*** |
| Constant | 0.36*** | 0.37*** | 0.37*** | 0.41*** | 0.17*** | 0.28*** | 0.27*** | 0.40*** | 0.16** | 0.27*** |
| R ² | 0.12 | 0.26 | 0.13 | 0.15 | 0.27 | 0.18 | 0.38 | 0.32 | 0.46 | 0.44 |
| N | 776 | 776 | 776 | 776 | 776 | 776 | 776 | 776 | 648 | 648 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Outcome is the percentage of days absent. Reference category for computer and internet issues is “never”. Reference category for Grade Level is “K-2”. Reference category of race/ethnicity is “Black”. Standard errors are robust. Analytic weights are applied.

Table B3

Linear Probability Model Estimating the Probability of Chronic Absence, 2020-21 School Year

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-----------------------------------|----------|----------|----------|----------|----------|---------|---------|----------|---------|---------|
| Family SES | | | | | | | | | | |
| Income-to-Poverty | - | -0.10*** | - | - | - | - | -0.07** | -0.08*** | -0.05* | -0.06** |
| Any Parent Full-Time | - | -0.06 | - | - | - | - | -0.04 | -0.05 | -0.03 | -0.04 |
| Single Parent | - | 0.11** | - | - | - | - | 0.12** | 0.11* | 0.08 | 0.06 |
| Evicted in 2020-21 | - | 0.18*** | - | - | - | - | 0.13** | 0.16** | 0.13* | 0.15* |
| COVID-19 Challenges | | | | | | | | | | |
| Health | - | - | 0.08 | - | - | - | 0.05 | 0.07 | 0.06 | 0.06 |
| Mental Health | - | - | -0.01 | - | - | - | 0.02 | 0.00 | 0.00 | -0.02 |
| Logistics | - | - | -0.02 | - | - | - | -0.01 | 0.01 | 0.00 | 0.01 |
| Financial | - | - | 0.04 | - | - | - | -0.04 | -0.04 | -0.06 | -0.06 |
| Online Instruction Only | - | - | - | -0.12** | - | - | -0.08* | -0.10** | -0.06 | -0.07 |
| Computer Issues | | | | | | | | | | |
| Rarely | - | - | - | - | 0.10 | - | 0.09 | - | 0.08 | - |
| Sometimes | - | - | - | - | 0.21** | - | 0.15** | - | 0.13* | - |
| Often | - | - | - | - | 0.41*** | - | 0.33*** | - | 0.29*** | - |
| Always | - | - | - | - | 0.46*** | - | 0.35*** | - | 0.29*** | - |
| Internet Issues | | | | | | | | | | |
| Rarely | - | - | - | - | - | 0.09 | - | 0.04 | - | 0.03 |
| Sometimes | - | - | - | - | - | 0.13* | - | 0.10 | - | 0.07 |
| Often | - | - | - | - | - | 0.32*** | - | 0.25*** | - | 0.22*** |
| Always | - | - | - | - | - | 0.37*** | - | 0.24*** | - | 0.21*** |
| Race | | | | | | | | | | |
| Hispanic | -0.31*** | -0.24*** | -0.30*** | -0.30*** | -0.27*** | -0.32 | -0.21** | -0.25*** | -0.16** | -0.19** |
| Other Race | -0.06 | -0.01 | -0.03 | -0.05 | -0.03 | -0.06 | 0.02 | 0.01 | 0.02 | 0.02 |
| Special Education | 0.10 | 0.05 | 0.08 | 0.09 | 0.10* | 0.10* | 0.06 | 0.05 | 0.04 | 0.03 |
| Female | -0.05 | -0.04 | -0.06 | -0.06 | -0.03 | -0.06 | -0.04 | -0.06 | -0.02 | -0.04 |
| Grade Level | | | | | | | | | | |
| 3 rd -5 th | -0.10 | -0.09 | -0.10 | -0.08 | -0.10 | -0.11 | -0.08 | -0.08 | -0.06 | -0.06 |
| 6 th -8 th | -0.02 | 0.01 | -0.01 | -0.01 | -0.01 | -0.02 | 0.02 | 0.01 | 0.01 | 0.01 |
| 9 th -12 th | 0.06 | 0.14** | 0.07 | 0.10* | 0.12* | 0.10 | 0.18*** | 0.18*** | 0.15** | 0.15** |
| Prior-Year Chronically Absent | - | - | - | - | - | - | - | - | 0.25*** | 0.27*** |
| Constant | 0.76*** | 0.76*** | 0.73*** | 0.82*** | 0.47*** | 0.59*** | 0.54*** | 0.68*** | 0.44*** | 0.55*** |
| R ² | 0.08 | 0.19 | 0.09 | 0.10 | 0.20 | 0.15 | 0.28 | 0.25 | 0.32 | 0.30 |
| N | 776 | 776 | 776 | 776 | 776 | 776 | 776 | 776 | 648 | 648 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Outcome is the percentage of days absent. Reference category for computer and internet issues is “never”. Reference category for Grade Level is “K-2ⁿ”. Reference category of race/ethnicity is “Black”. Standard errors are robust. Analytic weights are applied.