



Teacher and Principal Attrition During the COVID-19 Pandemic in North Carolina

In this research brief, we examine teacher and principal attrition from North Carolina public schools (NCPS) during the COVID-19 pandemic. This work is motivated by concerns about the effect of the pandemic on educator stress and burn out and by the potential for increased educator attrition to adversely impact students and schools. By comparing attrition rates during the pandemic to attrition rates in the three prior years, we find that: (1) exit and transfer rates are generally lower for both teachers and principals during the pandemic; (2) older and retirement eligible educators were more likely to exit NCPS during the pandemic; (3) reductions in teacher departures were larger in schools serving more students of color and more economically disadvantaged students; and (4) educator departures were related to whether the school was offering remote or in-person instruction. Our results are consistent with studies from several other states, where teacher attrition is also down during COVID-19. It is important to note that the absence of attrition does not mean the absence of a problem. Studies show that educators are feeling stress and burn out. They will need supports from district and state officials as North Carolina emerges from the pandemic.

Introduction

Amid the debate on reopening schools during the COVID-19 pandemic, educators across the country have faced challenges in both remote and in-person schooling. For remote schooling, teachers have had to adapt their curriculum for virtual instruction, learn new technological platforms, and work with families to ensure that students could access resources. Meanwhile, principals have had to adapt instructional leadership approaches, create school culture without face-to-face interactions, and build connections to families who are balancing extra childcare, school, and employment responsibilities. For in-person schooling, teachers and principals have had to adjust daily schedules, implement new public health measures, and take on additional health risks for themselves, family, colleagues, and students.

The stress of these changes has led to concerns about educator burn out and attrition. In this research brief, we assess the initial impacts of the COVID-19 pandemic on teacher and principal attrition in North Carolina. We focus on educator attrition given its financial costs to districts and its adverse impacts on students, educators, and schools. In particular, we answer the following questions: (1) How do teacher and principal exits and transfers in 2020–21 compare to prior years? (2) How are exits and transfers related to educator characteristics? and (3) How are exits and transfers related to district and school characteristics? As North Carolina emerges from the pandemic, our analyses can inform discussions around the recruitment, hiring, retention, and equitable distribution of educators.

Background

For these analyses, we leverage statewide data on all teachers and principals in North Carolina public schools (NCPS) in the 2016–17 through 2020–21 school years.¹ These data contain a rich set of teacher and principal characteristics, including demographics, experience, National Board Certification (NBC), graduate degree status, evaluation ratings (NCEES), and value-added estimates (EVAAS). The data also include district and school characteristics, including the operational status of the school—fully remote, hybrid, fully in-person—during the 2020–21 school year.² In each year, these data include approximately 95,000 teachers and 2,500 principals.

To address our first aim, we use employment data³ to calculate exits from NCPS and transfers between NCPS from (1) February of a given school year to September of the following school year and (2) September of a given school year to February of the same school year. Using these calculations, we compare the percentage of teachers and principals exiting NCPS between school years (February to September) and within school years (September to February) during the COVID-19 pandemic relative to the percentage of between and within year exits in the three previous school years (pre-COVID). Likewise, we compare the percentage of teachers and principals transferring to another NCPS between years and within years pre- and post-COVID. With these analyses, we assess the extent to which exits and transfers changed after initial experiences with the pandemic and as educators experienced challenges during the 2020–21 school year.⁴

To address our remaining aims—examining how exit and transfer rates vary by characteristics of educators, districts, and schools—we compared employment data from February of a given school year to February of the following school year. With these data, we calculated exit and transfer rates for teachers and principals in the three years before the COVID-19 pandemic relative to the exit and transfer rates between February 2020 and February 2021.⁵ We test whether exit and transfer

rates are significantly different, pre- and post-COVID, by characteristics of educators, districts, and schools. The educator characteristics we consider include retirement eligibility (eligible, near eligible⁶), demographics (race/ethnicity, gender, age), experience, credentials (NBC, graduate degree), and measures of prior performance (EVAAS, NCEES). We examine these characteristics given their potential links to educator attrition during a pandemic—e.g. older and retirement eligible teachers may be more likely to exit given health concerns and greater financial security—and to assess whether better credentialed or more effective educators are leaving at higher rates. The district and school characteristics we consider include school level, urbanicity, the economic health of the county,⁷ school demographics, and the operational status of the school in the 2020–21 school year. We examine these characteristics to determine whether the pandemic is disproportionately affecting educator attrition in certain types of schools.

How Do Teacher and Principal Exits and Transfers in 2020–21 Compare to Prior Years?

Figure 1 displays trends in teacher and principal transitions *between* school years (February to September) from 2017 to 2020. The percentage of teachers exiting NCPS or transferring to another NCPS remained relatively constant across the three pre-COVID years (approximately 10 percent exiting NCPS and approximately 8 percent transferring to a different NCPS). However, between February and September 2020, we see a decrease in the number of teacher exits and transfers of approximately 1.6 and 1.4 percentage points, respectively. This equates to approximately 1,500 fewer teachers leaving NCPS between February and September 2020 (relative to the prior year) and 1,350 fewer teachers transferring to a different NCPS between February and September 2020. Among principals, between year exits and transfers declined from 2017 to 2019. These declines continued such that fewer principals exited

1 These data include all North Carolina teachers and principals in traditional public schools (excluding charter schools).

2 Data on school operational status at the beginning of the 2020–21 school year and by January 31st of the 2020–21 school year come from a database of district level opening status maintained by the North Carolina School Board Association: https://docs.google.com/spreadsheets/d/1We8gDpa4Do5NR83Nf8niGE_YxzLDF-KZh-tVWiStxE/edit#gid=0

3 We use certified salary files to identify individuals paid as teachers and principals in NCPS. To qualify as a teacher or principal, individuals need to be paid at least 50 percent FTE in that role. To qualify as a teacher or principal at a particular school, individuals need to be paid at least 50 percent FTE in that role at that school.

4 A number of recent studies have found that teachers are experiencing increased levels of stress and burnout during the COVID-19 pandemic. Please see https://www.crpe.org/sites/default/files/ep_teachers_synthesis.pdf or <https://journals.sagepub.com/doi/full/10.3102/0013189X211004138>

5 We chose the February to February timeline to measure annual teacher attrition in 2020–21 from a baseline level established in the final full month before COVID-19 related school closings (which occurred in March 2020).

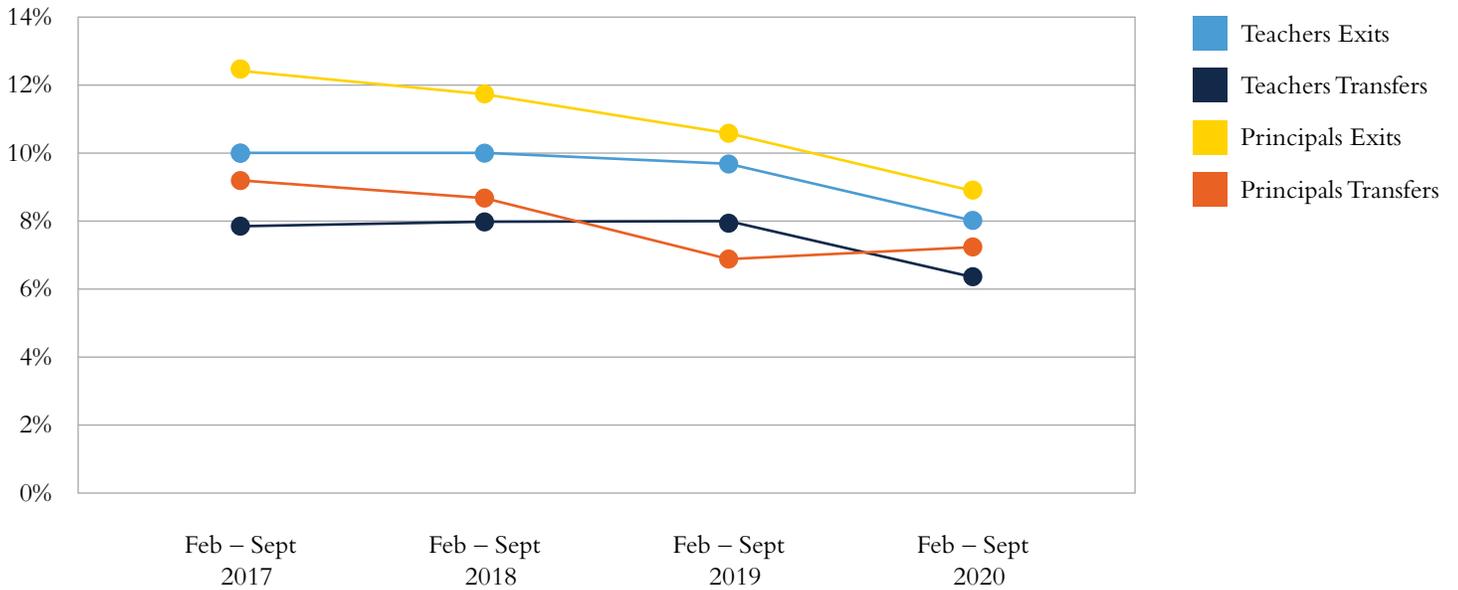
6 We classify educators as being “near eligible” for retirement if they are within two years of the retirement eligibility criteria (for full benefits). Please see <https://files.nc.gov/retire/documents/files/TSERSHandbook.pdf> for the eligibility criteria.

7 Please see <https://www.nccommerce.com/grants-incentives/county-distress-rankings-tiers> for the 100 county economic health ratings. The 40 most distressed counties are designated as Tier 1, the next 40 are Tier 2, and the 20 least distressed are Tier 3.

NCPS between February and September 2020 than in prior years. Specifically, 44 fewer principals left NCPS between February and September 2020 relative to the prior year.

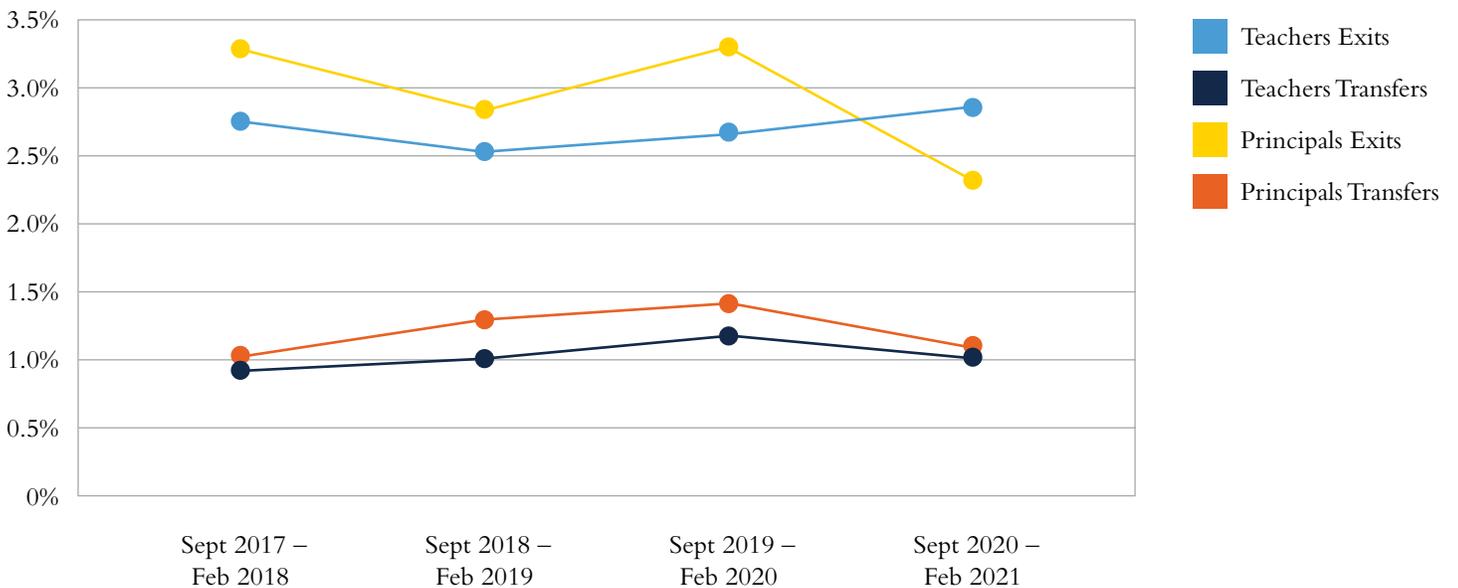
The percentage of principals transferring schools between February and September 2020 was similar to the prior year (2019) though lower than other previous years.

Figure 1. Teacher and Principal Exits and Transfers between School Years 2017 to 2020



Note: This figure displays the percentage of teachers and principals who were employed in NCPS in February of a given school year and who exited NCPS or transferred to another NCPS by September of the subsequent school year.

Figure 2. Teacher and Principal Exits and Transfers within School Years 2017 to 2021



Note: This figure displays the percentage of teachers and principals who were employed in NCPS in September of a given school year and who exited NCPS or transferred to another NCPS by February of the same school year.

Figure 2 shows the percentage of teachers and principals exiting NCPS or transferring to another NCPS *within* school years (September to February) from 2017 to 2021. The percentage of teachers exiting NCPS within the 2020–21 school year was slightly higher (approximately 0.20 percentage points higher) than the average of the prior three years. However, teacher transfers were very similar to the average of the prior years. Among principals, within year exits in 2020–21 were lower than in the prior three years (2.3 percent of principals exiting NCPS compared to 2.8 percent in the lowest of the previous years) and within year transfers were the same or slightly lower than prior years. Despite the tremendous challenges faced by educators, these analyses (Figures 1 and 2) indicate that there have not (yet) been substantial increases in teacher or principal attrition in NCPS since the beginning of the COVID-19 pandemic.

How Are Exits and Transfers Related to Educator Characteristics?

For key teacher characteristics, Figure 3 displays *changes* in the rates of teacher exits and transfers between February 2020 and February 2021 relative to the average exit and transfer rates in the three previous years. For instance, Figure 3 would show a two percentage point drop in teacher attrition if 10 percent of White teachers exited NCPS between February 2020 and February 2021 and an average of 12 percent of White teachers exited NCPS in the three prior years.

Overall, teacher exits and transfers decreased significantly in 2020–21 relative to the average of the three prior years—i.e. teacher exits were down by 1.1 percentage points and transfers were down by 1.5 percentage points. This pattern of reduced exits and transfers holds for most teacher groups, with a few notable exceptions. The rate of exits for teachers eligible for retirement increased by 1.9 percentage points in 2020–21 compared to prior years. This equates to 66 more retirement eligible teachers leaving NCPS between February 2020 and February 2021 relative to the three prior years. Teachers who are older than 59 also had a significant (1.4 percentage point) increase in exits relative to previous years. These higher rates of exit for older teachers may reflect the higher health risks associated with COVID-19 for older populations. The economic impacts of the pandemic may also be lessened for those who are eligible to retire with full benefits. Unlike most teacher groups, those near retirement eligibility did not experience a significant change in exits or transfers in 2020–21. Likewise, novice teachers (<3 years experience), NBC teachers,⁸ and teachers

with high prior-year evaluation ratings⁹ did not experience a significant reduction in exits from NCPS. This finding on evaluation ratings fits with data showing that teachers who failed to meet growth in the prior year had larger reductions in their exit rates than peers who had met or exceeded growth.

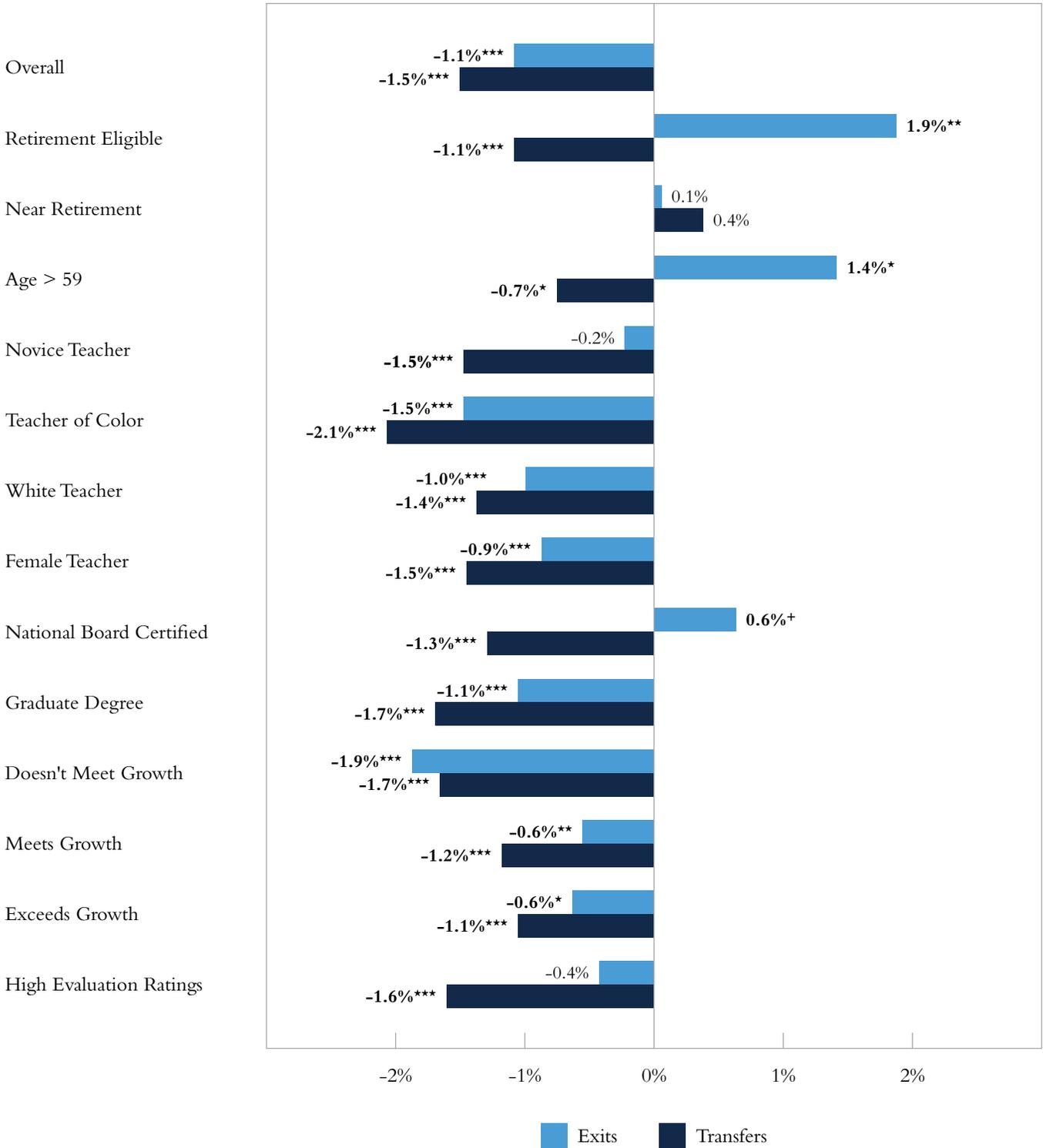
Figure 4 displays *changes* in the rates of principal exits and transfers between February 2020 and February 2021 relative to the average exit and transfer rates in the three prior years. Similar to teachers, the overall rate of principal exits and transfers decreased significantly in 2020–21—reductions of 3.1 percentage points in principal exits from NCPS and 1.4 percentage points in principal transfers to another NCPS. This pattern of reduced exits and transfers is consistent across most principal subgroups, although fewer results are statistically significant given that there are fewer principals than teachers. Retirement eligible and older principals (greater than age 59) were the only groups with increased rates of exits during the pandemic. While the attrition results for retirement eligible and older principals are not statistically significant, the increase in exit rates for older principals (5.7 percentage points) is large in magnitude. Relative to prior years, this equates to 13 more principals who are older than 59 leaving NCPS between February 2020 and February 2021. Conversely, principals near retirement eligibility had the largest decrease in rates of exit from NCPS (7.2 percentage points).

Taken together, these analyses suggest that most groups of teachers and principals experienced reduced attrition rates during the COVID-19 pandemic. The notable exception was older, retirement eligible educators who were more likely to exit NCPS between February 2020 and February 2021.

8 For NBC teachers there was a marginally significant increase in exit rates from NCPS in 2020–21 relative to the three previous years.

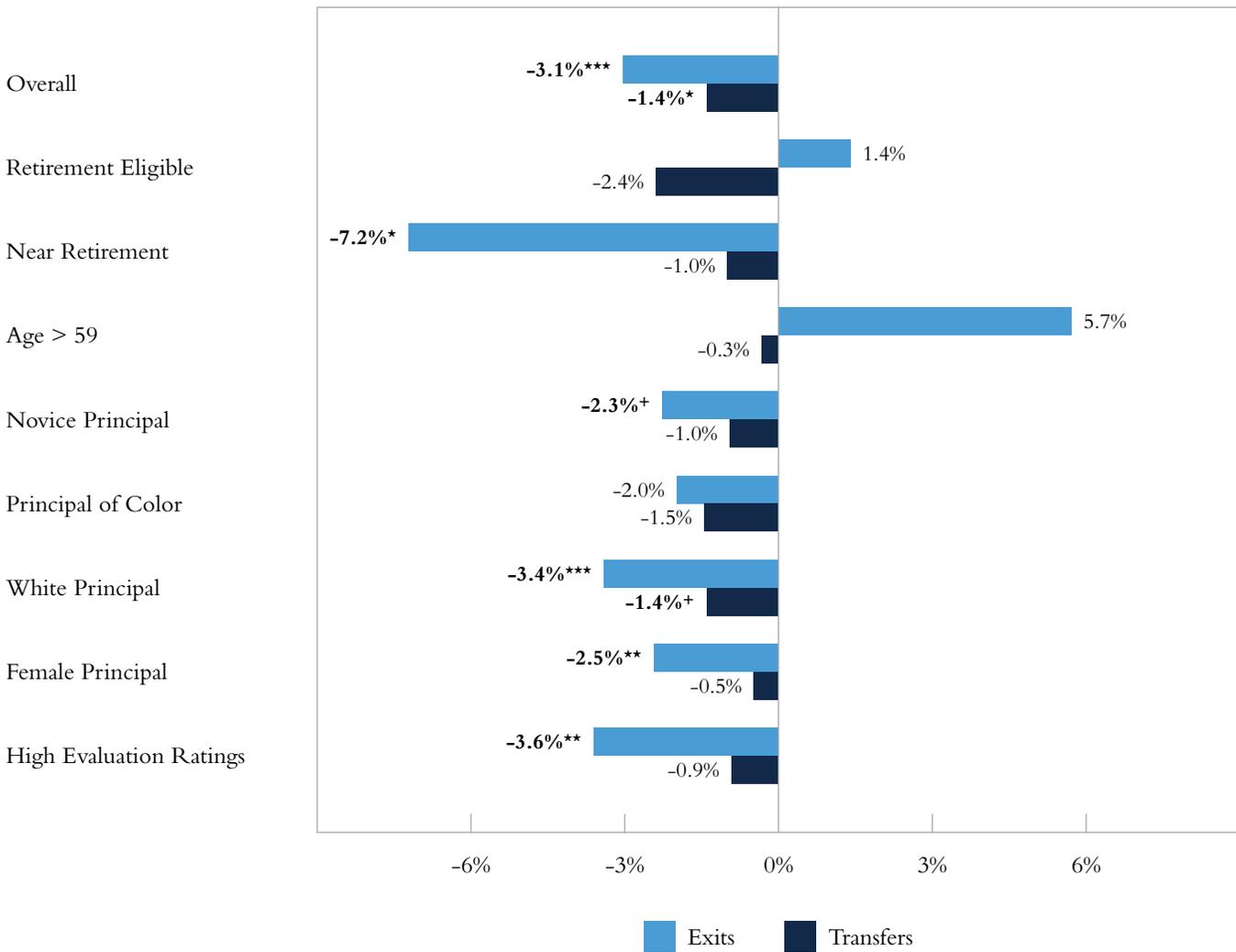
9 We identify highly-rated teachers and principals as those with average prior-year NCEES ratings greater than 4 (where 1=not demonstrated, 2=developing, 3=proficient, 4=accomplished, and 5=distinguished).

Figure 3. Changes in Rates of Teacher Exits and Transfers in 2020–21 Compared to Prior Years by Teacher Characteristics



Note: This figure shows the change in the rate of teacher exits and transfers between February 2020 and February 2021 compared to the rate over the same months in the three previous years. This change is calculated by subtracting the average February to February rate of exits and transfers over the previous three school years from the rate calculated for 2020–21. +, *, **, and *** indicate statistical significance in the change of rates at the 0.10, 0.05, 0.01, and 0.001 levels, respectively.

Figure 4. Changes in Rates of Principal Exits and Transfers in 2020–21 Compared to Prior Years by Principal Characteristics



Note: This figure shows the change in the rate of principal exits and transfers between February 2020 and February 2021 compared to the rate over the same months in the three previous years. This change is calculated by subtracting the average February to February rate of exits and transfers over the previous three school years from the rate calculated for 2020–21. +, *, **, and *** indicate statistical significance in the change of rates at the 0.10, 0.05, 0.01, and 0.001 levels, respectively.

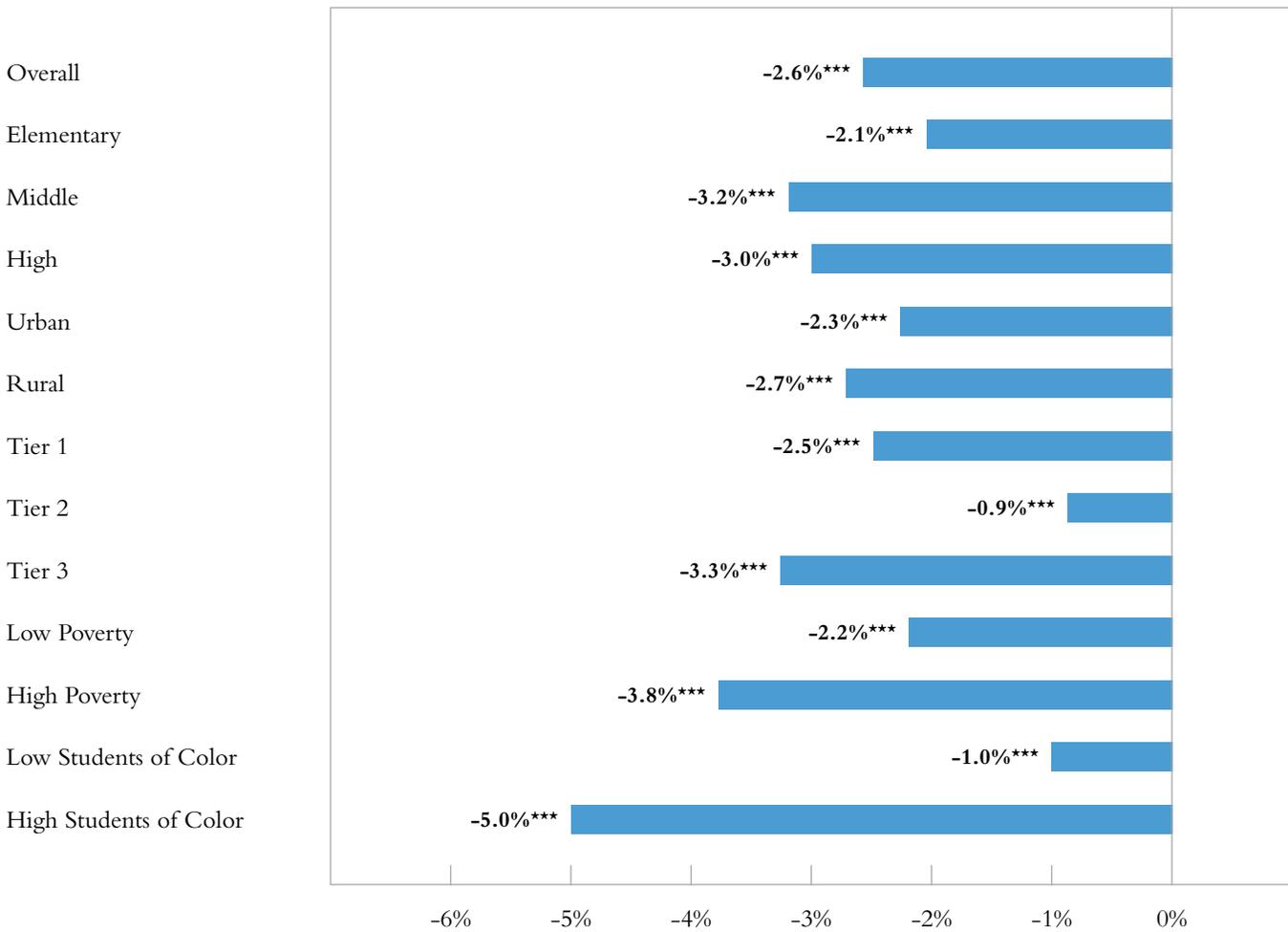
How are Exits and Transfers Related to District and School Characteristics?

In this section, we examine how attrition is related to the characteristics of the districts and schools in which teachers and principals work. For these analyses, we created a single attrition measure—*departing* a school—for educators that either exited NCPS or transferred to another NCPS. We created this

single measure because, for a particular school, the impact of an educator leaving the school is the same whether the educator left NCPS or simply moved to a different NCPS.

Figure 5 displays *changes* in the rates of teacher departures by district and school characteristics between February 2020 and February 2021 relative to the average rates of departures in the prior three years. Overall, teacher departure rates from schools significantly decreased (by 2.6 percentage points) in 2020–21. While this pattern of reduced teacher departures holds across all

Figure 5. Changes in Rates of Teacher Departures from a Particular School in 2020–21 Compared to Prior Years by School and District Characteristics



Note: This figure shows the change in the rate of teacher departures from schools between February 2020 and February 2021 compared to the rate over the same months in the three previous years. This change is calculated by subtracting the average February to February rate of departures over the previous three years from the rate calculated for 2020–21. +, *, **, and *** indicate statistical significance in the change of rates at the 0.10, 0.05, 0.01, and 0.001 levels, respectively.

district and school characteristics, there are several noteworthy differences between groups of districts and schools. Decreases in the rates of teacher departures were larger in schools serving many students of color versus few students of color (reductions of 5 percentage points versus 1 percentage point, respectively).¹⁰ Between February 2020 and February 2021, 1,120 fewer teachers departed a school serving a high percentage of students of color than in prior years. High-poverty schools also experienced larger reductions in teacher departures than low-poverty schools (3.8 percentage points versus 2.2 percentage

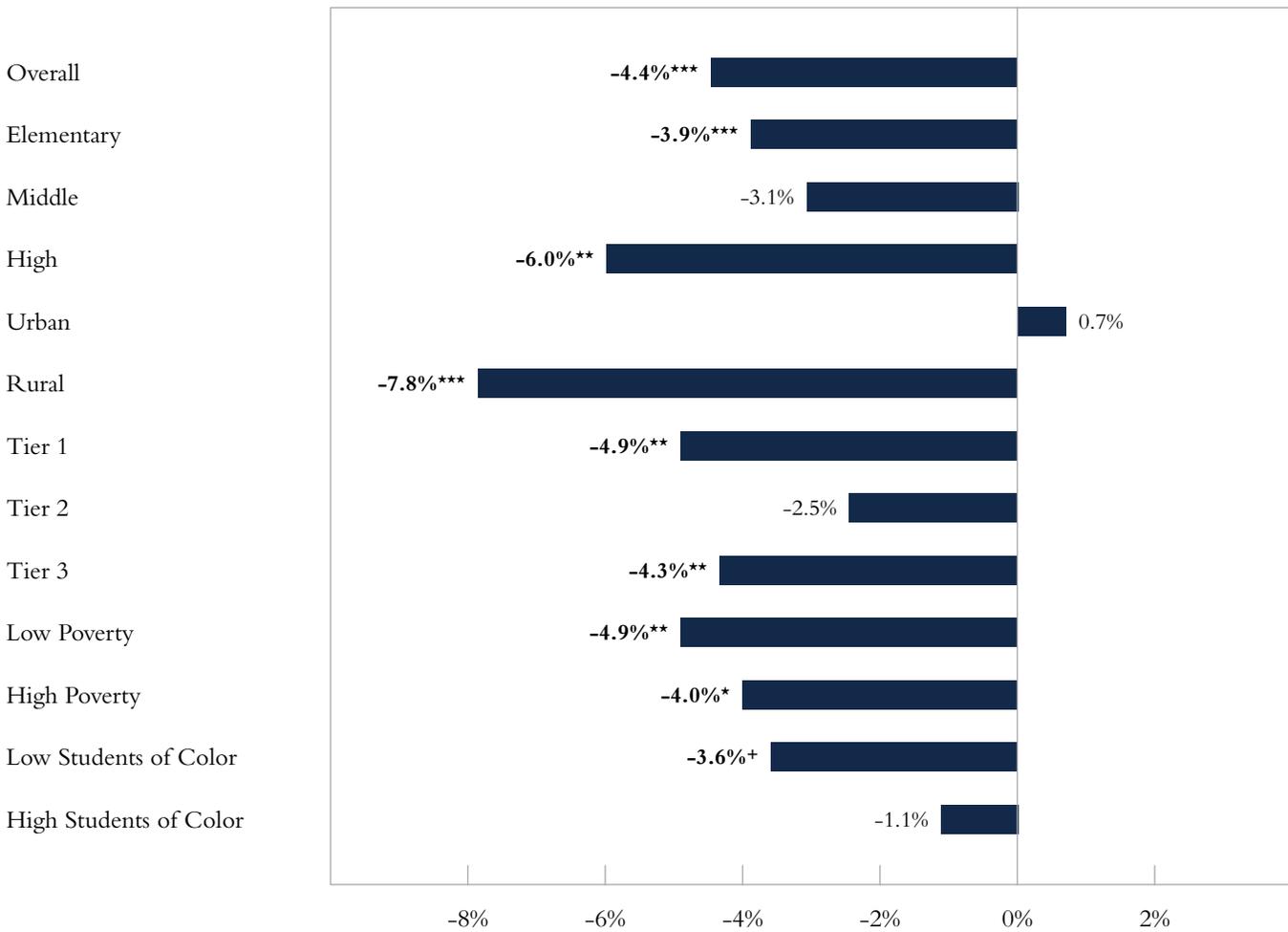
points, respectively).¹¹ Lastly, there were smaller reductions in teacher departure rates in elementary schools and in schools in Tier 2 counties.

Figure 6 presents *changes* in the rates of principal departures by district and school characteristics between February 2020 and February 2021 relative to the average rates of departures in the prior three years. Similar to teachers, fewer principals departed their school between February 2020 and February 2021 (a decrease of 4.4 percentage points across all schools).

¹⁰ We classify schools as serving high percentages of students of color if they are in the top quartile for the percentage of students of color enrolled; high-poverty schools are in the top quartile for the percentage of economically-disadvantaged students enrolled.

¹¹ Although reductions in teacher departures have been larger in schools serving high percentages of students of color and economically-disadvantaged students, there are still meaningful differences in departure rates across school types. For example, between February 2020 and February 2021, the teacher departure rate in low-poverty schools was 14.71 percent versus 21.35 percent in high-poverty schools.

Figure 6. Changes in Rates of Principal Departures from a Particular School in 2020–21 Compared to Prior Years by School and District Characteristics



Note: This figure shows changes in the rate of principal departures from schools between February 2020 and February 2021 compared to the rate over the same months in the three previous years. This change is calculated by subtracting the average February to February rate of departures over the previous three years from the rate calculated for 2020–21. +, *, **, and *** indicate statistical significance in the change of rates at the 0.10, 0.05, 0.01, and 0.001 levels, respectively.

Reductions in principal departures were somewhat smaller in middle schools, schools in Tier 2 counties, and in schools with high populations of students of color. Schools in urban districts were the only place that maintained their rates of principal departures during the pandemic, whereas schools in rural districts experienced significant decreases in principal departures in 2020–21 (i.e. 113 fewer principals departed a rural school in 2020–21 relative to prior years). These patterns of principal departures are distinct from the patterns for teachers, indicating that the pandemic may have affected educators in different roles in different ways.

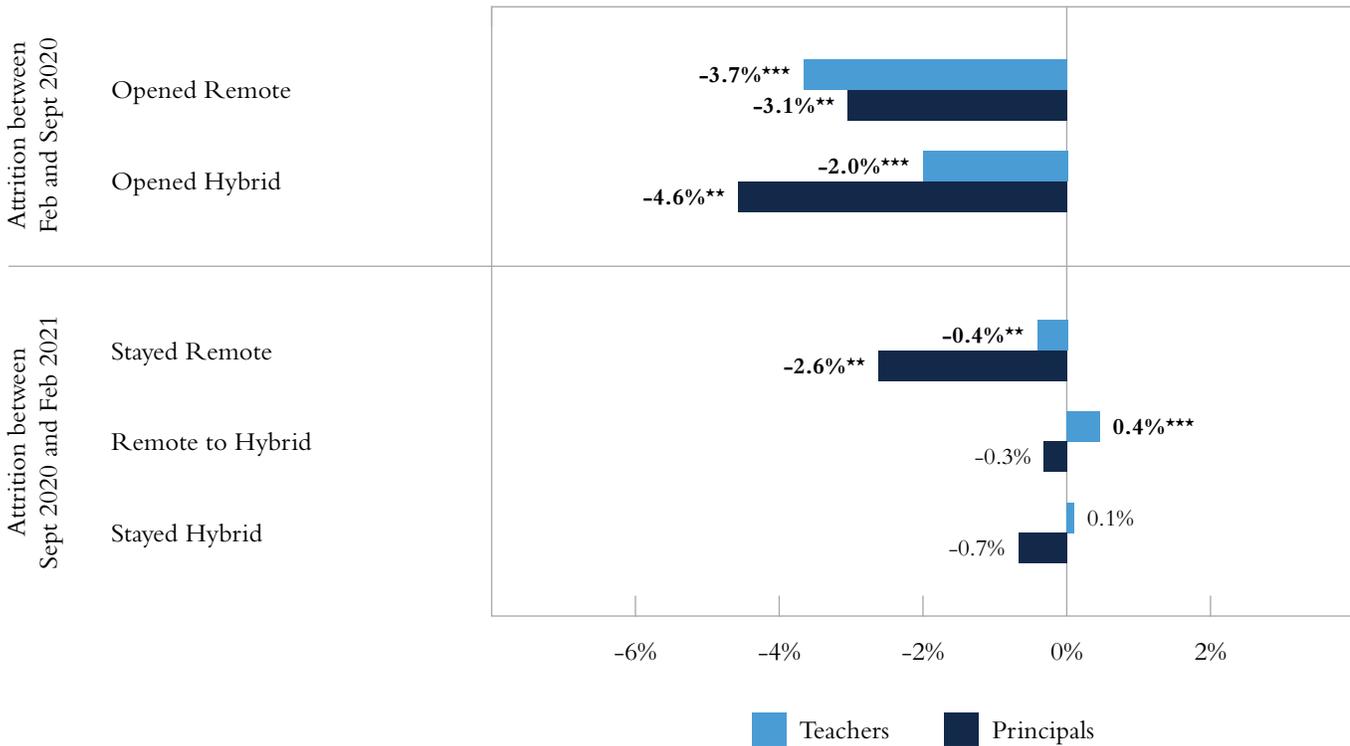
To supplement our analyses of district and school characteristics, we consider one additional characteristic that was unique to the 2020–21 school year: the operational status of the school (i.e. fully remote vs. hybrid).¹² The top panel of Figure 7 displays the change in teacher and principal departure rates between February 2020 and September 2020 compared to the departure rates over the same period in the previous three years. Here, we consider departure rates based on whether the school opened fully remote or in a hybrid model at the beginning of the 2020–21 school year. The bottom panel of Figure 7 displays the change in teacher and principal departure rates between

12 We do not distinguish between schools operating on Plan A and schools operating on Plan B because the number of in-person school days offered for Plan A and Plan B varied between districts and there was considerable overlap in the design of the plans.

September 2020 and February 2021 compared to the departure rates over the same period in the previous three years. For these analyses we divided schools into three categories—schools that stayed in remote instruction (from the first day of school

until January 31, 2021), schools that transitioned from remote instruction at the beginning of the school year to a hybrid model by the end of January 2021, and schools that opened and remained in a hybrid model.

Figure 7. Changes in Rates of Teacher and Principal Departures in 2020–21 Compared to Prior Years by School Reopening Status



Note: This figure shows the change in the rate of teacher and principal departures based on the operational status (i.e. remote, hybrid) of the school. The figure examines two time periods—departures between February and September (between year) and departures between September and February (within year). +, *, **, and *** indicate statistical significance in the change of departure rates at the 0.10, 0.05, 0.01, and 0.001 levels, respectively.

Results in the top panel of Figure 7 show that between year departures were reduced for teachers and principals regardless of whether their school initially opened fully remote or with a hybrid model. However, reductions in the rates of departure were larger for teachers in a fully remote model (3.7 percentage points versus 2 percentage points) and somewhat smaller for principals in a fully remote model (3.1 percentage points versus 4.6 percentage points). The bottom panel of Figure 7 shows that within year departure rates (from September to February) differed based on how the operational status of the school changed from the first day of school through the end of January. Relative to prior years, teacher and principal departure rates were lower in schools that opened fully remote and remained

fully remote through January (although the change for teachers was quite small). Among schools that opened fully remote and transitioned to a hybrid model by the end of January 2021, there was a small but statistically significant increase in teacher departures compared to prior years (0.4 percentage points or 170 more teacher departures). For schools that opened under a hybrid model and remained hybrid, the rate of departures was not significantly different from prior years for either teachers or principals. These results suggest that school operational status had an impact on educators’ decisions to remain at that school, with transitions from remote to hybrid models resulting in more teachers making a decision to leave the school during the year.

Discussion

Across the country, educators are experiencing high levels of stress and burnout. COVID-19 has dramatically reshaped interactions with students, families, and colleagues and has forced educators to adapt their instruction and leadership. In this difficult time, there has been concern that many teachers and principals would leave their jobs, and that this will have long-term, adverse implications for students and schools. To better understand the initial impacts of the pandemic, we assessed teacher and principal attrition in NCPS. From our analyses there are four key findings.

First, we found that exit and transfer rates for teachers and principals are generally lower during the pandemic than in prior years. Fears of higher rates of educator attrition have not *yet* come to pass in North Carolina. This finding is consistent with studies from several other districts or states, where teacher attrition is also down during the COVID-19 pandemic. Likewise, this finding fits with research showing that, on average, fewer people leave their jobs during economic downturns. Although the decrease in attrition is positive for schools, it is important to note that the absence of attrition does not mean the absence of a problem. Educators are feeling stress and burn out and will need supports from district and state officials as North Carolina emerges from the pandemic.

Second, while attrition rates were generally down, we found that older and retirement eligible educators were more likely to exit NCPS during the pandemic than in previous years. This

result makes sense from a health and economic perspective—these educators faced increased health risks and were already fully vested in their retirement plans. While it is possible that these educators would have exited soon, regardless of the pandemic, it is also important to note that their attrition means the loss of veteran educators and their contributions to schools.

Third, we found that reductions in teacher departures were larger in schools serving more students of color and more economically disadvantaged students. Teacher attrition rates are still higher in these high-priority environments than in schools serving few students of color or few economically disadvantaged students. Nonetheless, the gaps in these attrition rates narrowed during COVID-19 and it is important for North Carolina to sustain this progress to achieve more equitable outcomes for students.

Lastly, we found that educator departures were related to the operational status of the school. Schools opening the year fully remote had larger reductions in teacher departures—between February and September 2020—than schools opening the year in a hybrid model. Likewise, schools that opened and remained fully remote through January 2021 had reductions in within year departures while schools that opened remotely but switched to hybrid instruction had increased departures. These results suggest that educators were responsive to their schools' operational status and its implications for their health, stress, workload, and job satisfaction.

For More on this Topic

Center for Educator Recruitment, Retention, and Advancement. (2020). South Carolina annual educator supply and demand report (2020–21 School Year). Available from: https://www.cerra.org/uploads/1/7/6/8/17684955/2020-21_supply_demand_report.pdf

Goldhaber, D. and Theobald, R. (2021). Teacher attrition and mobility over time. (CALDER Flash Brief No. 23-0421). Arlington, VA: National Center for Analysis of Longitudinal Data in Education Research.

Kaufman, J. and Diliberti, M. (2021). Teachers are not all right: How the COVID-19 pandemic is taking a toll on the nation's teachers. Available from: https://www.crpe.org/sites/default/files/ep_teachers_synthesis.pdf

Koumpilova, M. (2021, March 29). In Chicago, the pandemic has not spurred an exodus of educators. Chalkbeat Chicago. <https://chicago.chalkbeat.org/2021/3/29/22353055/in-chicago-the-pandemic-has-not-spurred-an-exodus-of-educators>



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