



Post-Pandemic Onset Public School Teacher Retention and Mobility in Virginia

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April 2023

Summary

One feared consequence of how the COVID-19 pandemic disrupted public education is its potential negative impacts on teacher retention and mobility. Each spring, teachers decide whether and where to teach the following school year. Following the abrupt end to the 2019-20 school year in March 2020, there were increased concerns that teachers would choose to stop teaching. If they did return to the classroom, the concern was that they would transfer to another school. This was due in part to the stresses of reopening the following year and adjusting to the newly mandated COVID-19 protocols and remote instruction. In partnership with the Virginia Department of Education (VDOE), we examine this issue in the Commonwealth in this brief by describing how teacher retention and mobility changed after the onset of the pandemic.

Our key findings include the following:

- Teacher same-school retention rates increased to 82.6% following the closure of all schools in March 2020, the highest rate observed over the ten years analyzed, but then dropped to 78.9% following the reopening year (SY 2020-21), the lowest rate observed.
- The Spring 2021 decrease in teacher retention

was due to a substantial increase in teacher departures and a moderate increase in teacher transfers. 10.8% of teachers departed after Spring 2021, and 8.2% of teachers transferred to teach in a different school.

- The Spring 2021 increase in teacher departures was most pronounced among Black teachers (male and female) and Hispanic female teachers when 13.8% of Black females, 12.5% of Black males, and 12.4% of Hispanic females departed.
- Retention rates decreased in Spring 2021 among all groups of schools defined by their concentrations of economically disadvantaged and non-White students (lowest, moderate, high, and highest). These rates returned to pre-pandemic levels in schools with the highest concentrations but were the lowest retention rates observed for the other groups.
- Departure rates in Spring 2021 were the highest observed for all groups of schools defined by their concentrations of economically disadvantaged and non-White students.

Tracking these trends will inform ongoing efforts to recruit and retain effective teachers for every Virginia classroom.

Tracking Teacher Retention and Mobility

One feared consequence of how the COVID-19 pandemic disrupted public education is its potential negative impacts on teacher retention and mobility. Each spring, teachers decide whether and where to teach the following school year. With the abrupt end to the 2019-20 school year in March 2020, when schools closed, and the stresses of the reopening year as they adjusted to COVID-19 protocols and remote instruction, there were increased concerns that teachers would choose to stop teaching or if they did return to the classroom, that they would transfer to another school.

In partnership with the Virginia Department of Education (VDOE), we analyze statewide administrative data that allow us to track public school teachers over time among the Commonwealth of Virginia's county, city, and town divisions, of which there were 132 during the years analyzed here. These data contain an observation for each school a teacher taught at each year. Therefore, our observation unit is a "teacher-school-year." Our sample includes 890,019 observations over ten years (SY 2011-12 to SY 2020-21). The data available for this analysis do not enable us to examine retention and mobility past SY 2020-21.

We define teacher **retention** at the school level. Teachers are retained in a given year if they teach at the same school the following year. All teachers who are not retained exhibit **mobility**. Teacher mobility is often referred to as teacher **turnover**. We examine three primary mobility outcomes: **departures, transfers, and role changes**.

Departing teachers are those who are not observed working in any Virginia public school (VPS) the following year. Most of these are teachers who **leave** the VPS workforce altogether to work in another state's public schools, a private school, or another industry, retire, or exit the labor force. Some departing teachers may still work in a VPS but hold a position not captured by the Master Schedule

Collection (i.e., any division-level or specialized school-level position). Departing teachers may also have taken positions at a public school not overseen by a division (e.g., Virginia School for the Deaf and Blind, regional technical schools, governor's schools, etc.) which we cannot include in our analysis due to inconsistent data collection in the years we analyze. We cannot distinguish among these types of departures.

Transferring teachers are those who are observed teaching the following year but at a different VPS. We identify two types of transfers: (1) **within-division transfers** which occur when teachers continue to teach the following year in a different school within the same division, and (2) **across-division transfers** which occur when teachers continue to teach the following year in a different division.

Role changing occurs when teachers continue to work in a VPS but not as teachers. The non-teaching school-based positions we observe in the data include reading and math specialists, library/media specialists, counselors, psychologists, social workers, athletic directors, assistant principals, and principals. The non-teaching position to which teachers transfer could be at the same school, a different school in the same division, or a different division.

This analysis aims to understand how teacher retention and mobility may have changed after the onset of the COVID-19 pandemic. Our data allow us to assess the pandemic's potential impacts on teacher retention at two time points: first, in Spring 2020 following the March 2020 shutdown in teachers' decisions to return for the 2020-21 school year, and second, in Spring 2021 at the end of the reopening year in their decisions to return for the 2021-22 school year. Teacher retention and mobility for the earlier years (Spring 2012 to Spring 2019) were not impacted by the pandemic and provide insight into how teacher retention and mobility may have looked in the years after the

pandemic began if there had been no pandemic. This brief includes a dashed vertical red line in most figures to distinguish pre- versus post-pandemic onset periods.

Teacher Retention and Mobility Patterns

Retention rates increased in the first pandemic year and then decreased in the second pandemic year. In Panel A of **Figure 1**, we plot the percentage of teachers retained at the end of each year. Retention increased by 1.4 percentage points to 82.6% in Spring 2020. This was the highest retention rate

over the years analyzed. The following year retention rates dropped 3.7 percentage points to 78.9%. This was the largest year-over-year change in teacher retention and the lowest retention rate observed.

While all types of mobility decreased in Spring 2020 and increased in Spring 2021, as shown in Panel B of **Figure 1**, departures from the VPS workforce were the primary driver of Spring 2021 changes in teacher mobility. More teachers departed after the reopening year than in any other year analyzed. The 10.8% departure rate in Spring 2021 was 1.8

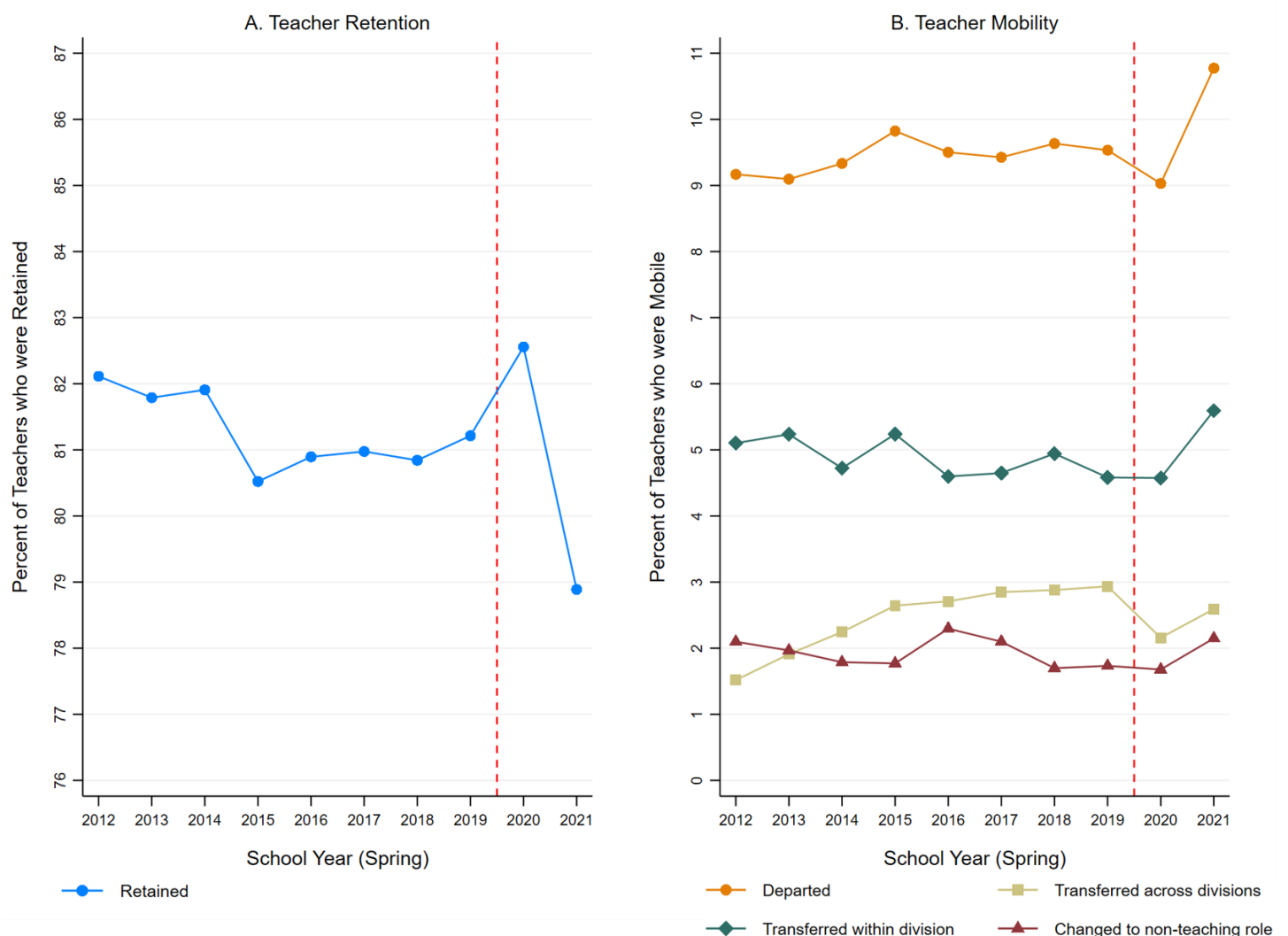


Figure 1. Teacher retention and mobility rates by year, Spring 2012 to Spring 2021

How to Interpret: (1) The last blue point in Panel A indicates that 78.9% of teachers stayed at the same school after Spring 2021. (2) The last orange point in Panel B indicates that 10.8% of teachers departed after Spring 2021 (i.e., did not return for the 2021-22 school year).

Table 1. Teacher gender and race, Spring 2012 to Spring 2021

	White	Black	Hispanic	Other Race	Missing Race	Total
Female	64.2%	8.9%	2.2%	2.3%	0.6%	78.1%
Male	17.5%	2.5%	0.6%	0.6%	0.1%	21.3%
Missing Gender	0.0%	0.0%	0.0%	0.0%	0.5%	0.6%
Total	81.7%	11.4%	2.7%	2.9%	1.2%	100.0%

Notes: N = 890,019 observations. “Other Race” combines American Indian/Alaska Native, Asian, Native Hawaiian or Pacific Islander, and teachers who identify as multi-racial.

percentage points higher than in Spring 2020, the largest year-over-year change we observed.

Transfer rates (both within and across divisions) in Spring 2020 were not much different from those observed before the pandemic. In Spring 2021, however, within-division transfers (the green line in Panel B) peaked at 5.6%, a 1.0 percentage point increase over Spring 2020 and the largest year-over-year change observed. Across-division transfer rates (the beige line in Panel B), while increasing to 2.6%, remained below the pre-pandemic rates since Spring 2015. The rate of teachers changing roles (the red line in Panel B) also increased in Spring 2021 but remained below the pre-pandemic high.

The most prominent feature in **Figure 1** is how the rates for Spring 2021 differ from the other years, especially the retention and departure rates. In fact, the increase in departures accounts for almost half (47.7%) of the decrease in retention. The increase in transfers explains nearly 40 percent of the reduction in retention (within-division transfers explain 27.8%, and across-division transfers explain 11.7%). The rise in role changes accounts for the remaining 12.8% of the Spring 2021 decrease in retention. In the analysis that follows, we focus on the rates of retention, departure, and transfer (within and across divisions combined).

Variation in Teacher Departures and Transfers by Teacher Race and Gender

In this section, we explore how teacher departures and transfers vary by teacher race and gender. Over

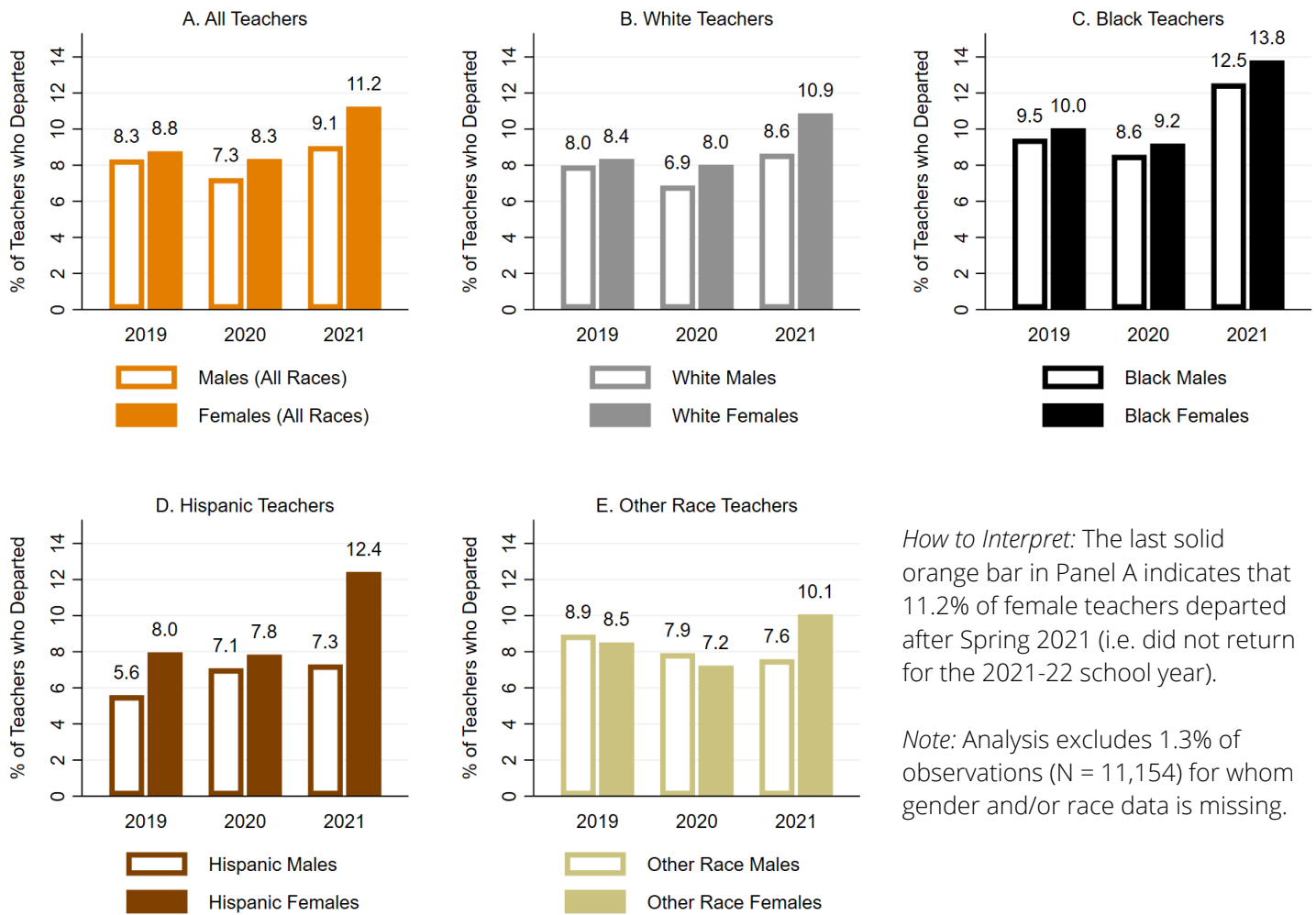
the years analyzed, Virginia’s teacher workforce was majority female (78.1%) and majority White (81.7%).

Table 1 shows how the sizes of these groups compare.

After the reopening year, departure rates increased more for female teachers than for male teachers, as shown in Panel A of **Figure 2**. Specifically, 11.2% of female teachers left after Spring 2021, an increase of 3.1 percentage points compared to Spring 2020 and 2.5 percentage points compared to Spring 2019. Both the departure rate and the change in the departure rates for male teachers were smaller: 9.1% of male teachers left after Spring 2021, an increase of 1.8 percentage points over Spring 2020 and an increase of 0.7 percentage points over Spring 2019.

Increased departure rates are especially pronounced among Black teachers (female and male) and Hispanic female teachers, as shown in Panel C and Panel D of **Figure 2**, respectively. Departure rates among Black female teachers increased to 13.8% in Spring 2021, an increase of 4.6 percentage points from Spring 2020 and 3.8 percentage points from Spring 2019. Among Black male teachers, the departure rate increased by 3.9 percentage points in Spring 2021 to 12.5%, an increase of 3.0 percentage points from Spring 2019. In Spring 2021, 12.4% of Hispanic female teachers left, an increase of 4.6 percentage points compared to Spring 2020 and a rise of 4.4 percentage points compared to Spring 2019.

Transfer rates are very similar for male and female



How to Interpret: The last solid orange bar in Panel A indicates that 11.2% of female teachers departed after Spring 2021 (i.e. did not return for the 2021-22 school year).

Note: Analysis excludes 1.3% of observations (N = 11,154) for whom gender and/or race data is missing.

Figure 2. Teacher departures by teacher gender and race, Spring 2019 to Spring 2021

teachers of all races, as shown in **Figure 3**. One exception is the increase in transfer rates observed among Hispanic males after the second pandemic year. Transfer rates among Hispanic males rose to 11.4%, a 3.7 percentage point increase relative to the last pre-pandemic year (Spring 2019) and a 2.3 percentage point increase relative to the first pandemic year (Spring 2020). However, as shown in **Table 1**, it is important to keep in mind that Hispanic males account for 0.6% of the analytic sample.

Variation in Teacher Retention by School Concentration of Economically Disadvantaged Students and School Concentration of Non-White Students

We divided schools into four roughly equal groups

based on the average annual percentage of students identified as economically disadvantaged (ED) or non-White throughout over the ten years we analyze. **Table 2** shows how the percentage of ED or non-White students varies across the four groups.

As shown in Panel A of **Figure 4**, retention rates, in almost every year of analysis, increased as the schools' percentage of students identified as ED decreased (i.e., the beige line to the green to the orange to the blue line). In Spring 2020, retention rates increased in each of the four groups of schools but were most pronounced among the schools with the highest concentration of ED students (a 2.8 percentage point increase over the last pre-pandemic year) and least pronounced

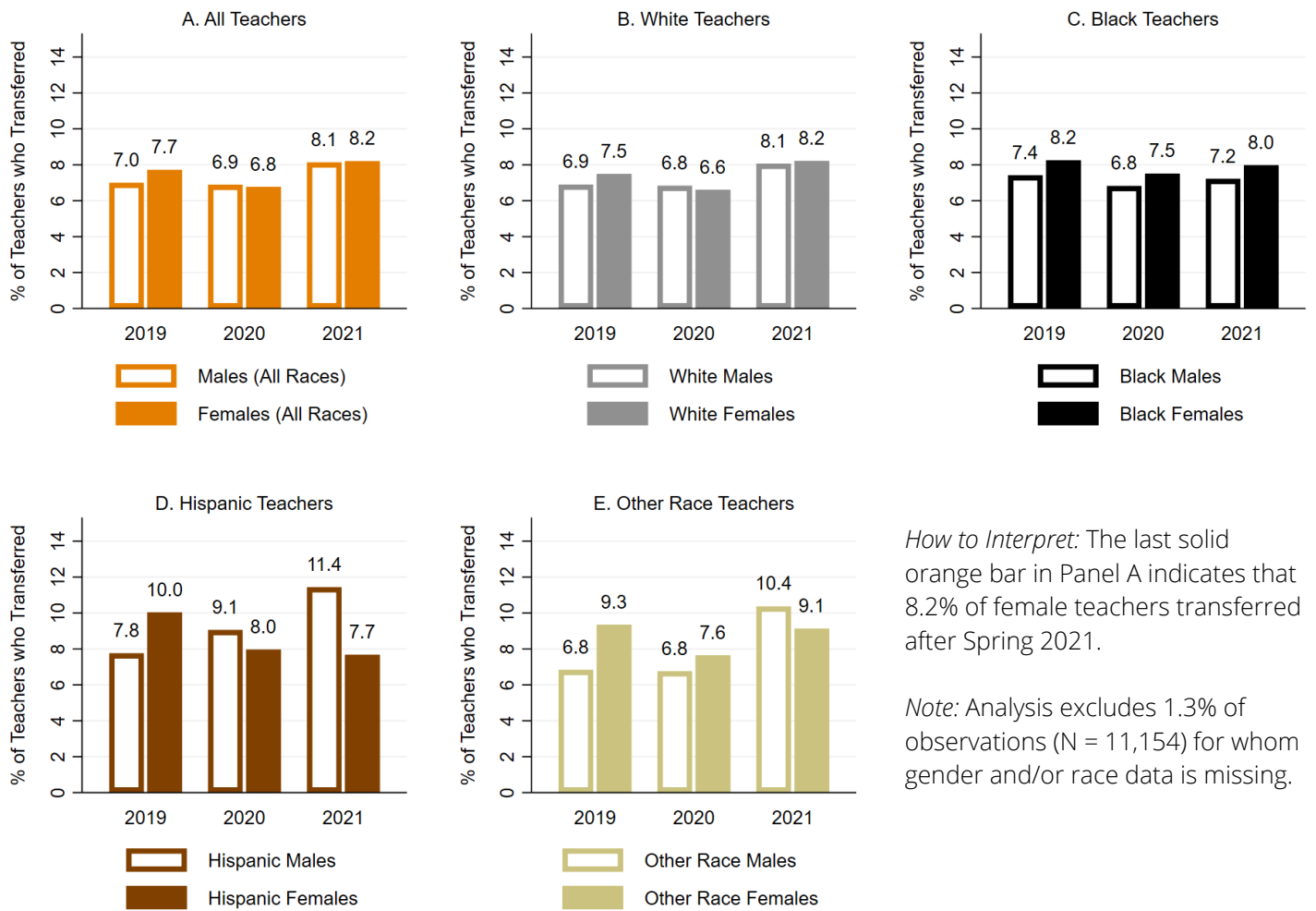


Figure 3. Teacher transfers by teacher gender and race, Spring 2019 to Spring 2021

among the schools with the lowest concentration of ED students (a 0.4 percentage point increase over the previous pre-pandemic year). This had the effect of shrinking the retention gap in Spring 2020 between schools with the lowest and highest concentration of ED students to the smallest it has been during the 10-year period we examined – a 4.1

percentage point difference, 2.4 percentage points smaller than in the last pre-pandemic year. This gap increased only slightly (0.2 percentage points) in Spring 2021 as retention rates declined among all four groups. The Spring 2021 retention rates were much lower than any other observed year, except for schools with the highest concentration

Table 2. Percent of economically disadvantaged students or non-White students across groups, Spring 2012 to Spring 2021

Group	Percent Economically Disadvantaged	Percent non-White
Lowest Concentration	1.0% to 27.6%	0.0% to 23.1%
Moderate Concentration	27.7% to 45.9%	23.1% to 45.8%
High Concentration	45.9% to 59.8%	45.9% to 68.8%
Highest Concentration	59.8% to 93.7%	68.8% to 99.6%

Notes: N = 1,935 school observations.

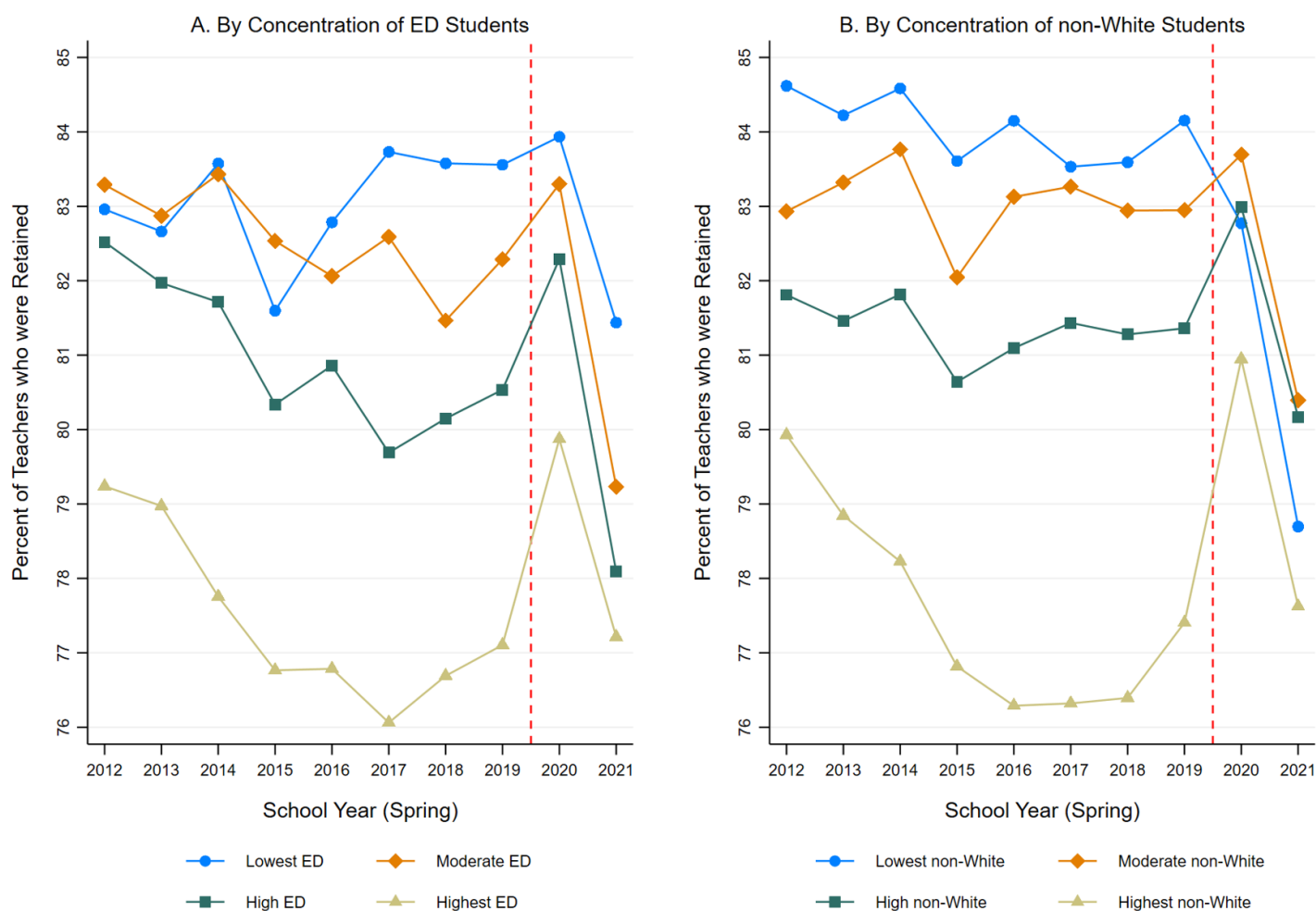


Figure 4. Teacher retention by school concentration of ED students and non-White students, Spring 2012 to Spring 2021

How to Interpret: (1) The last blue point in Panel A indicates that 81.4% of teachers in schools with the lowest concentration of ED students stayed at the same school after Spring 2021. (2) The last blue point in Panel B indicates that 78.7% of teachers at schools with the lowest concentration of non-White students stayed at the same school after Spring 2021.

Note: Analysis excludes 1.8% of observations (N = 16,406) assigned to schools that are missing student ED status because they do not participate in the Fall Membership data collection.

of ED students.

Prior to the pandemic, retention rates decreased as the schools' percentage of non-White students increased, as shown in Panel B of **Figure 4** (i.e., the blue line to the orange to the green to the beige line). This changed with the pandemic. Schools with the lowest concentration of non-White students had the second lowest retention rates. In fact, schools with the lowest concentration of non-White students

were the only group for which retention rates dropped in Spring 2020 (a 1.4 percentage point decline compared to Spring 2019). These schools also experienced the largest decline in retention in Spring 2021 (4.1 percentage points). As was true for the concentration of ED students, differences in retention rates among groups of schools defined on their concentration of non-White students narrowed after the onset of the pandemic. The difference between the group with

the highest and lowest retention rates decreased from 6.7 percentage points in Spring 2019 (lowest vs. highest concentration) to 2.7 and 2.8 percentage points in spring of 2020 and 2021, respectively (both moderate vs. highest concentration).

Variation in Teacher Departures and Transfers by School Concentration of Economically Disadvantaged Students and School Concentration of Non-White Students

Before and after the pandemic's onset, departure

rates typically increased as the schools' percentage of students identified as ED grew, as shown in panel A of **Figure 5** (i.e., the blue line to the orange to the green to the beige line). Departures from all four groups of schools follow the same overall trend we presented earlier in Panel B of Figure 1 – decreases in Spring 2020 and increases in Spring 2021 to levels not seen over the 10-year period examined. The difference in departure rates between schools with the lowest and highest concentrations has remained fairly constant since the year before the pandemic.

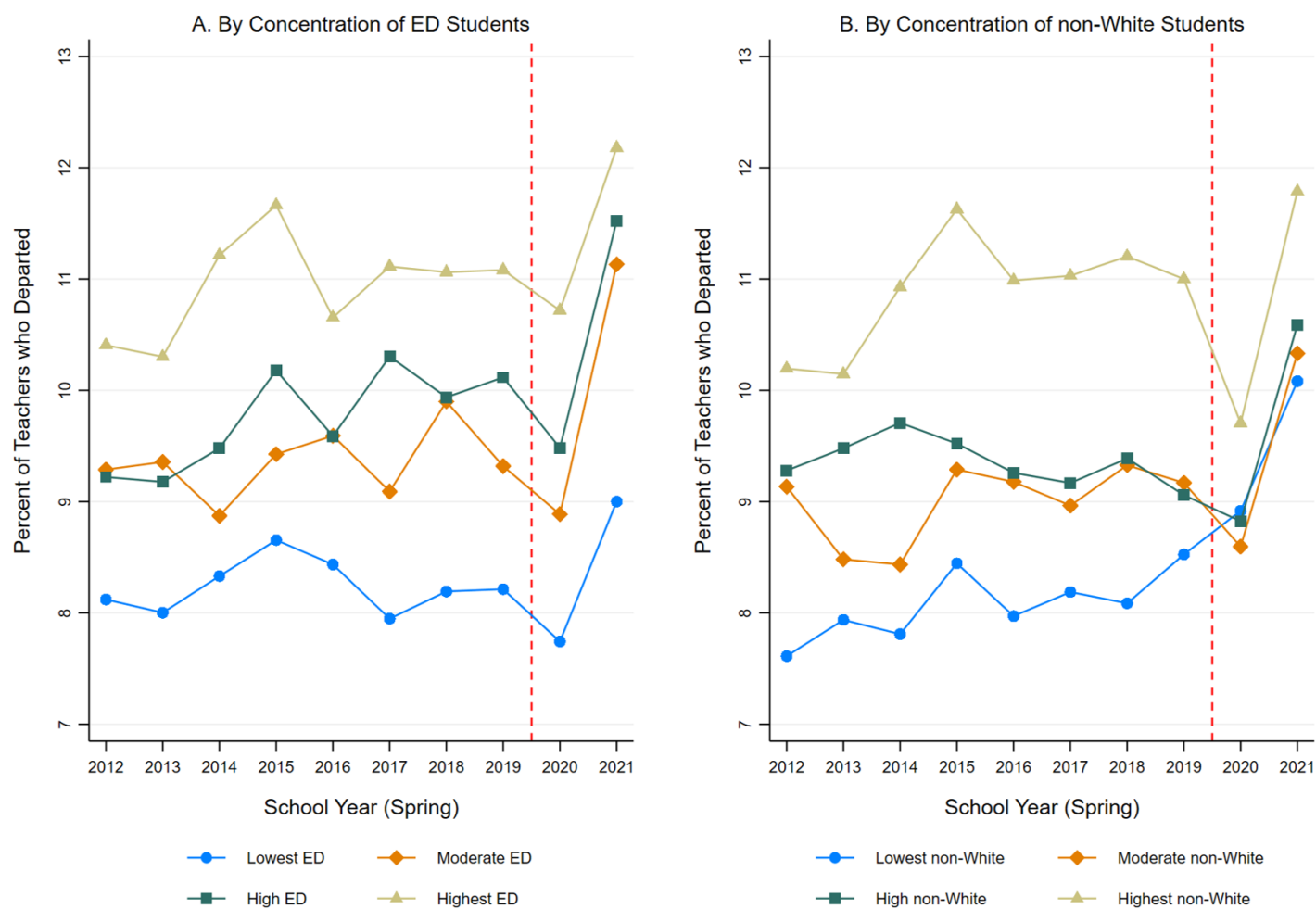


Figure 5. Teacher departures by school concentration of economically disadvantaged students and by school concentration of non-White students, Spring 2012 to Spring 2021

How to Interpret: (1) The last blue point in Panel A indicates that 9.0% of teachers in schools with the lowest concentration of ED students departed after Spring 2021 (i.e., did not return for the 2021-22 school year). (2) The last blue point in Panel B indicates that 10.1% of teachers at schools with the lowest concentration of non-White students departed after Spring 2021 (i.e., did not return for the 2021-22 school year).

Note: Analysis excludes 1.8% of observations (N = 16,406) assigned to schools that are missing student ED status because they do not participate in the Fall Membership data collection.

COVID-19 Impacts Research Brief Series No. 4, Apr. 2023

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While departure rates are highest among schools with the highest concentration of non-White students and lowest among schools with the lowest concentrations, the pandemic saw a narrowing of group differences, as shown in Panel B of **Figure 5**. This was especially true for schools with the lowest, moderate, and high concentrations. Departure rates peaked in Spring 2021 for all four groups.

After the first pandemic year, transfer rates decreased in each group of schools except schools with the lowest concentration of ED students, as

shown in panel A of **Figure 6**. The decrease was most pronounced among the schools with the highest concentration of ED students, where transfer rates dropped to 7.8%, a 2.2 percentage point decrease from the last pre-pandemic year. This was the lowest transfer rate we observed for this group of schools and the largest year-over-year change in transfer rates. Transfer rates increased for all groups of schools after the reopening year, returning to pre-pandemic levels for schools with the lowest and highest concentrations of ED students and peaking among

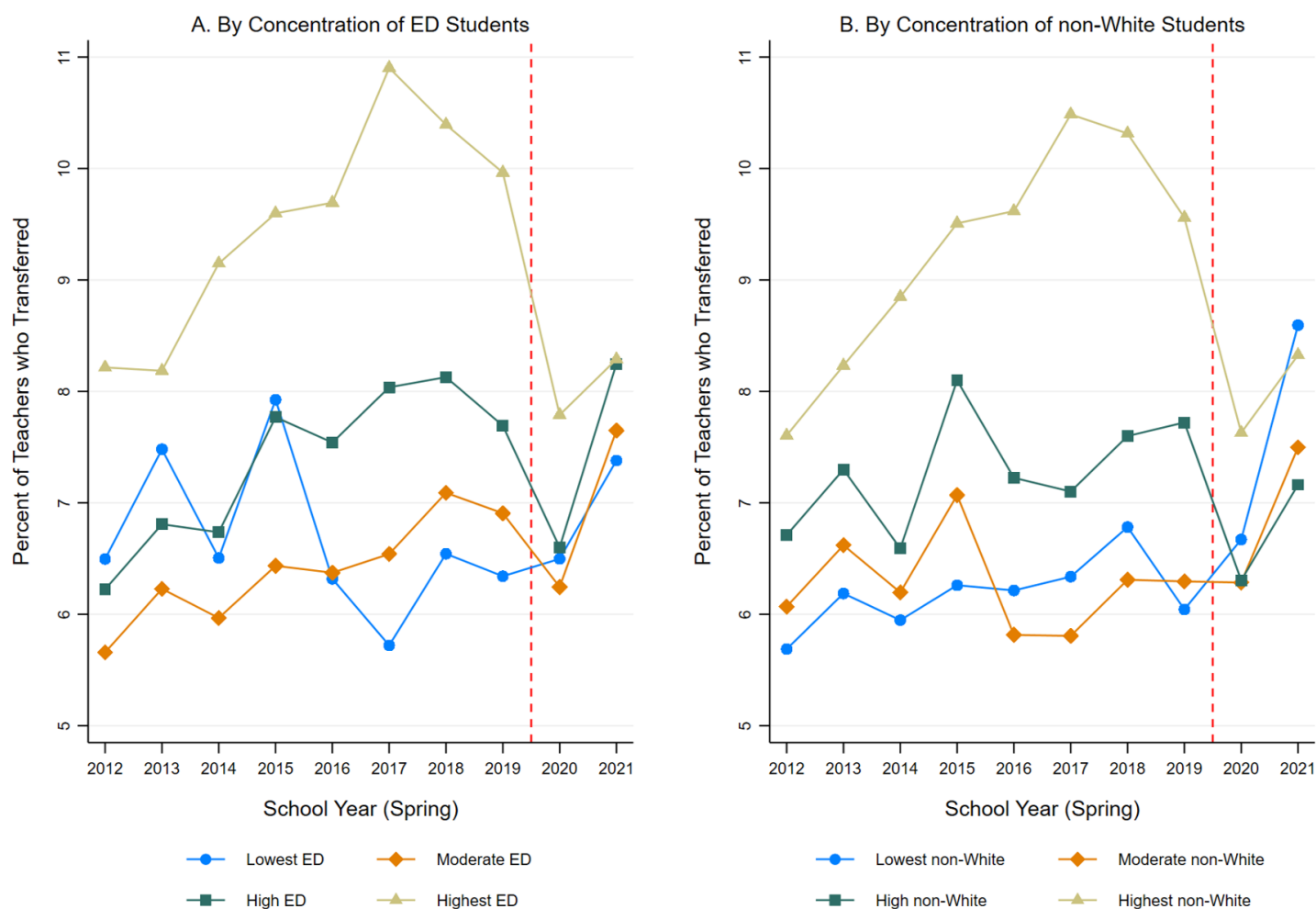


Figure 6. Teacher transfers by school concentration of economically disadvantaged students and non-White students, Spring 2012 to Spring 2021

How to Interpret: (1) The last blue point in Panel A indicates that 7.4% of teachers in schools with the lowest concentration of ED students transferred to a different school after Spring 2021. (2) The last blue point in Panel B indicates that 8.6% of teachers at schools with the lowest concentration of non-White students transferred to a different school after Spring 2021.

Note: Analysis excludes 1.8% of teachers (N = 16,406) assigned to schools that are missing student ED status because they do not participate in the Fall Membership data collection.

schools with moderate and high concentrations.

Concerning the concentration of non-White students, transfer rates increased after the pandemic's onset in schools with the lowest concentration of non-White students. They decreased in all other schools, as shown in panel B of **Figure 6**. Schools with the highest concentration of non-White students experienced the largest decrease in transfer rates relative to the last pre-pandemic year (a decrease of 1.9 percentage points). In Spring 2021, transfer rates increased in each group of schools. Transfer rates for schools with the high and highest concentrations of non-White students returned to pre-pandemic levels and reached peaks among the other two groups of schools. Transfer rates for schools with moderate concentrations of non-White students peaked at 7.5% and peaked at 8.6% for schools with the lowest concentrations of non-White students (the highest transfer rate among the four groups of schools).

Conclusion

Teacher retention and mobility rates experienced substantial changes following the onset of the pandemic. While retention rates initially increased to the highest levels observed over the ten years we analyzed, they subsequently dropped to the lowest levels observed. The large decrease in retention observed at the end of the reopening year was due to a substantial increase in teacher departures and a modest increase in teacher transfers. While all school groups experienced unprecedented increases in teacher departures at the end of the second pandemic year, Spring 2021 departure rates were highest among Black teachers, both male and female, and among Hispanic female teachers. Although we document these patterns, we cannot explain what led to the observed changes. In future analyses, we will extend our analysis to include an additional year and use quasi-experimental methods in an effort to understand what may have caused these changes. Together our current and future

findings will inform ongoing efforts to recruit and retain effective teachers for every Virginia classroom.

Acknowledgment

The research reported in this brief was supported by the Institute of Education Sciences, U.S. Department of Education, through grant R305S210009 to the Virginia Department of Education. The opinions expressed are those of the authors and do not represent the views of the Institute or the U.S. Department of Education. We thank Dr. Joan Johnson at VDOE and Beth Schueler, Amy Reynolds, and Min Oh at UVA for helpful feedback, Susan Williams at VDOE for assembling these data, and Daniel Lipscomb at UVA for excellent research assistance.

Resources

Teacher retention and mobility outcomes were identified using data from the annual Master Schedule Collection obtained through a contract with VDOE.

VDOE's Positions and Exits Collection, while not analyzed here, provides additional information on staffing levels and vacancy rates. These data are publicly available via the Staffing and Vacancy Report on VDOE's website.

Previously Released Research Briefs in this Series

No. 1: Post-Pandemic Onset Public School Student Enrollment and Mobility in Virginia (August 2022)

No. 2: Post-Pandemic Onset Public School Student Test-based Performance in Virginia (September 2022)

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