
Unpacking the Enrollment Declines:

How Did the Pandemic Impact the Retention of New York City Public School Students?

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Summary

While the decline in New York City public school enrollment amid the Covid-19 pandemic has been well reported, enrollment in the city's schools is actually the product of two distinct components—the number of new students who enter the school system every year and the number of students retained, those who return from one year to the next.

In this report, IBO examines the city's retention rate during the pandemic. Specifically, we analyze the share of students enrolled in the 2019-2020 school year when Covid-19 first hit, who returned in the 2020-2021 school year, when families could choose between hybrid or fully-remote instruction. We compare this retention rate with the rate in the year immediately preceding the pandemic (pre-Covid retention rate), and examine whether retention differed across various demographic groups. Among our findings:

- The overall retention rate for traditional (non-charter) public schools remained relatively unchanged during the Covid pandemic: increasing ever so slightly from 92.4 percent in the pre-Covid year to 92.6 percent retained from the 2019-2020 to the 2020-2021 school year. This rather steady rate, however, masks considerable variation by grade.
- The retention rate for students enrolled in the early elementary grades declined during the pandemic. The drop was sharpest for students moving from pre-K to kindergarten—the pre-Covid retention rate was 82.0 percent compared with 78.3 percent for the students retained in the 2020-2021 school year for this grade. Kindergarten through second grade also experienced declines.
- Conversely, there was an increase in student retention for high school grades. The number of 10th graders that returned for that year, for example, increased from 92.2 percent in the pre-Covid school year to 95.0 percent. For students in upper elementary and middle school grades, there was little change relative to pre-Covid rates.

Summary

- IBO examined retention by various student demographics, including race. Retention rates for White students in pre-K through 3rd-grade were more than 4 percentage points lower in the 2020-2021 school year than the prior year's rate. For the high school grades, where retention increased, this effect was most pronounced for Black students and Hispanic students. Retention for Asian students remained relatively stable between the two periods.
- As for charter schools, IBO found that the overall number of students retained from the 2019-2020 to the 2020-2021 school year (94.5 percent) was very close to the pre-Covid retention rate (94.2 percent). Unlike traditional public schools, however, there was little variation by grade.

While there was a very small increase in the number of retained students in the wake of the pandemic—this could not offset the decline in the number of new enrollees, which led to the overall decline in enrollment. When detailed student-register data for the current school year (2021-2022) become available, it will be interesting to study if and how a return to full in-person instruction affected these retention trends.

Background

After closing school buildings in March 2020, New York City public schools switched to virtual instruction for the balance of the 2019-2020 school year. When the next school year began in September 2020, families could choose between a hybrid schedule—a mix of in-person and remote learning—or fully-remote instruction. This hybrid schedule continued, with some interruptions, for the rest of the 2020-2021 school year. With families and schools having to adapt to new pedagogical methods and an exodus of some families from the city at the height of the pandemic, there was uncertainty about the number of students who would remain in the school system from one school year to the next. IBO refers to the share of students who return as the retention rate.

In this report, IBO examines the overall share of students attending New York City public schools in the 2019-2020 school year, when Covid-19 first hit, who returned to the public school system—whether in-person or remote—in the 2020-2021 school year. We compare the share of retained students with previous years, and look at whether retention differed across various student demographic groups. Lastly, we compare the number of retained students with new enrollees in the public school system during the same period and examine their relationship to total enrollment.

Data & Methodology

IBO used audited student-level register data to calculate, separately by grade, the share of students enrolled in the city's public schools in the 2019-2020 school year who returned for 2020-2021.¹ We defined the share of students who returned in 2020-2021 as the retention rate for the 2019-2020 school year. These rates were benchmarked against retention rates from 2018-2019, the school year immediately preceding the pandemic. The retention rate for 2018-2019 was calculated as the share of students enrolled in the 2018-2019 school year who returned in 2019-2020. The difference between the two year-over-year rates allowed IBO to examine how the share of students retained changed during the pandemic.

Grade level calculations exclude students attending schools in District 75 (which consists solely of schools serving students with disabilities) and District 79 (alternative programs for overage and under-credited high-school aged students), as the traditional definition of grade is often not as relevant for these students.

Data & Methodology

Students attending the city’s charter schools in each base year (2019-2020 and 2020-2021, respectively) are considered separately from students attending traditional public schools in the base year. However, for both school types, a student is considered retained if the student attends either a charter or traditional public school in the following year.

We report grade-level retention rates for pre-K through 11th grade and exclude 3K and 12th grade. We exclude 3K due to the large expansion of 3K between the 2018-2019 and 2019-2020 school years. In 2018-2019, 3K was only available in six districts across the city for a total enrollment of 3,300 students, so there were relatively fewer students to retain for 2019-2020. In 2019-2020, the number of districts offering 3K doubled to 12 and enrollment increased more than five-fold—to 17,600 students. On the other end of the spectrum, we exclude 12th grade because we expect the majority of students to graduate and therefore not return the next year despite the change in DOE policy during the pandemic to allow students in 12th grade additional time to graduate.

Data by student demographics are available only for students enrolled in a traditional (not charter) public school in the base year.

How to Interpret Our Charts on Differences in Retention Rates

2018-2019 Retention Rate:

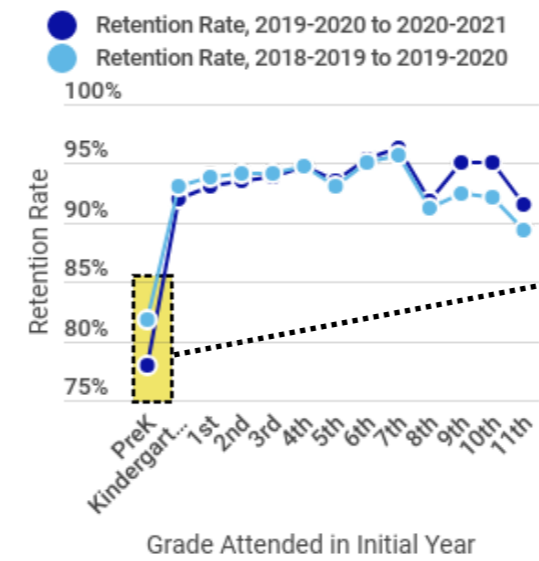
Students enrolled in the 2018-2019 school year who returned in 2019-2020

2019-2020 Retention Rate:

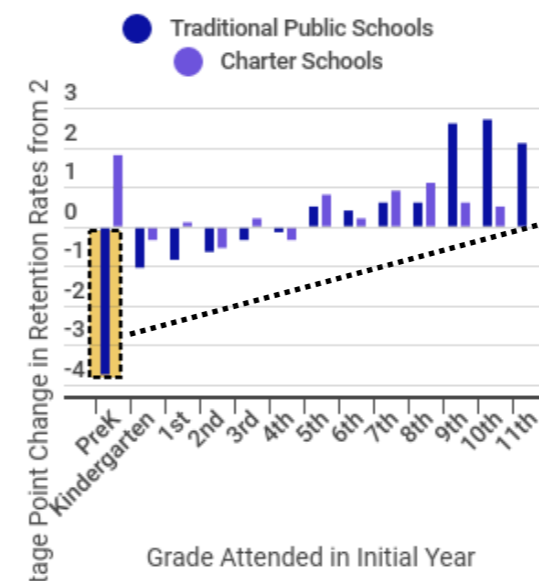
Students enrolled in the 2019-2020 school year who returned in 2020-2021

Percentage Point Change in Retention Rates:

2019-2020 retention rate minus 2018-2019 retention rate



The 3.8 percentage point difference between these two retention rates is illustrated in the next chart.



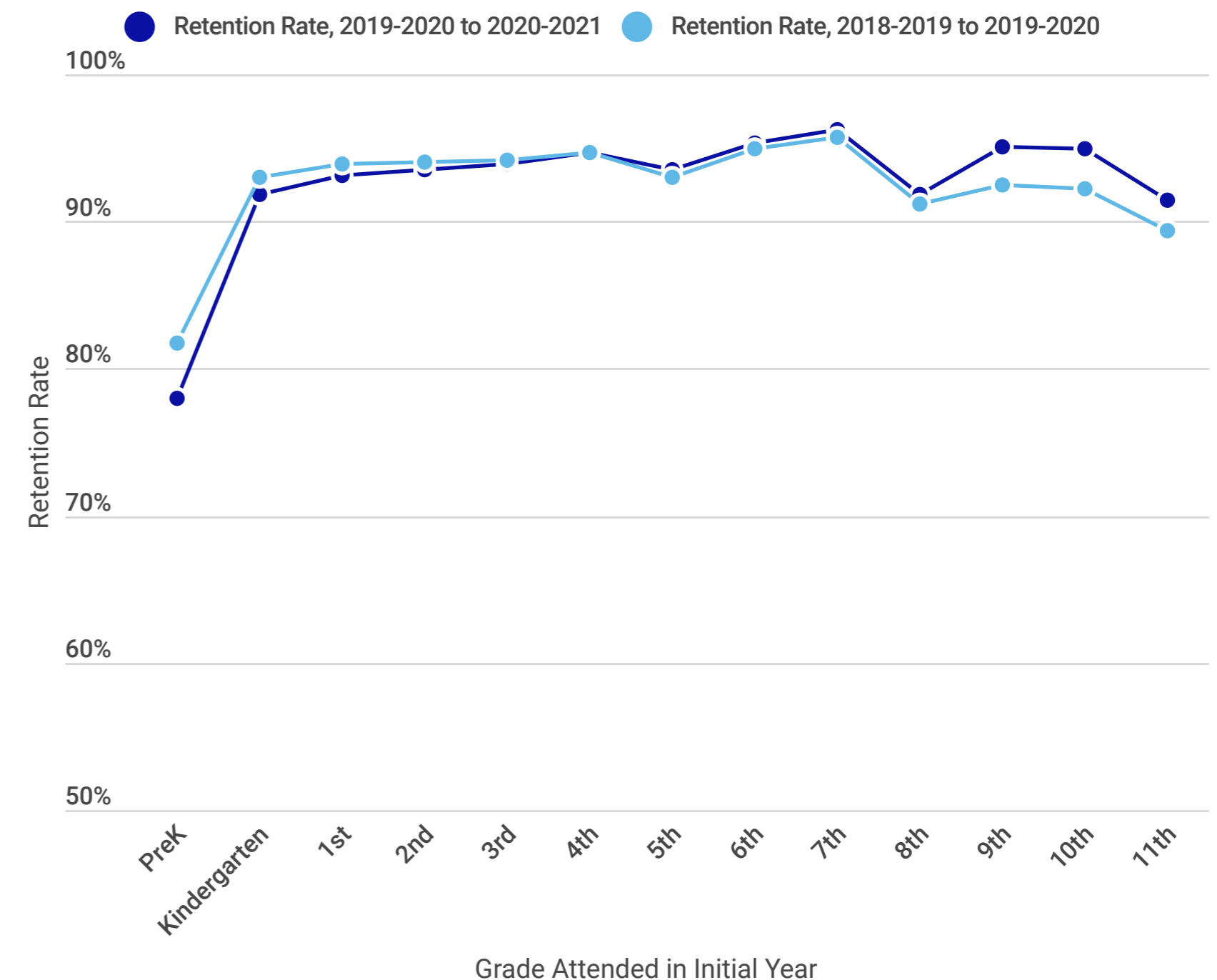
This 3.8 percentage point difference represents the decrease in retention rate for preK students in 2019-2020 compared with preK students in 2018-2019.

Retention Changes Vary by Grade For Traditional Public Schools

The overall retention rate for traditional (non-charter) public schools in districts 1 through 32 in pre-K through 11th grades remained relatively unchanged during the Covid pandemic, 92.6 percent for the 2019-2020 school year compared with 92.4 percent for the 2018-2019 school year. But this masks considerable variation by grade. Even before the pandemic, retention rates were relatively lower for pre-K, as a large number of children enrolled in the city's public preschools in these grades attend programs run by community-based organizations (CBOs) and either continue at those CBOs (many with religious affiliations) for kindergarten or attend a private school, a phenomenon that IBO has [previously explored](#). Retention rates are also relatively lower in terminal grades at the elementary school (5th grade) and middle school (8th grade) levels, as students may choose to leave the public system to start a new school.

Comparing the pre-Covid and Covid years, the retention rate for students enrolled in the early elementary grades declined markedly. The drop was sharpest for students moving from pre-K to kindergarten, although grades K through 2 also experienced declines. Conversely, there was a relatively large increase in student retention for high school grades. For students in upper elementary and middle school grades, there was little change.

Increased Retention in High School Offset Declines in Early Elementary Grades in Traditional Public Schools



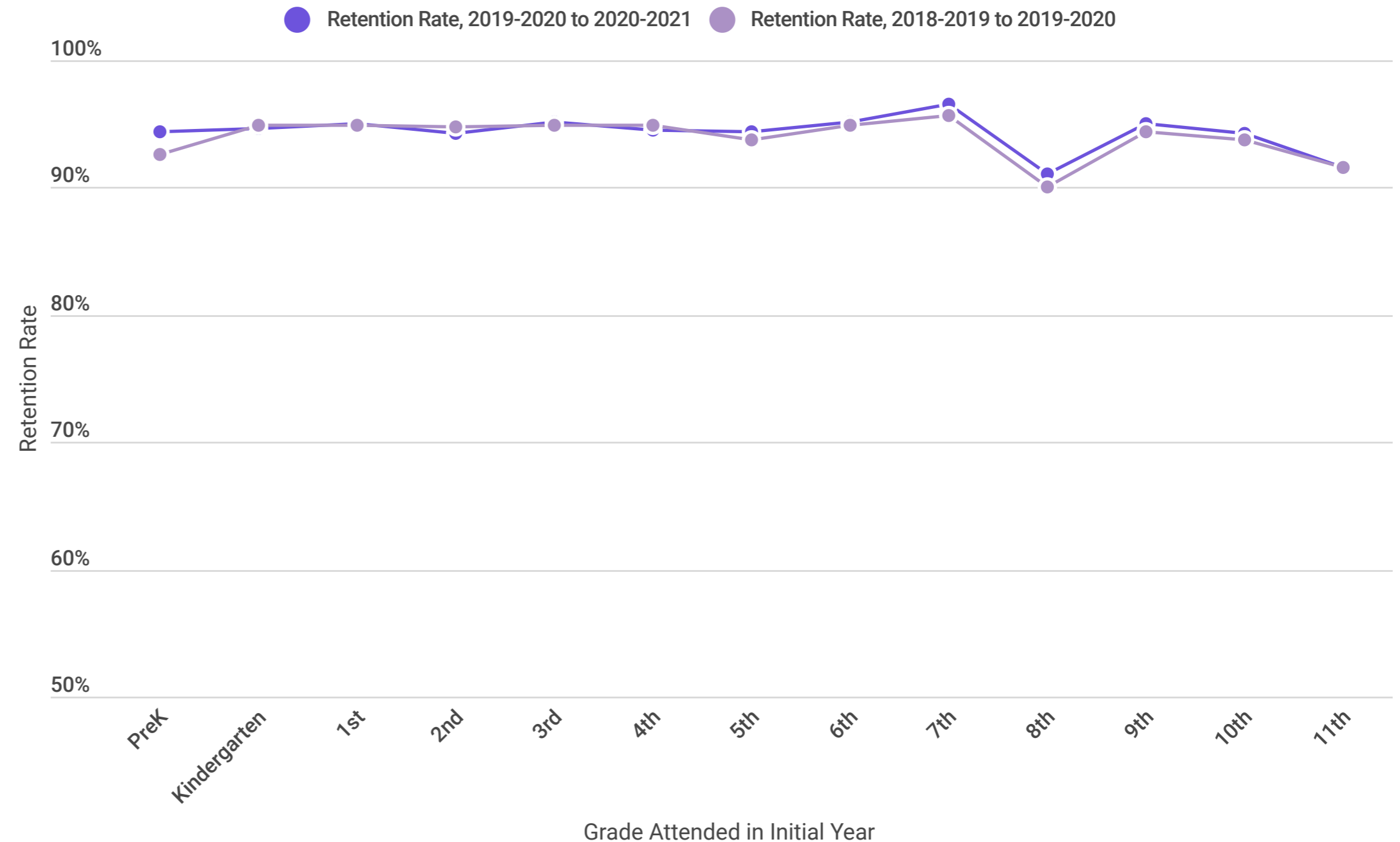
SOURCE: New York City Department of Education student-level data from student register files

NOTE: Traditional public schools include schools in Districts 1-32; District 75 and District 79 schools are excluded.

For Charter School Retention, More Grade Level Stability

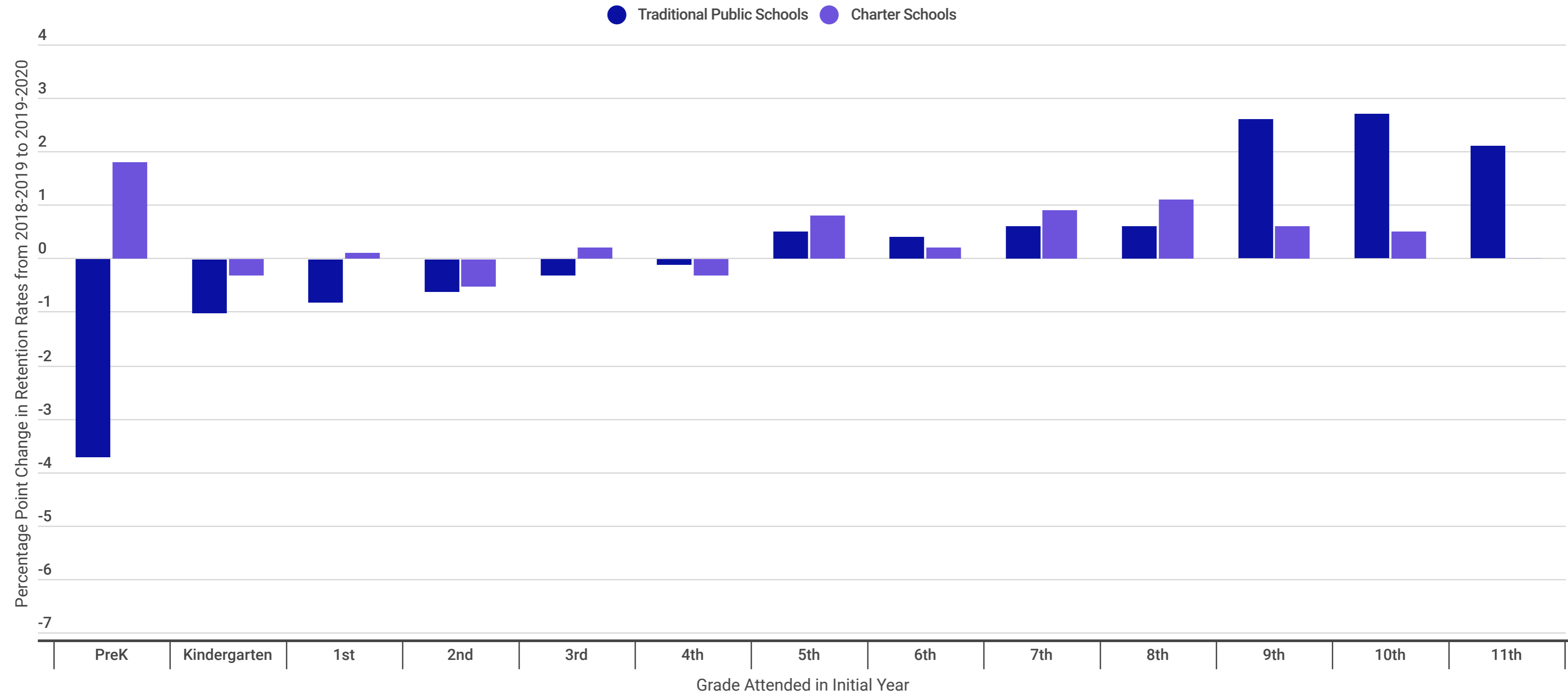
Charter schools did not experience the marked decline in retention for students moving from pre-K to kindergarten. There was actually a small increase in the retention rate for charter preschoolers during the pandemic. It is important to note, however, that these schools served far fewer students than those attending preschools housed within traditional public schools or preschools run by CBO's under contract with the city. (Fewer than 600 students are enrolled in charter pre-K programs.) Charter schools also did not have the large increases in the share of returning students in high-school grades that IBO found for students in traditional public schools. Similar to traditional public schools, the overall retention rate for charter-school students for the 2019-2020 school year (94.5 percent) was nearly the same as the retention rate the previous year (94.2 percent).

Charter School Retention Rates Remained Relatively Stable



SOURCE: New York City Department of Education student-level data from student register files

A Closer Look: Changes in Retention Rates in Traditional Public and Charter Schools



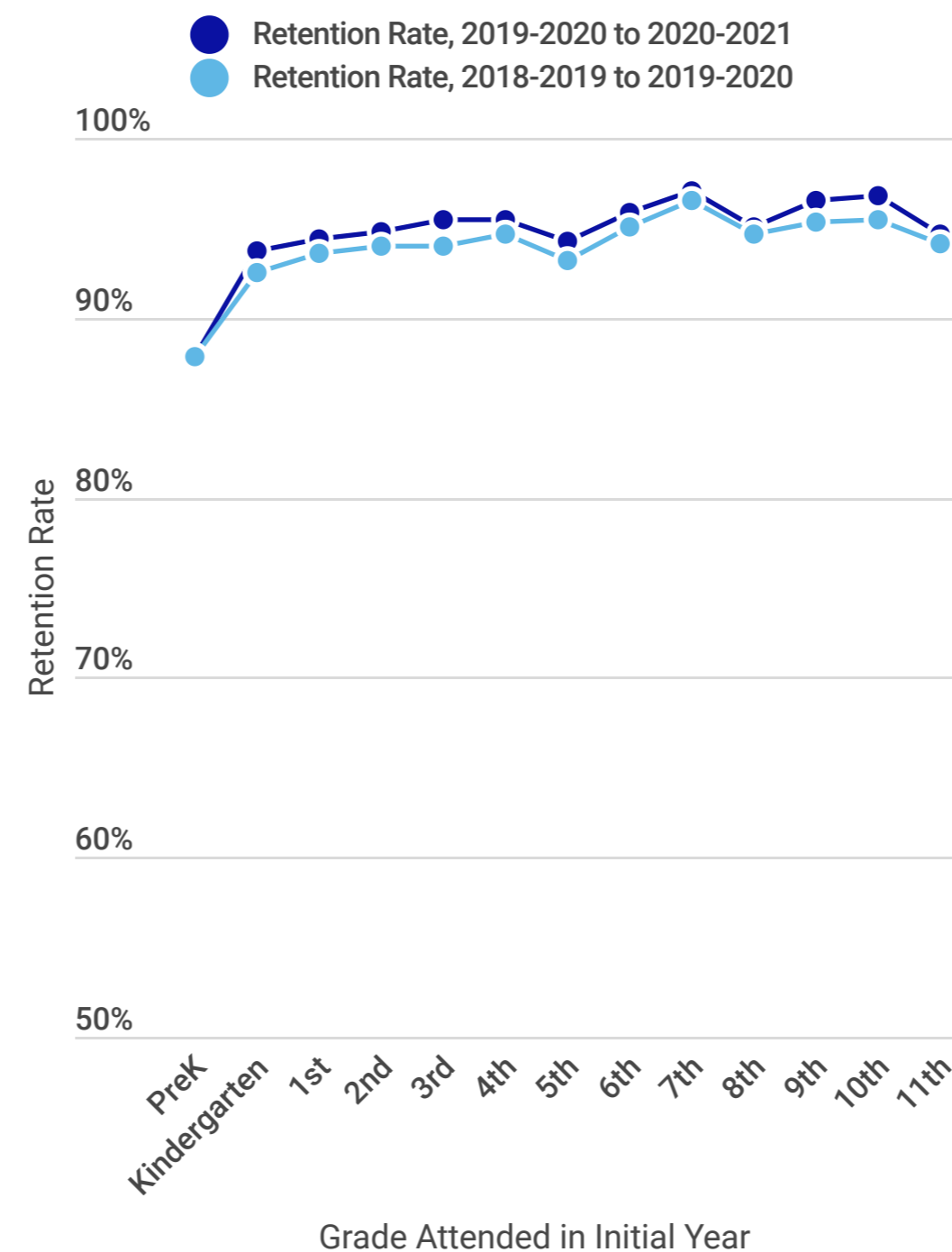
SOURCE: New York City Department of Education student-level data from student register files

NOTE: Traditional public schools include schools in Districts 1-32; District 75 and District 79 schools are excluded.

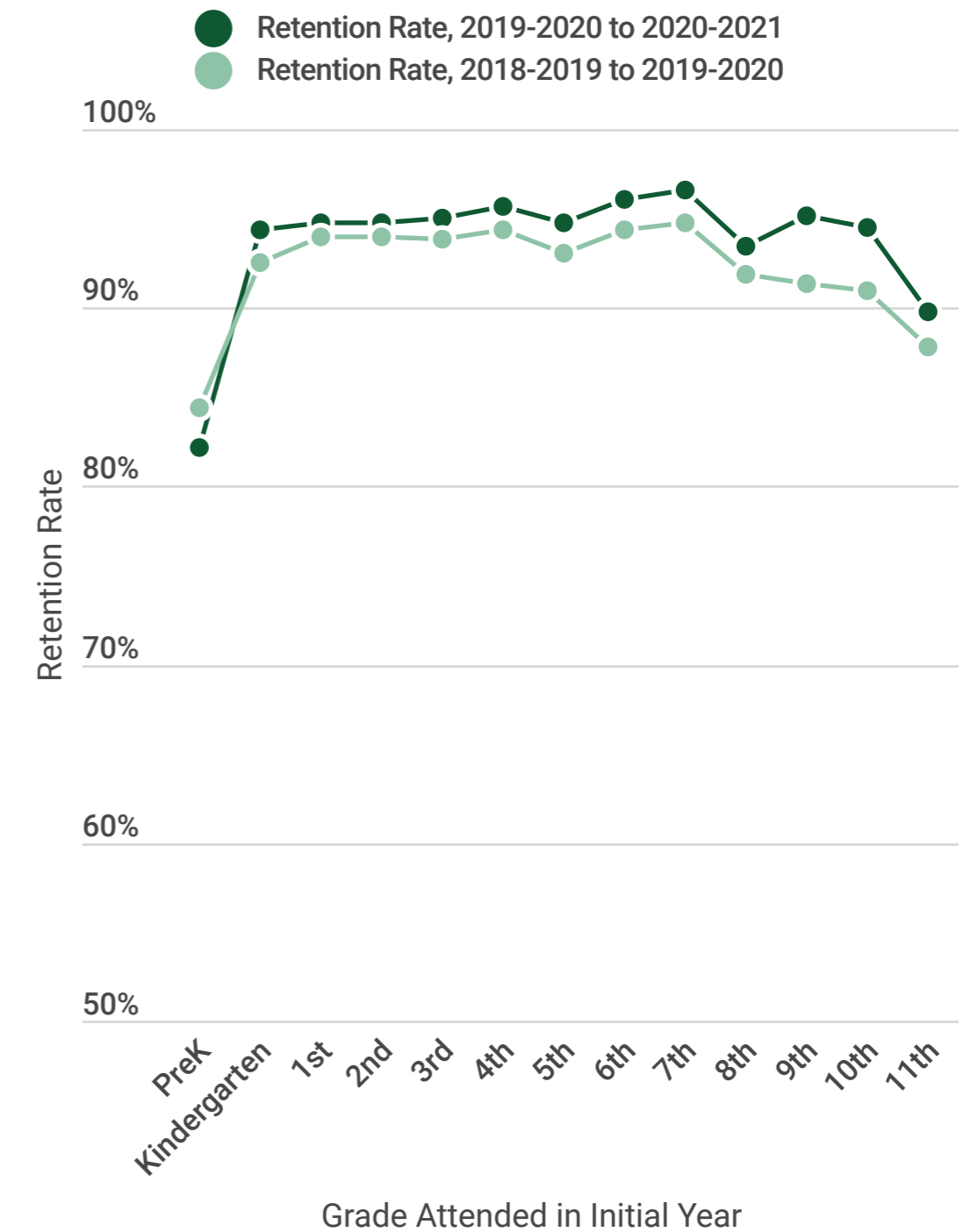
Retention Rate Differences By Student Race

IBO compared retention rates among students in the four largest racial groups in the public school system.² White students had the most pronounced decline in retention rates in the early elementary grades. Retention rates for White pre-K through 3rd-grade students were more than 4 percentage points lower than the previous year's retention rates for those grades. For the high school grades, where retention increased, this effect was most pronounced for Black students and Hispanic students. Overall, except for those moving from pre-K, Black students and Hispanic students either returned to traditional public schools at higher rates, or had only marginal reductions in retention rates compared with pre-Covid rates. The retention rate for Asian students remained relatively stable between the two periods.

Retention Rates for Asian Students Were Stable



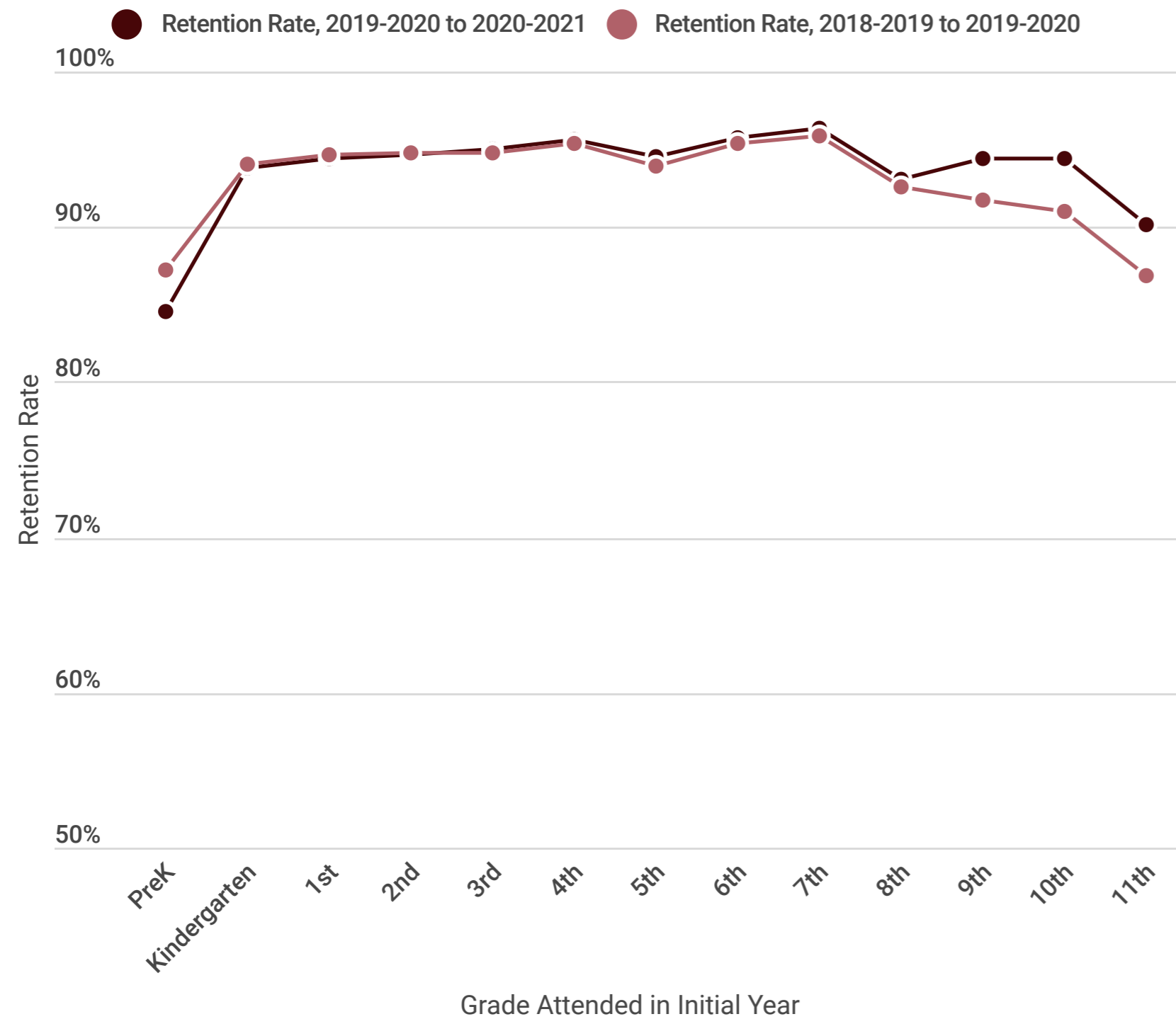
Retention for Black Students Increased for Middle and High School



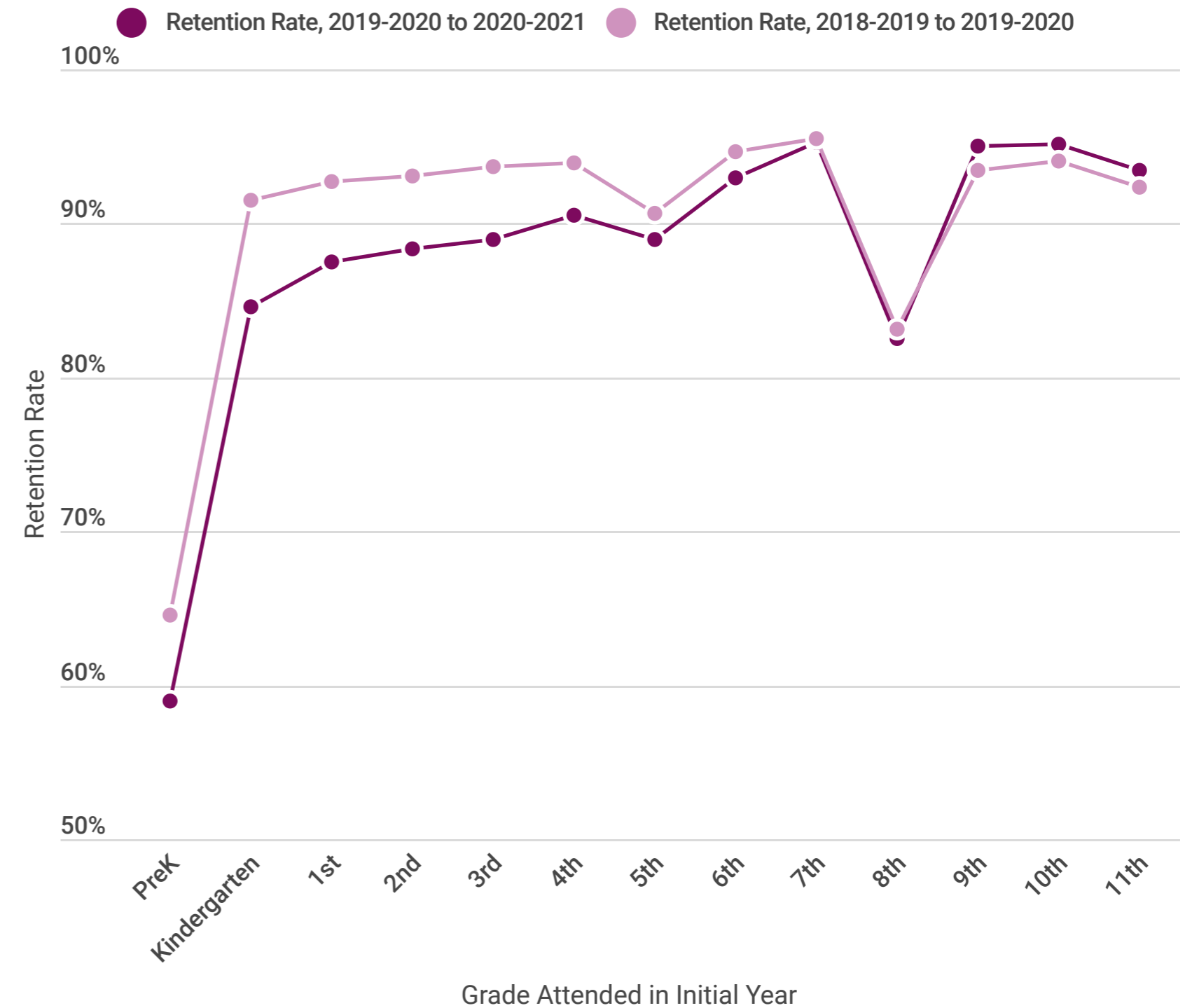
SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations only include students attending traditional New York City public schools in Districts 1-32; students in District 75 and District 79 schools are excluded, as are students in charter schools.

Retention for Hispanic Students Declined for Pre-K, Rose for High School



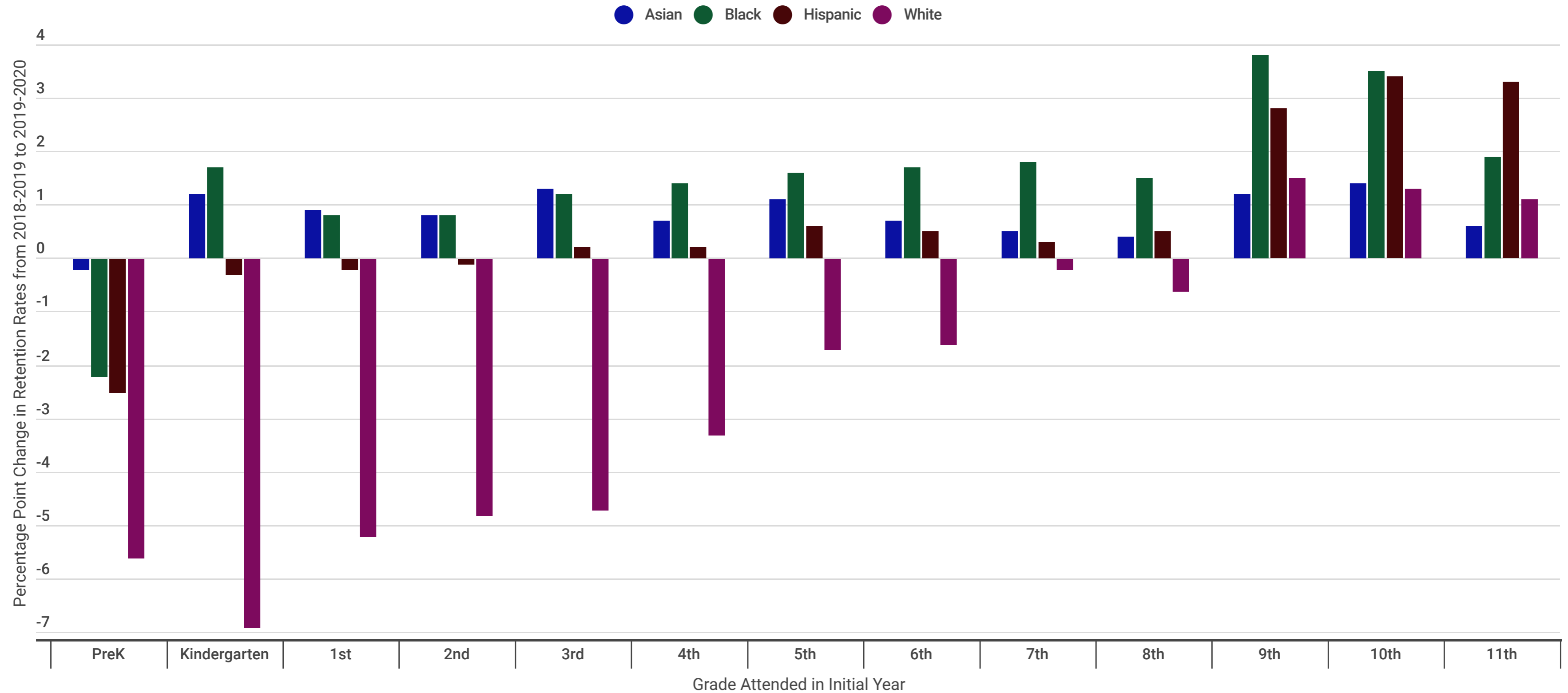
Retention for White Students Fell in Elementary Grades



SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations only include students attending traditional New York City public schools in Districts 1-32; students in District 75 and District 79 schools are excluded, as are students in charter schools.

A Closer Look: Differences in Retention Rates by Student Race



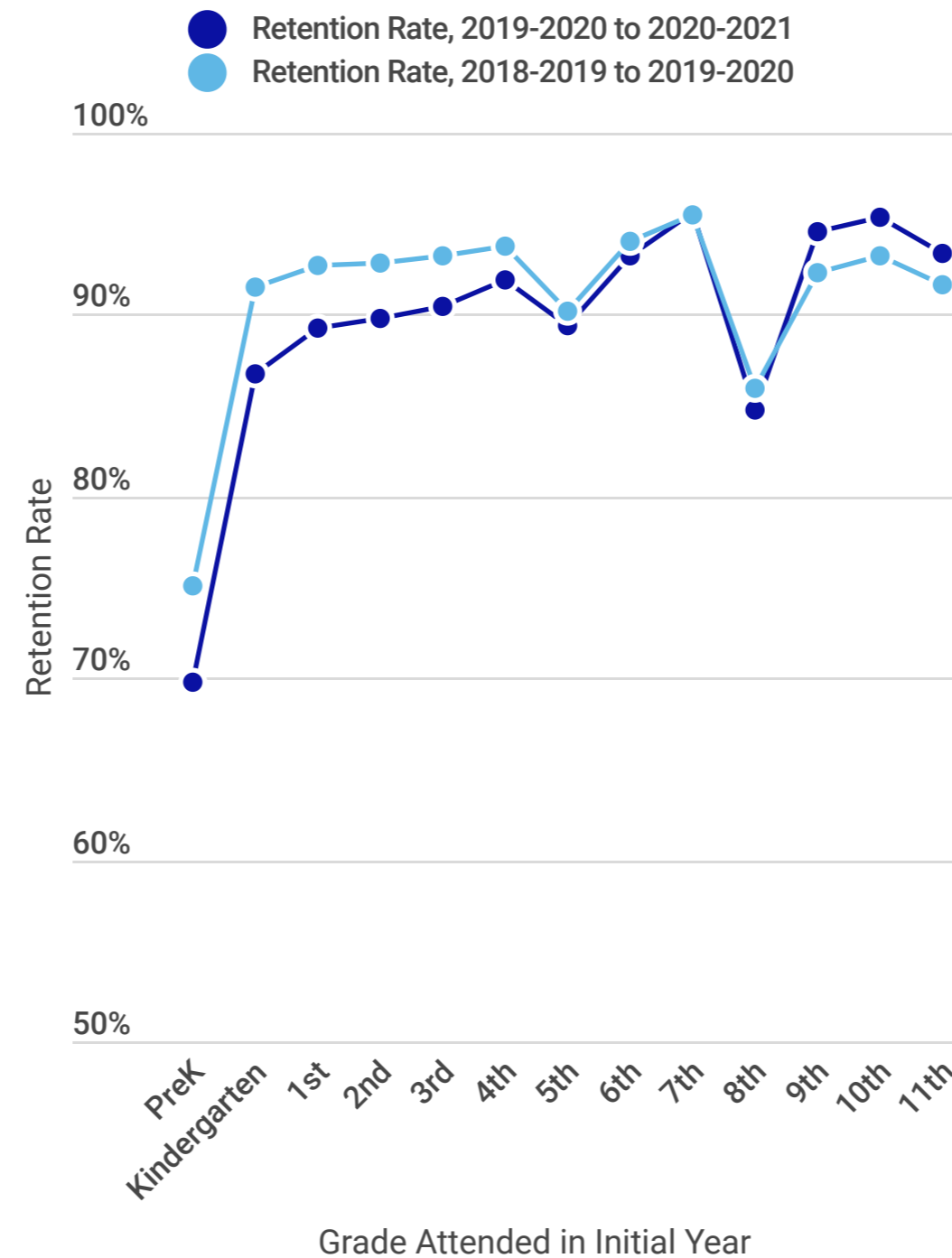
SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations only include students attending traditional New York City public schools in Districts 1-32; students in District 75 and District 79 schools are excluded, as are students in charter schools.

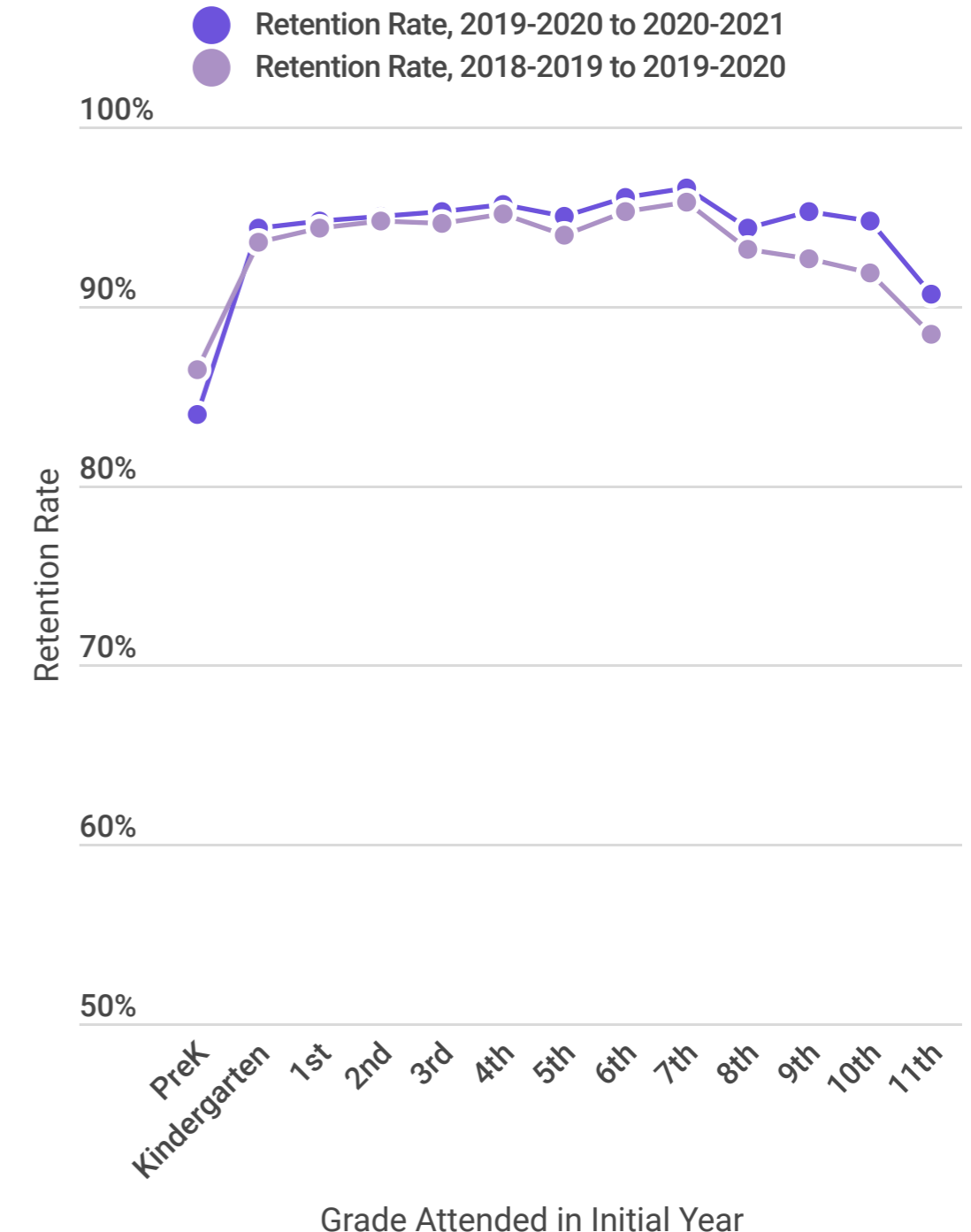
Retention Rate Differences by Income Status

To examine differences in retention rates across income groups, IBO defined families who qualified for free or reduced-price lunch or were eligible for Human Resource Administration benefits as “low income.” Retention rates for low-income students increased during Covid throughout the grade distribution, except for the transition from pre-K to kindergarten. Students coming from families with relatively higher incomes saw large drops in retention in pre-K and the early elementary grades. For high school grades, retention rates rose in both income groups, but this increase was larger for low-income students.

Higher-Income Students: Retention Rates Declined Sharply Throughout Elementary Grades



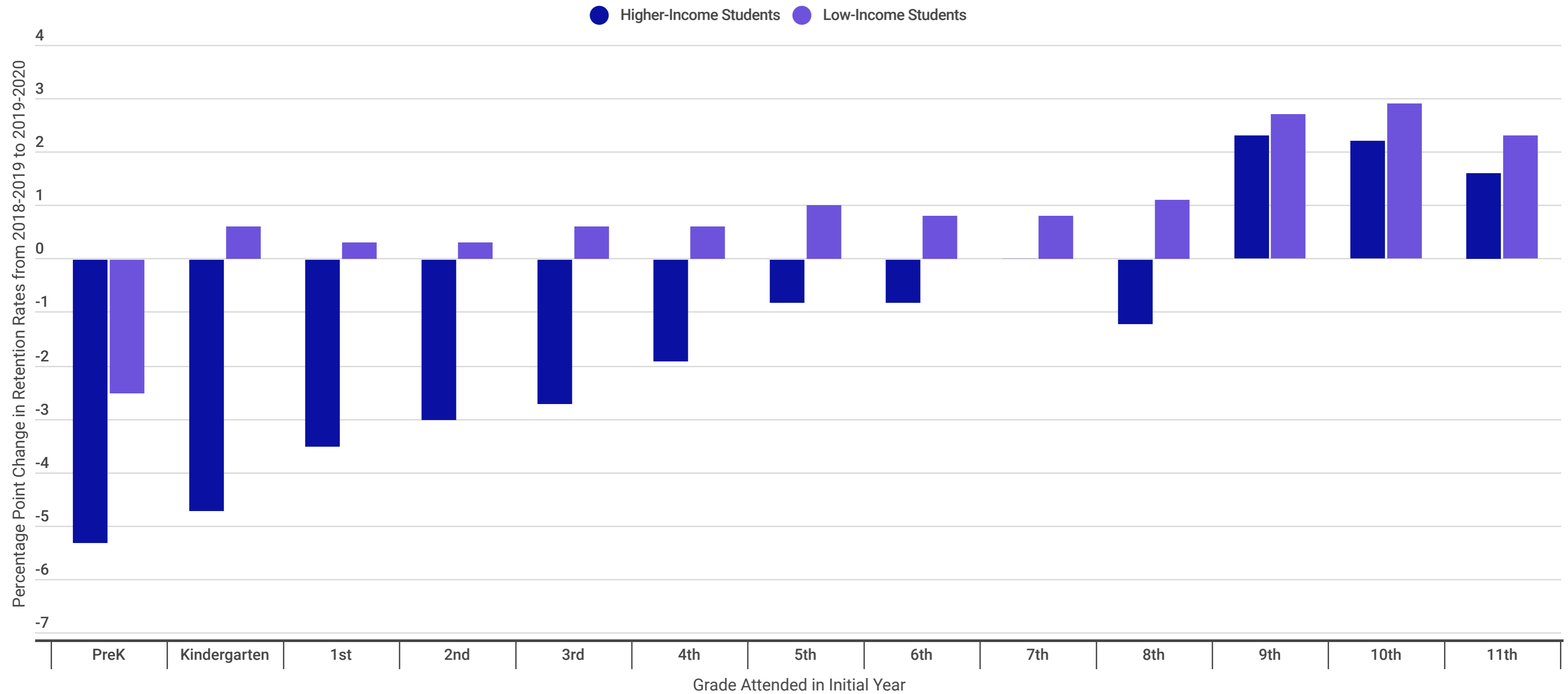
Low-Income Students: High School Retention Rates Rose



SOURCE: New York City Department of Education student-level data from student register files

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A Closer Look: Differences in Retention Rates by Income Status



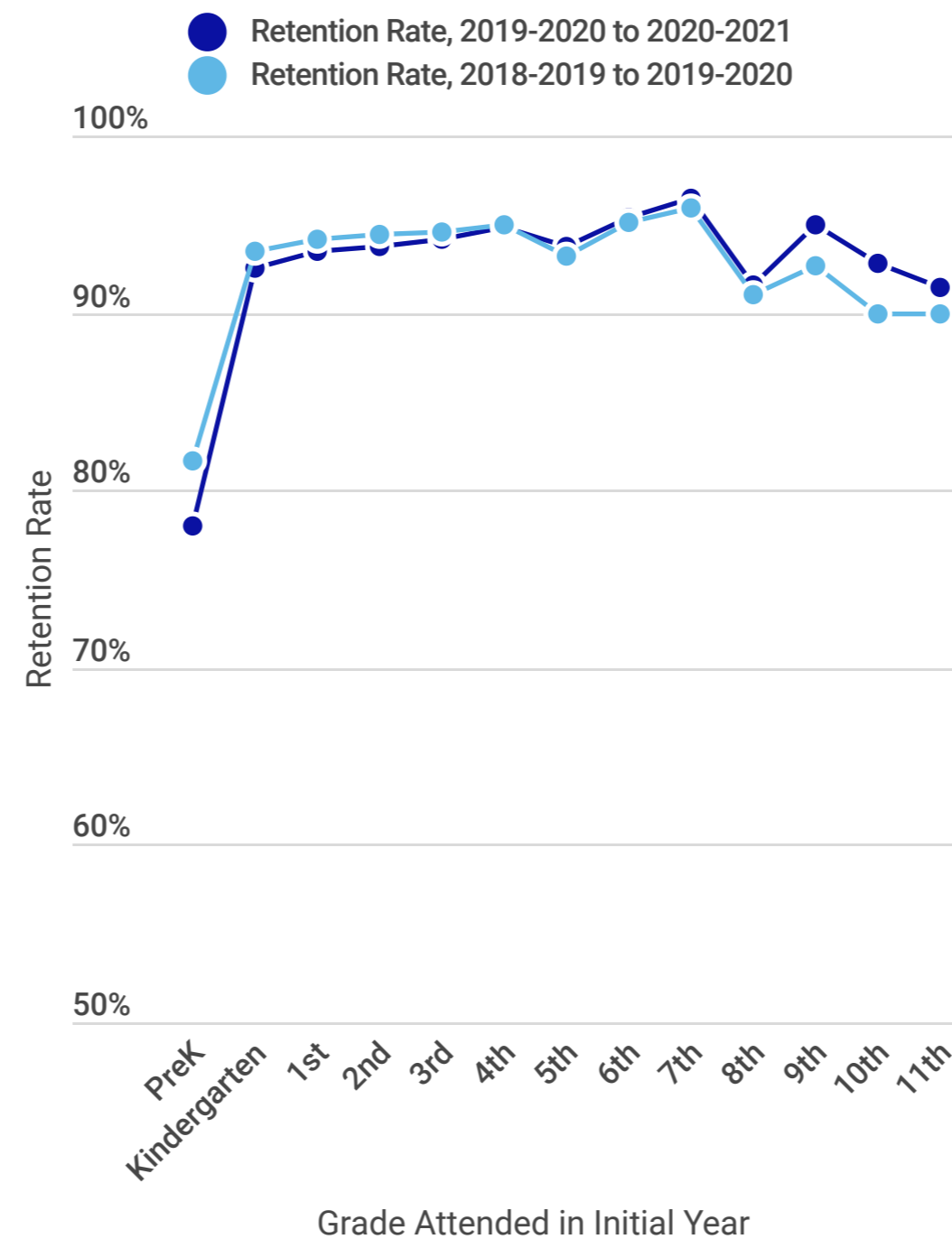
SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations only include students attending traditional New York City public schools in Districts 1-32; students in District 75 and District 79 schools are excluded, as are students in charter schools.

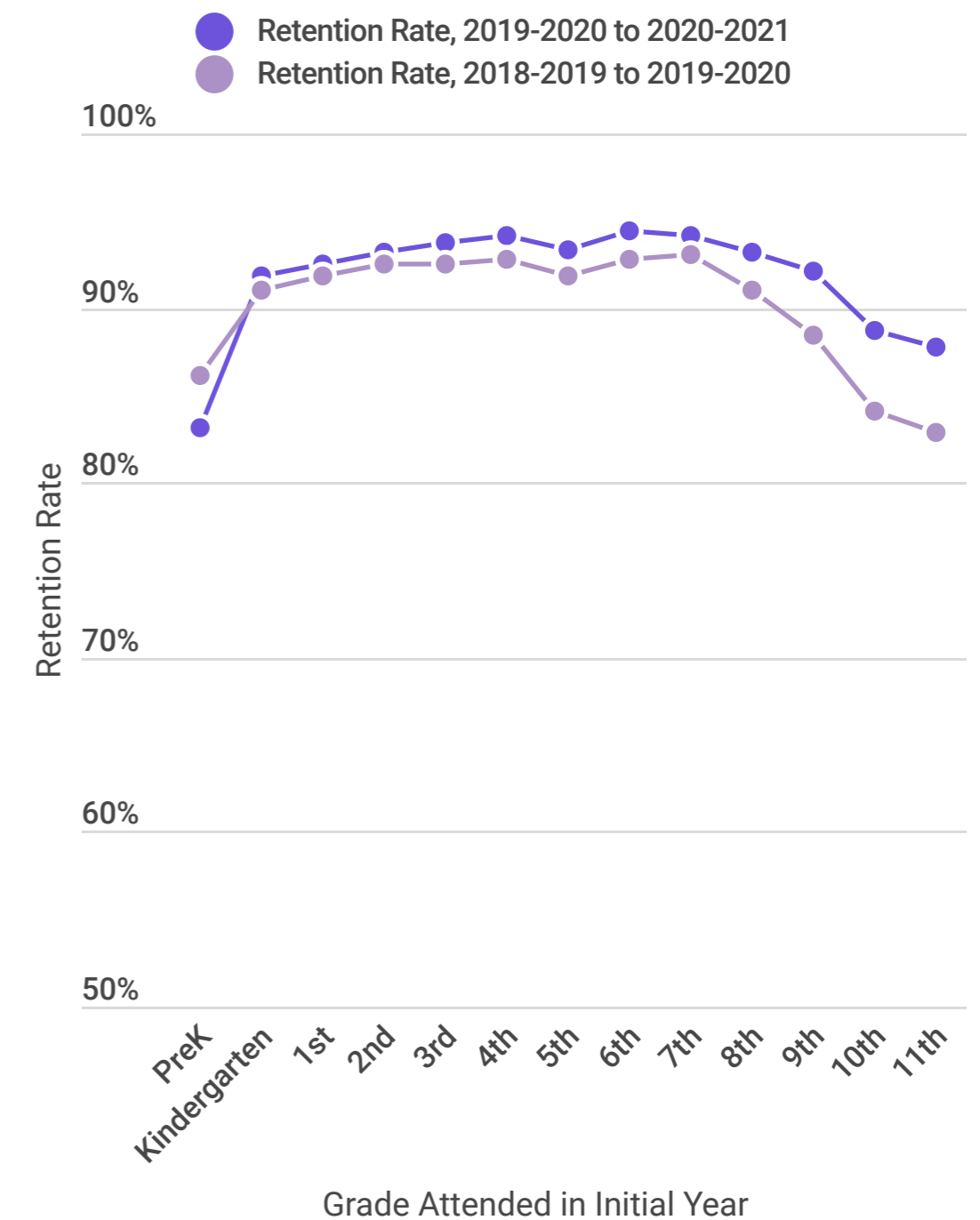
Retention Rate Differences by Housing Status

A student in New York City who lacks a fixed and regular residence is considered to be in temporary housing, as opposed to permanent housing. The vast majority of these public school students in temporary housing live in the city's homeless shelter system or are doubled up in the home of a friend or family member. Students in temporary housing generally experienced an increase in retention rates from 2019-2020 to 2020-2021, except for declines in pre-K, which were also found among students in permanent housing. While retention rates increased for both groups in the high school grades, the increases were particularly large for students in temporary housing. Retention rates also increased for students in temporary housing in the late elementary and middle school grades, while retention rates for students in permanent housing were virtually unchanged for those grades.

Retention Declined in Preschool but Increased in High School for Students in Permanent Housing



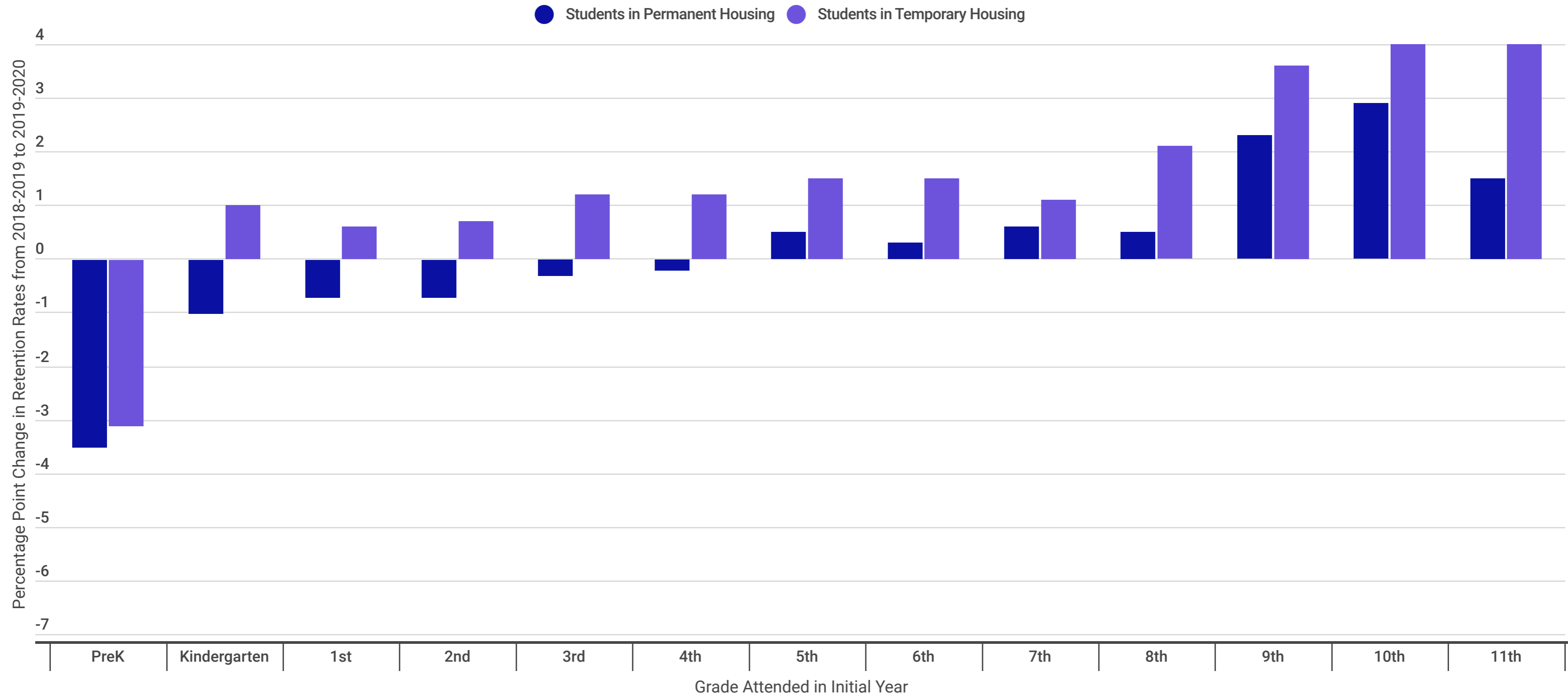
Retention Increased in All Grades Except Preschool for Students in Temporary Housing



SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations only include students attending traditional New York City public schools in Districts 1-32; students in District 75 and District 79 schools are excluded, as are students in charter schools.

A Closer Look: Differences in Retention Rate by Housing Status



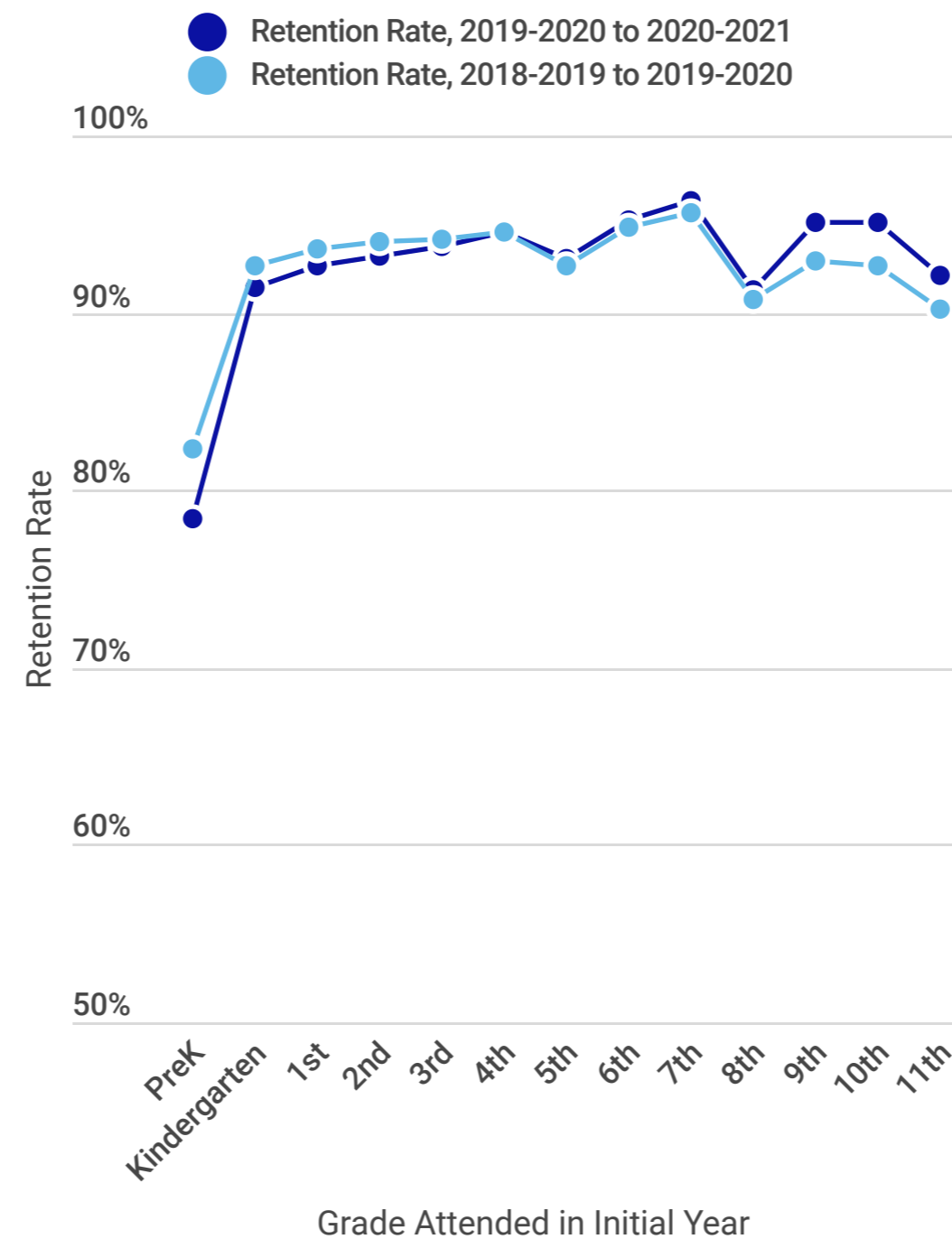
SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations only include students attending traditional New York City public schools in Districts 1-32; students in District 75 and District 79 schools are excluded, as are students in charter schools.

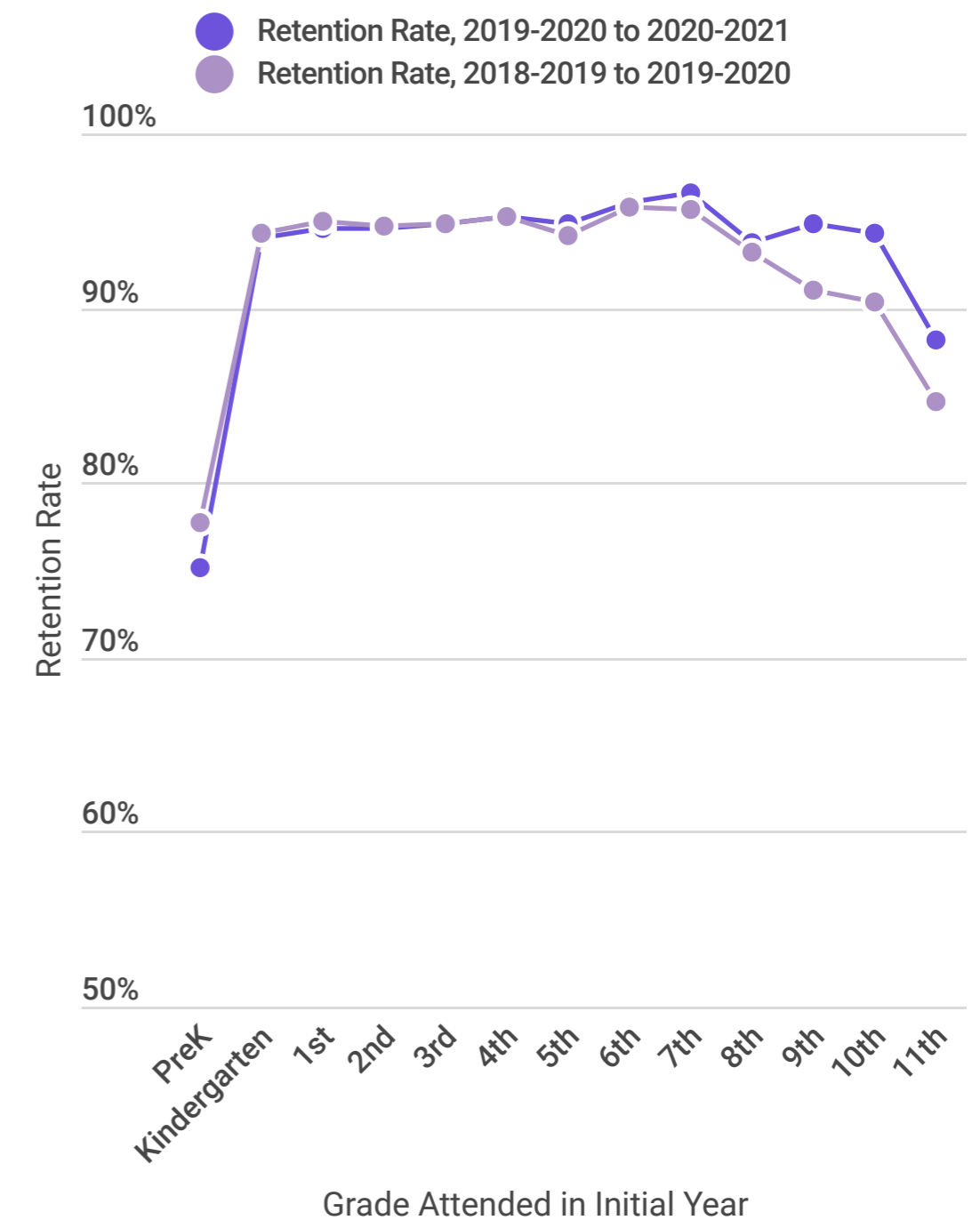
Retention Rate Differences by Student Disability Status

Both students with disabilities and students without disabilities had lower retention rates in preschool in 2020-2021 compared to the year before, but the magnitude of the decline was smaller for students with disabilities. There were also larger increases in retention rates for students with disabilities in high school grades compared with their peers without disabilities. Retention rates were virtually unchanged between kindergarten and 8th grade for students in either group.

For Students Without Disabilities, Retention Rates Declined in Preschool but Rose in High School



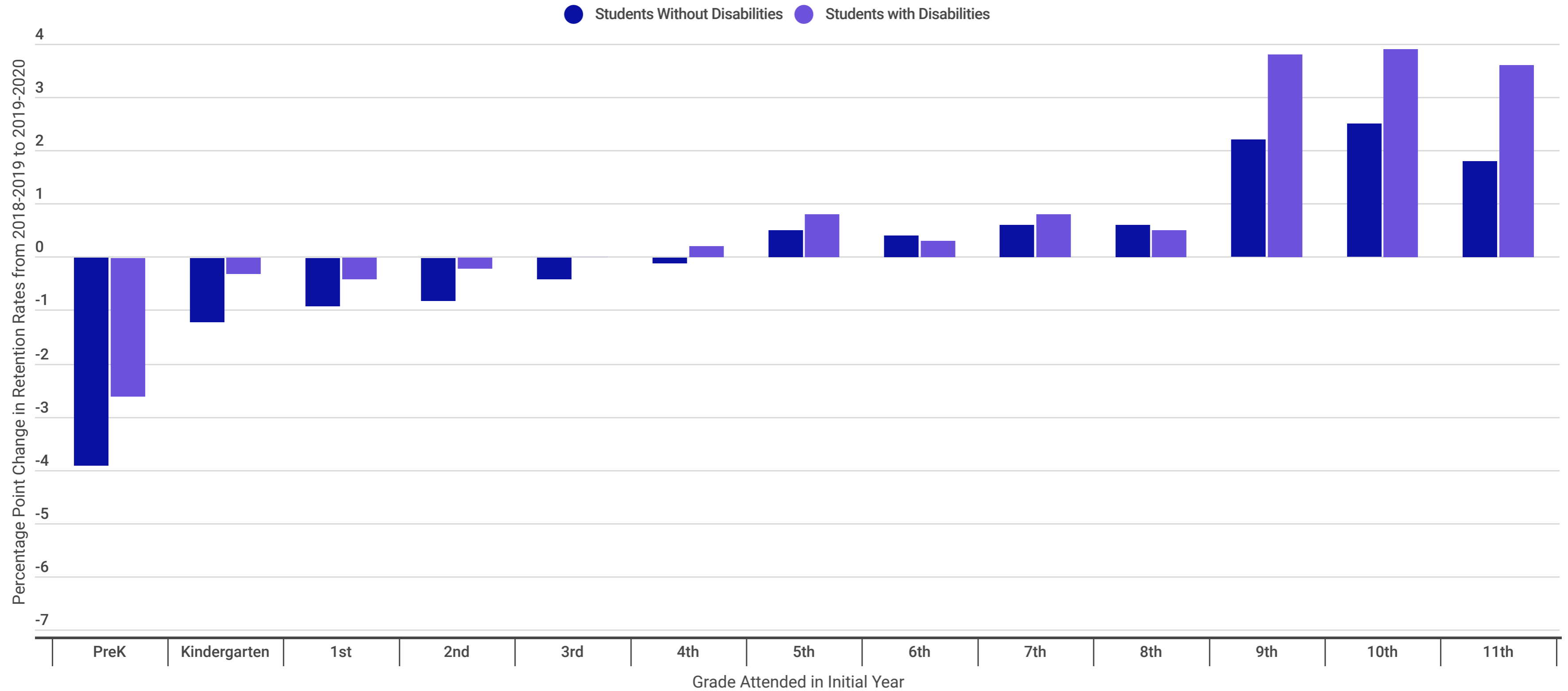
For Students With Disabilities, Retention Rates Rose in High School Grades



SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations only include students attending traditional New York City public schools in Districts 1-32; students in District 75 and District 79 schools are excluded, as are students in charter schools.

A Closer Look: Difference in Retention Rate by Student Disability Status



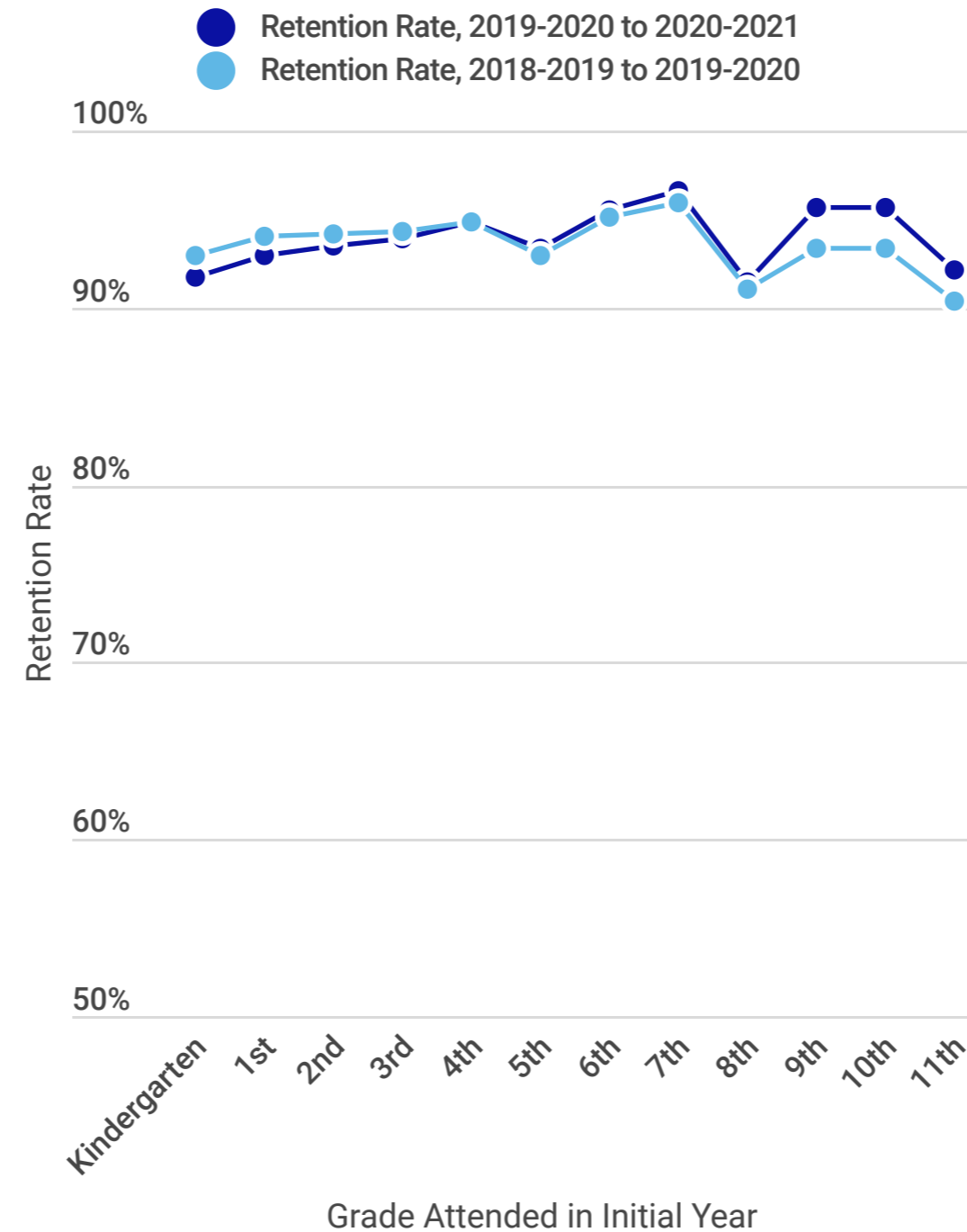
SOURCE: New York City Department of Education student-level data from student register files

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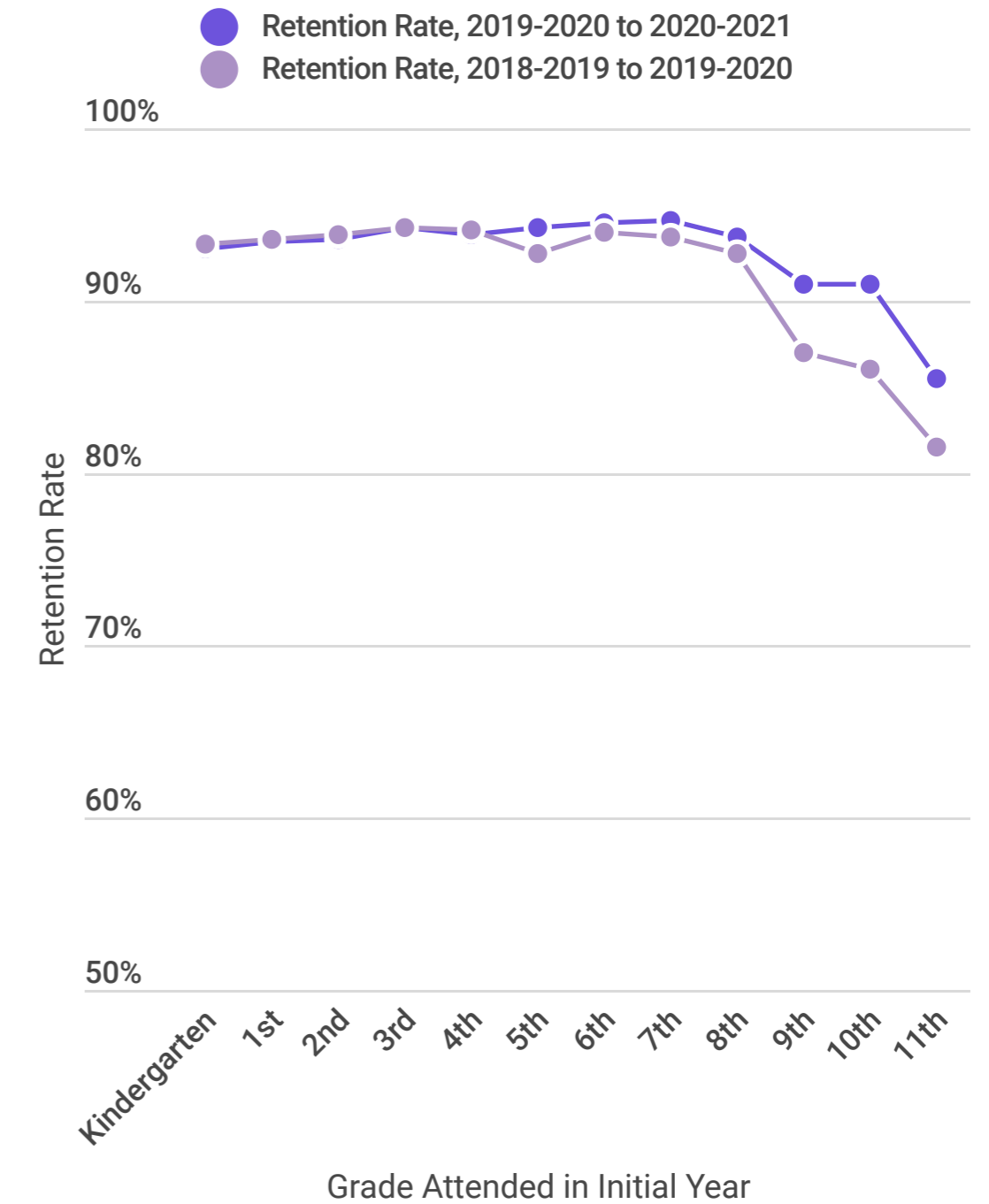
Retention Rate Differences by English Language Learner Status

Students in New York City Public Schools are classified as English Language Learners (ELL) beginning in kindergarten based on the New York State Identification Test for English Language Learners. In the wake of the pandemic, retention rates did not change meaningfully for either ELL students or non-ELL students between kindergarten and 8th grade. But retention increased for both groups of students in the high school grades, with greater increases among ELL students.

Increased Retention Among Non-English Language Learners in High School Grades



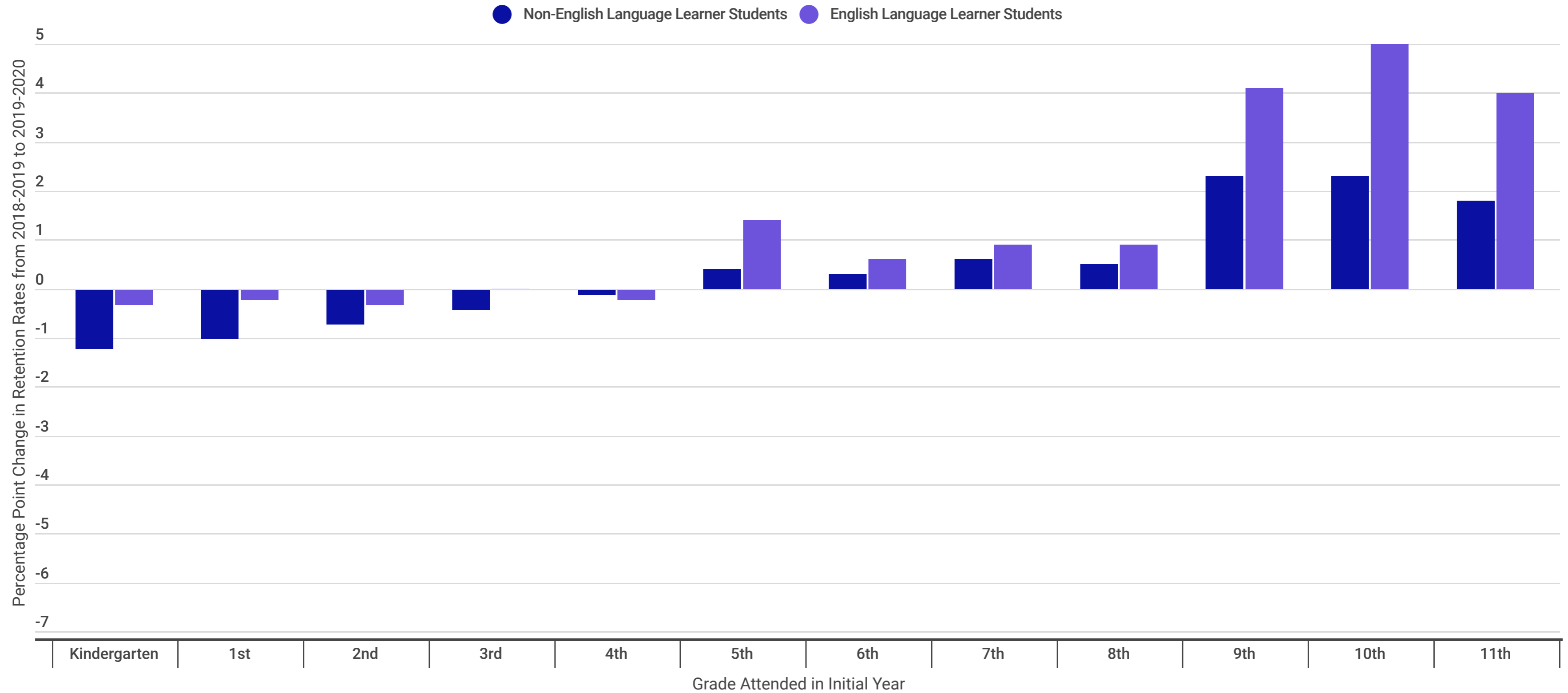
Increased Retention Among English Language Learners in Late Elementary Through High School



SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations only include students attending traditional New York City public schools in Districts 1-32; students in District 75 and District 79 schools are excluded, as are students in charter schools.

A Closer Look: Difference in Student Retention Rates by English Language Learner Status



SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations only include students attending traditional New York City public schools in Districts 1-32; students in District 75 and District 79 schools are excluded, as are students in charter schools.

Fewer *New Students* Cause Enrollment Declines in Traditional & Charter Schools

IBO's review of retention rates provides insight into one side of the enrollment story. The other piece—new enrollees—shows whether the number of new entrants at each grade changed during the pandemic. IBO examined audited enrollment data by grade for traditional public schools and charter schools combined and we found that Covid-19 had a significant impact on families' decisions to enroll their children, particularly those at entry grades. Overall enrollment in the city's public schools declined from 1,132,000 in 2019-2020 to 1,094,000 in 2020-2021.

Enrollment dropped at each grade beginning at preschool through 7th grade, but the decline was much larger in pre-K and kindergarten. Total enrollment declined by 9,400 students in pre-K and 6,300 students in kindergarten. On the opposite end of the spectrum, enrollment increased in 10th grade (900 students) and 11th grade (1,400 students). New enrollees as a share of total enrollment declined in every grade. In the early grades, lower retention rates and decreases in new enrollees led to lower total enrollments. There was also a relatively large drop in new enrollees in 9th grade, the entry year for high school, and the share of new enrollees fell from 9.3 percent in 2019-2020 to 5.9 percent in 2020-2021. Because of this total 9th grade enrollment fell, despite the fact that the number of retained students was relatively stable. In 10th through 12th grades, higher retention rates partially or fully offset decreases in new enrollees, leading to either higher enrollment or a relatively small decline in enrollment for 12th grade.

A Note about Pre-K

New pre-K enrollment dropped by more than 20,000 students (from 67,000 to 45,000) and new kindergarten enrollment fell by nearly 3,000 (from 20,000 students to 17,000). The large decline in the share of new enrollees in pre-K from 95.2 percent in 2019-2020 to 74.7 percent in 2020-2021, was largely because some of those who would have been classified as new enrollees in pre-K were brought into the public school system earlier though the expansion of 3K. Between 2018-2019 and 2019-2020, 3K enrollment increased five-fold from 3,300 to 17,600. Therefore, in 2020-2021, 15,300 of those 17,600 3K students from the prior year were retained in the public school system for pre-K. The large expansion meant that there were relatively many more students to retain in 2020-2021, the Covid year. Even when accounting for the additional 12,000 students that were considered retained from 2019-2020 to 2020-2021 rather than new enrollees, compared with the pre-Covid year, new pre-K enrollment declined by an additional 8,000 students. In other words, the decline in new pre-K enrollment in 2020-2021 is only partially offset by the increase in the number of pre-K students retained from the prior year.

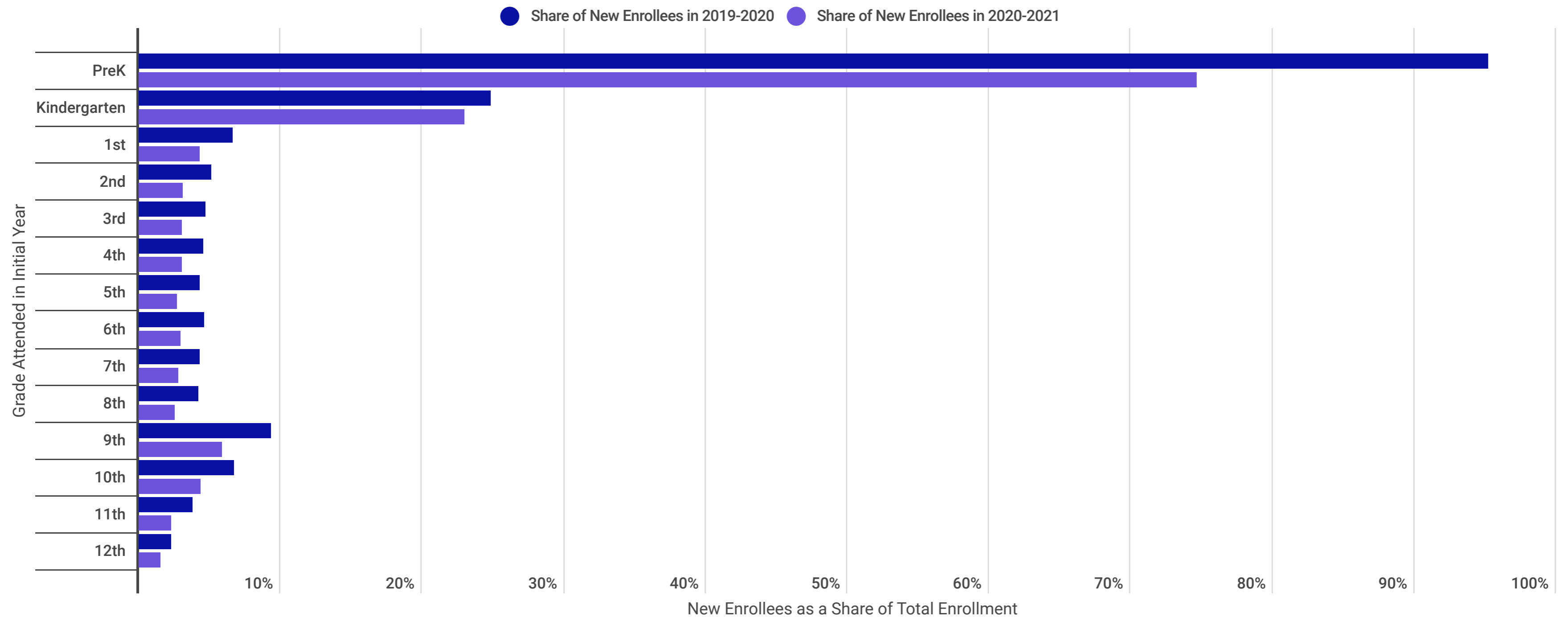
Share of New Enrollees Was Lower for Each Grade in the Covid Year Compared with Pre-Covid Year

Grade Level	Pre-COVID Year				COVID Year			
	Enrollment in 2019-2020	Retained Students from 2018-2019	New Enrollees in 2019-2020	Share of New Enrollees in 2019-2020	Enrollment in 2020-2021	Retained Students from 2019-2020	New Enrollees in 2020-2021	Share of New Enrollees in 2020-2021
PreK	69,900	3,300	66,600	95.2%	60,500	15,300	45,200	74.7%
Kindergarten	78,600	59,100	19,500	24.8%	72,300	55,600	16,600	23.0%
1st	79,200	73,900	5,300	6.6%	76,000	72,700	3,300	4.3%
2nd	80,300	76,200	4,100	5.1%	75,900	73,600	2,400	3.1%
3rd	79,600	75,800	3,800	4.7%	77,200	74,900	2,300	
4th	80,300	76,700	3,600	4.5%	77,000	74,700	2,300	3.0%
5th	81,500	78,000	3,500	4.3%	78,000	75,900	2,100	2.7%
6th	80,300	76,600	3,700	4.6%	78,800	76,500	2,300	2.9%
7th	80,600	77,100	3,500	4.3%	78,700	76,500	2,200	2.8%
8th	78,200	75,000	3,300	4.2%	79,600	77,600	2,000	2.5%
9th	89,000	80,700	8,300	9.3%	85,600	80,600	5,000	5.9%
10th	86,800	81,000	5,800	6.7%	87,700	83,900	3,900	4.4%
11th	73,500	70,600	2,800	3.8%	74,900	73,200	1,700	2.3%
12th	76,600	74,900	1,700	2.3%	76,400	75,200	1,200	1.5%
Total	1,131,900	979,000	152,900		1,094,100	986,200	107,900	

SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations include all students attending New York City public schools, including students in traditional public schools in Districts 1-32, students in District 75 and District 79 schools, and students in charter schools..

Share of New Enrollees in 2020-2021 Declined Markedly from the Previous Year for PreK and 9th Grades



SOURCE: New York City Department of Education student-level data from student register files

NOTE: Calculations include all students attending New York City public schools, including students in traditional public schools in Districts 1-32, students in District 75 and District 79 schools, and students in charter schools..

Conclusion

Using student-level register data from the New York City Department of Education, IBO found changes in patterns of retention and enrollment in the city's public schools in the wake of the Covid-19 pandemic, particularly for certain grades and demographic groups. We found that increases in retention rates for traditional public school students in high school grades offset declines in early elementary grades. In contrast, there was little fluctuation in retention rates before and after Covid-19 for students in charter schools. Among traditional public school students, we found that Black and Hispanic students, low-income students, and students in temporary housing experienced increased retention rates, particularly in high school grades. There were decreases in the retention rate for pre-K students across all demographics in traditional public schools, with the largest declines for white students, higher-income students, students without disabilities, and non-ELL students. White students experienced decreases in retention rates in all elementary grades and relatively smaller increases in retention in high school.

When considering total enrollment, IBO found that total enrollment declines between the 2019-2020 and 2020-2021 school years were mostly due to fewer new students enrolling in the public school system, and a net steady rate in retention of students—with decreased retention in pre-K and kindergarten and increased retention in high school grades. It is important to note that these changes happened last school year, when schools were fluctuating between fully remote operation and/or a hybrid model of in-person and remote instruction. When student-level register data for the current school year (2021-2022) become available, it will be interesting to study how a return to full in-person instruction affected these trends.

Prepared by Joydeep Roy
New York City Independent Budget Office

Endnotes

¹These register data generally yield student enrollment information as of October 31st of each year (although because of the delayed reopening for 2020-2021 due to the pandemic, audited register for that year was as of November 13, 2020). Under this approach, a student who enrolled after October in 2019, for example, will not be included in the 2019-2020 register files and thus be counted as a new enrollee in 2020-2021, even though the student had attended New York City public schools in 2019-2020. Note though that this brief is mostly interested in comparing retention rates before Covid with those during Covid - these comparisons will remain unbiased as long as the pandemic did not change the relative probability of joining schools late (after October).

²Race is self-reported by students and/or their families to the DOE. Data on race that IBO receives from the DOE includes one of the following classifications for each student: Asian, Black, Hispanic, Missing, Multi-Racial, Native American, and White.