



BRIEF

Missing at the top: Lower-income students underrepresented among high achievers

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KEY FINDINGS

- Lower-income students make up more than half of the US student population but account for only 20% of high achievers (i.e., students scoring at or above the 95th percentile).
- Lower-income elementary students were also more likely to lose their high achiever status as they moved across grade levels. Among initially high-achieving kindergarteners, only 26% of lower-income students were still high-achieving by fourth grade, compared to 41% of higher-income students.
- Lower-income students who dropped out of the high-achieving group remained in the top 20% of the score distribution, but tended to fall a little bit further than their higher-income peers.

Introduction

The majority of American K-12 students now come from lower-income backgrounds, but lower-income students remain substantially underrepresented among the [highest math achievers](#), students in [gifted and talented programs](#), students in [advanced](#) or [accelerated](#) math classes, and [STEM college and career](#) pathways. This underrepresentation raises important questions about whether students who demonstrate exceptional mathematical achievement are being identified and supported equitably throughout their school careers.

Prior research by the [Fordham Institute](#) and [The Sutton Trust](#) has shown that students from lower-income families are less likely than their higher-income peers to maintain exceptionally high achievement across grade levels. However, less is known about the extent of these disparities in the post-pandemic period and whether lower-income students who begin kindergarten as very high achievers continue to remain among the highest-performing students over time. Using MAP® Growth™ math test scores¹ from nearly one million students between 2021 and 2025, this study examines two related questions: (1) how well represented lower-income students were among the nation's highest math achievers, and (2) whether lower-income students who begin as high achievers were as likely as their higher-income peers to remain at the top of the achievement distribution over time.

Definitions

Lower-income: Students who were eligible for free or reduced price lunch (FRPL) in at least one year of the study

Higher-income: Students who were not eligible for free or reduced price lunch (FRPL) in any year of the study

High achievers: Students scoring at or above the 95th percentile in math

Consistent high achievers: Initially high achievers in fall 2021 who were still high achieving in fall 2025

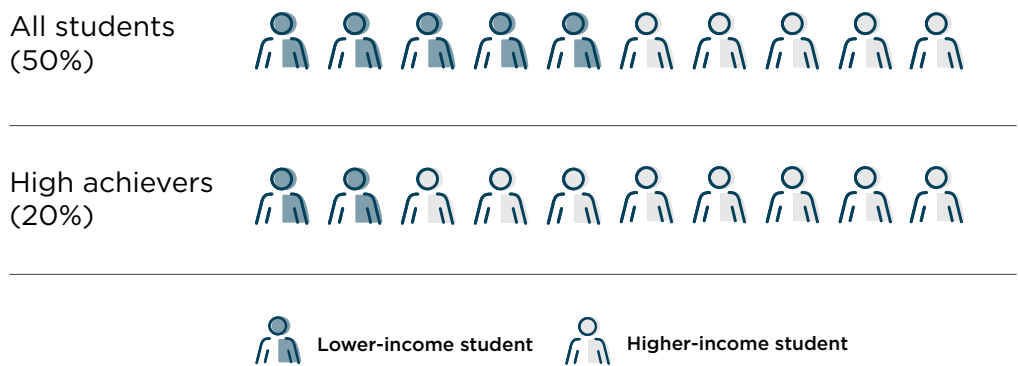
¹ MAP Growth is uniquely well suited for this analysis, as it is a computer adaptive test that can adapt well above grade level to get an accurate estimate of performance for high-achieving students. It is also vertically scaled, which allows for comparison across grade levels on the same scale. It is important to note, however, that the K-2 version of the test does contain audio supports while versions in later grades do not.

Lower-income students were underrepresented among high achievers

We defined high achievers as those students scoring at or above the 95th percentile based on the 2025 MAP Growth national achievement norms.² This represents an exceptionally high level of performance attained by only about five percent of students in the country.

To understand how well lower-income students were represented among high achievers, we calculated the percentage of high achievers in kindergarten to eighth grade in fall 2025 who were lower-income students (as shown in Figure 1). While lower-income students comprised half of our total sample of almost one million students, they comprised approximately 20% of high achievers in kindergarten to eighth grade. There was little variation in the share of lower-income high achievers across grade levels (grade-level results are presented in the technical appendix). The highest share was in kindergarten (22%), while rates were closer to 18% in the remaining grades.

Figure 1. Lower-income students make up half of the sample, but only 20% of high achievers



Lower-income elementary students were less likely to remain at the very top of the distribution compared to higher-income students

Our first finding showed that lower-income students were already substantially underrepresented among high achievers in the earliest grades we observed. Our second question focused on a different issue: whether lower-income students who did reach exceptionally high levels of achievement were as likely as their higher-income peers to remain at the top of the distribution over time.

We followed two cohorts of students (one starting in kindergarten, one starting in fourth grade) across five school years (2021–22 to 2025–26) to understand the percentage of lower-income and higher-income students who were still high achievers in later grades. Figure 2 shows the percentage of initially high-achieving students who continued to score at or above the 95th percentile in subsequent grades.

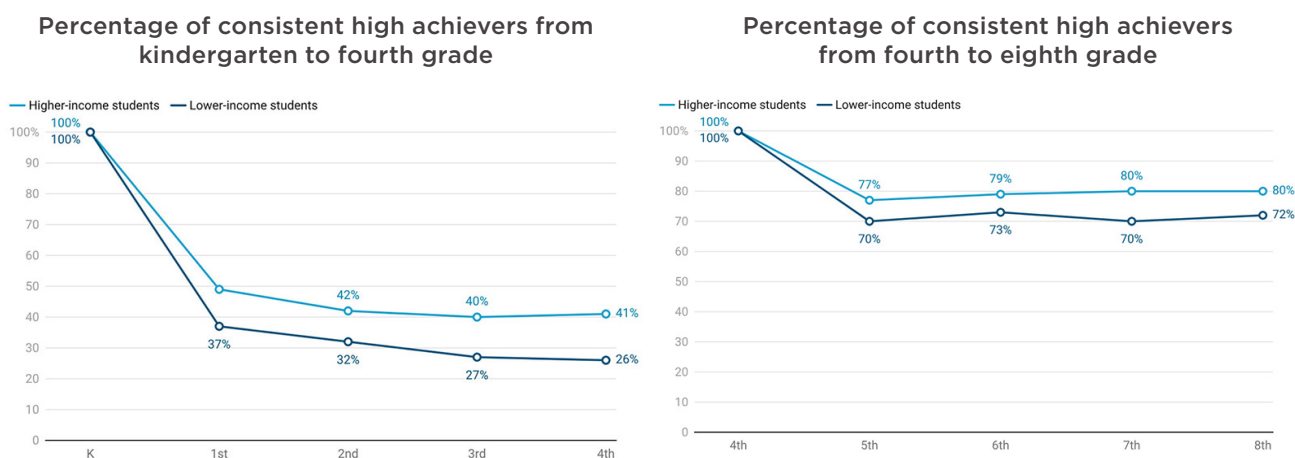
² In the technical appendix, we also present results based on two alternate percentile cut scores: (1) the top 10th percentile and (2) the top first percentile. Income-level differences were generally similar across the different definitions.

Some movement in the percentage of students above a very high achievement threshold is expected over time because of normal measurement variation and [regression to the mean](#). This consideration is especially important in the kindergarten cohort, where scores tend to be less stable and students experience a larger transition in test format during the study period. For this reason, the differences between income groups within each cohort are more informative than the persistence rates across cohorts.

In the elementary grades, there is a clear disparity by income level in persistence of high achievers. Among initially high-achieving students, only 26% of initially lower-income kindergarteners were still high-achieving in fourth grade, compared to 41% of higher-income students. The difference in persistence rates was driven in part by lower average K–4 growth rates among the lower-income students compared to higher-income students (see Table 5 in the technical appendix).

In the later grades, the rate of persistence was much higher and the disparity by income level was notably smaller. Furthermore, the average growth rates for high-achieving fourth graders were almost identical between the two income-level groups, providing additional evidence for the similarity of trajectories by income in the later grades.

Figure 2. Lower-income students who were initially high-achieving were less likely to stay high-achieving in later school years, particularly in the early grades

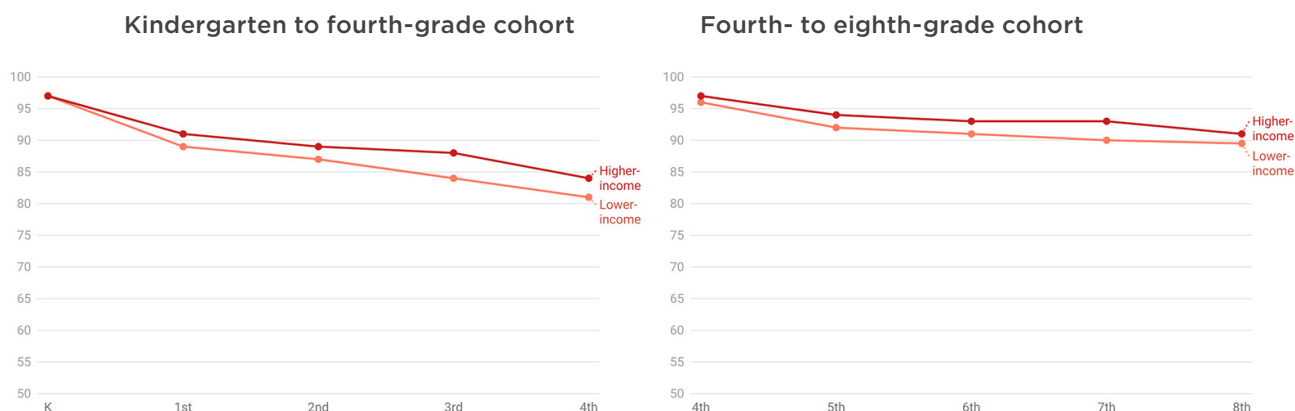


Note. The figure shows the percentage of initially high achievers who were still high achievers at each subsequent grade level. Students did not need to stay above the 95th percentile threshold across all five years. For example, some of the 41% of higher-income initially high achievers who were still high-achieving in fourth grade dropped below the 95th percentile in third grade before returning to high-achieving status in fourth grade.

Lower-income elementary students who dropped from being a high achiever declined slightly further than higher-income students

Finally, we sought to understand whether the lower-income students who did drop from the high-achieving group showed larger score declines than higher-income students. Figure 3 shows the median percentile by grade and income level for initially high achievers who were no longer high achievers in the final fall of each cohort. Lower-income students did fall further in terms of percentile rank on average, but both groups stayed in the top 20% of the distribution in the final grade. In other words, most initially high achievers tended to remain near the top of the distribution year after year.

Figure 3. Initially high achievers who fell below the 95th percentile generally remained near the top of the distribution



Discussion

Our results highlight a persistent and consequential equity challenge in advanced mathematics achievement. Lower-income students made up more than half of the US student body but only about one-fifth of the high-achieving students. This pattern of underrepresentation was evident across grade levels, suggesting that lower-income students are not proportionally represented among the nation's highest math achievers, even at very early points in schooling. Among students who do demonstrate very high achievement, lower-income students are also somewhat less likely than their higher-income peers to remain at the very top of the distribution over time.

The difference in persistence was especially pronounced in the elementary grades. Among students who entered kindergarten as high achievers, lower-income students were substantially less likely than their higher-income peers to remain high achieving by fourth grade. One possible explanation is that early elementary math achievement is especially sensitive to differences in access to [instructional opportunities](#), [home environments](#), and [out-of-school supports](#). Students from higher-income families may be more likely to have access to supplemental learning opportunities, stable schooling conditions, and advocacy for advanced placement or enrichment when their performance signals readiness for more challenging work. Lower-income students who show early advanced achievement may be less consistently identified, encouraged, or provided with opportunities that help sustain accelerated growth.

At the same time, the findings caution against interpreting movement below the 95th percentile as evidence of widespread academic decline. Students who fell below the threshold generally continued to perform at very high levels, often remaining among the highest-performing students nationally. This suggests that high achievement should be viewed as a continuum rather than a strict binary classification.

Notably, among initially high-achieving students in the later grades, lower-income and higher-income students demonstrated nearly identical growth rates over four years. This finding suggests that the primary challenge may not be lower-income students' capacity to learn and grow mathematically once established as high achievers. Instead, the findings point toward issues of identification, recognition, and sustained support, particularly in the early grades when achievement trajectories are first developing.

Overall, the findings underscore the need to treat advanced achievement as an equity issue. Lower-income students are present among the nation's highest math achievers, but they are underrepresented and less likely to remain high achieving across elementary grades. Schools and districts can respond by

- Broadening advanced math learner identification systems (using [automatic acceleration policies](#) and/or [local norms](#) that recognize high achievement within school contexts)
- Monitoring access to advanced opportunities longitudinally rather than treating it as a one-time binary classification
- Ensuring that students from lower-income backgrounds have sustained access to challenging math opportunities

Doing so would help preserve and expand the pool of mathematically talented students while advancing a more equitable vision of excellence.

ABOUT THE AUTHORS

Dr. Megan Kuhfeld is director of growth modeling and data analytics at NWEA®. Her research seeks to understand students' trajectories of academic and social-emotional learning (SEL) and the school and neighborhood influences that promote optimal growth. Dr. Kuhfeld completed a doctorate in quantitative methods in education and a master's degree in statistics from the University of California, Los Angeles (UCLA).



Dr. Scott J. Peters was the director of research consulting partnerships at NWEA when this research was conducted. His research focuses on educational assessment and data use, gifted and talented student identification, equity within advanced educational opportunities, and effectiveness of educational policy. Prior to joining NWEA, for 13 years, Dr. Peters served as a professor of assessment and research methodology at the University of Wisconsin–Whitewater. He received his PhD from Purdue University in educational psychology and applied research methodology.



Dr. Daniel Long was a senior research scientist at NWEA when this research was conducted. His research focuses trends and sources of racial/ethnic and income inequalities on education, inequalities in gifted identification practices, and pedagogies that best help advanced learners. Before joining NWEA, Dr. Long was an assistant professor of sociology at Wesleyan University, director of quantitative research at Research for Action, research director at Connecticut Voices for Children, and research scientist at the National Center for Research on Gifted Education. He has a PhD in sociology from the University of Wisconsin–Madison.



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