DATA POINT

U.S. DEPARTMENT OF EDUCATION
NCES 2019-154 JUNE 2019

Algebra I Coursetaking and Postsecondary Enrollment

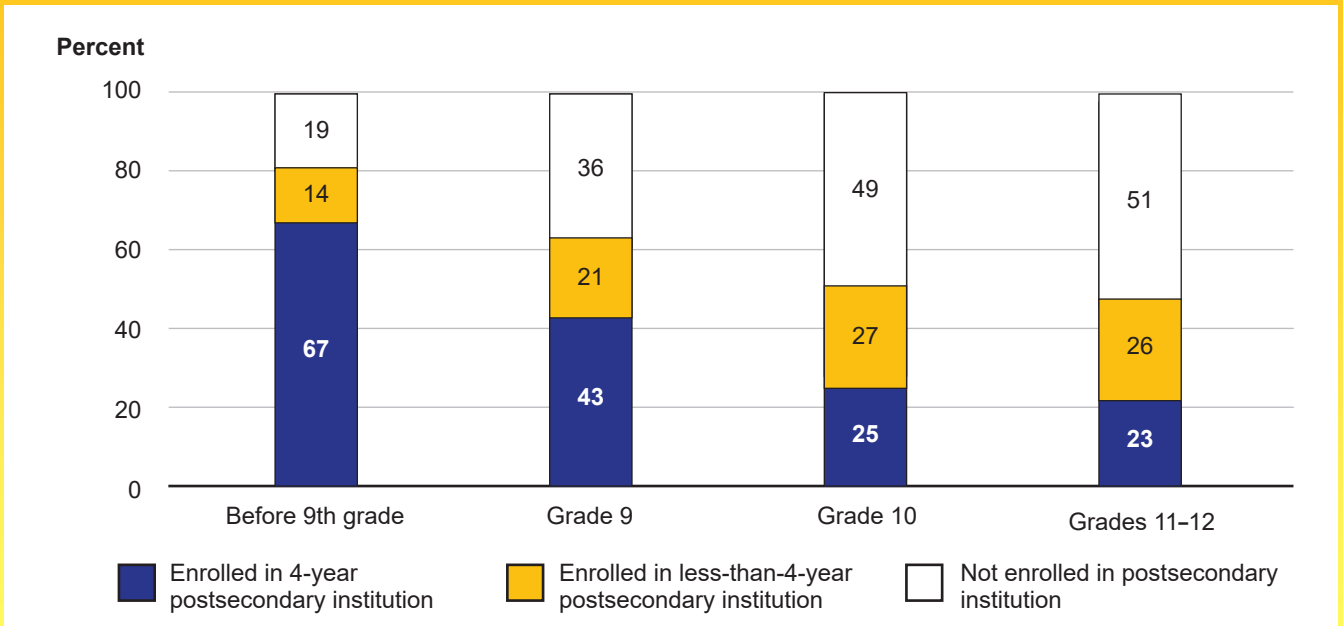
This Data Point uses data from the High School Longitudinal Study of 2009 (HSLS:09), a nationally representative, longitudinal study of more than 23,000 ninth-graders in 2009, to examine the association between the timing of Algebra I coursetaking and enrollment in postsecondary education. HSLS:09 cohort members were asked when they last took Algebra I and whether they had enrolled in a postsecondary institution by February 2016 in the spring of 2016, when most of them were 3 years beyond high school. Readers are cautioned not to draw causal inferences based on the results presented, because the factors that lead to early Algebra I coursetaking could also affect postsecondary enrollment.

Does postsecondary enrollment vary by when students last took Algebra I?

The earlier a student successfully completes Algebra I, the more time he or she has to take advanced math and science courses.[1] Additionally, taking advanced math courses is associated with attending a 4-year college or university (Long, Conger, and Iatarola 2012; Schneider, Swanson, and Riegle-Crumb 1997).

- A higher percentage of students who last took Algebra I before grade 9 enrolled in a 4-year postsecondary institution compared to students who last took Algebra I after grade 8 **(figure 1)**.[2]
- Similarly, a higher percentage of students who last took Algebra I in grade 9 enrolled in a 4-year postsecondary institution compared to students who last took Algebra I in grades 10–12 **(figure 1)**.
- Students who last took Algebra I in grades 9 or 10 enrolled in less-than-4-year postsecondary institutions at higher rates than students who last took Algebra I before grade 9 **(figure 1)**.

FIGURE 1. Percentage distribution of fall 2009 ninth-graders enrolled in postsecondary institutions by February 2016, by the grade in which they last took Algebra I



NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09) Second Follow-up Restricted-Use Data File (NCES 2018-141).

This Data Point uses data from the High School Longitudinal Study of 2009 (HSLS:09), a nationally representative sample survey. To learn more, visit https://nces.ed.gov/surveys/hsls09/.
For questions about content or to view this report online, go to https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019154.

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Does the timing of Algebra I coursetaking vary by race/ethnicity?[3]

- A higher percentage of Asian students last took Algebra I before grade 9 (54 percent) than did White (33 percent), Hispanic (23 percent), or Black (15 percent) students **(figure 2)**.
- Black students reported the lowest percentage of Algebra I coursetaking before grade 9 (15 percent) **(figure 2)**.
- Black and Hispanic students reported higher rates of Algebra I coursetaking in grade 9 (70 percent and 65 percent, respectively) than did White (57 percent) and Asian (41 percent) students **(figure 2)**.

Endnotes

[1] The data presented in this Data Point on when a student last took Algebra I do not necessarily indicate successful completion of Algebra I.

[2] Reporting standards were not met for the less than 1 percent of students who never took Algebra I. Those students have been excluded from the analyses in this Data Point.

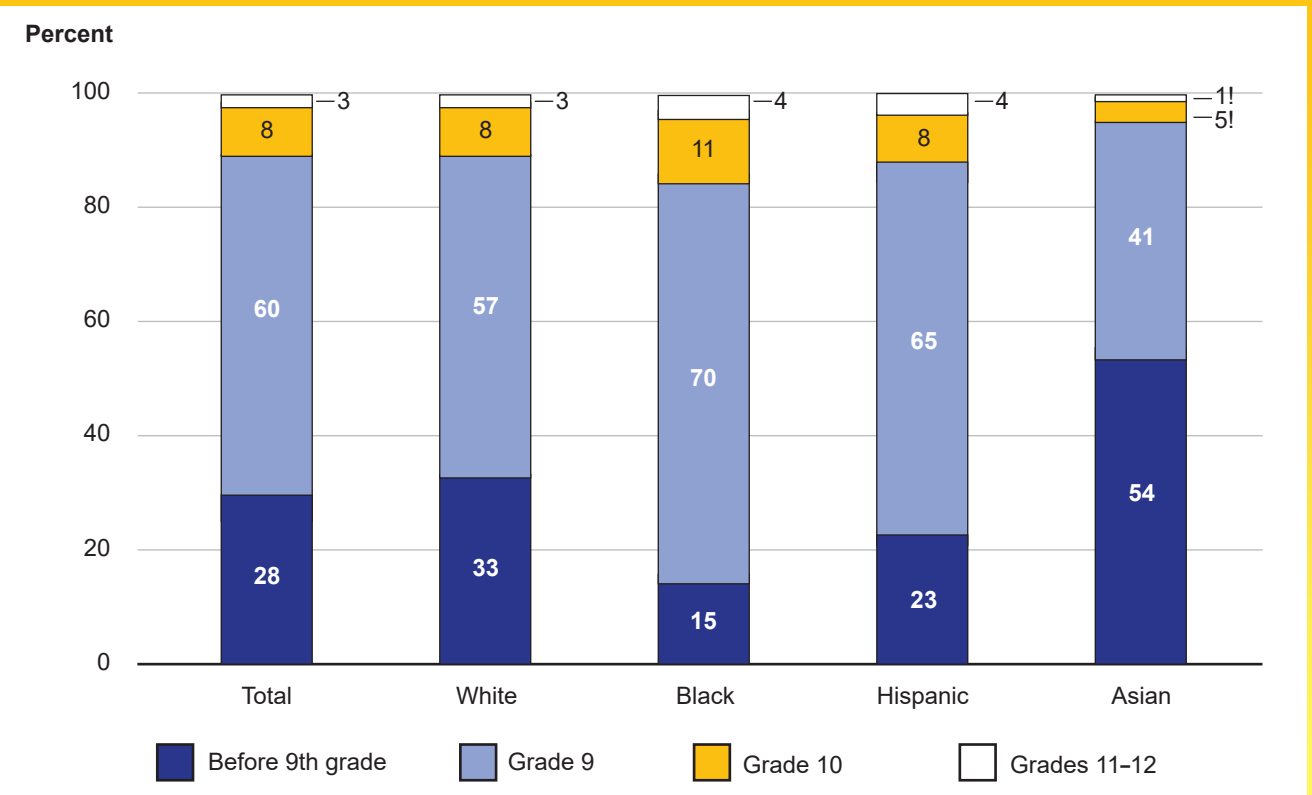
[3] Consistent with the overall population, less than 1 percent of students in each race/ethnicity category never took Algebra I. Thus, the data reported represent more than 99 percent of students of White, Black, Hispanic, and Asian race/ethnicity.

References

Long, M.C., Conger, D., and Iatarola, P. (2012). Effects of High School Coursetaking on Secondary and Postsecondary Success. *American Educational Research Journal*, *49*(2): 285–322.

Schneider, B., Swanson, C. B., and Riegle-Crumb, C. (1997). Opportunities For Learning: Course Sequences and Positional Advantages. *Social Psychology of Education, 2*(1): 25–53.

FIGURE 2. Percentage distribution of the grade in which fall 2009 ninth-graders last took Algebra I, by race/ethnicity: 2016



! Interpret data with caution. Estimate is unstable because the standard error represents more than 30 percent of the estimate.
NOTE: Detail may not sum to totals because of rounding. Black includes African American, and Hispanic includes Latino. Race categories exclude persons of Hispanic ethnicity. Students who identified as Pacific Islanders, American Indians/Alaska Natives, or Two or more races are included in the total but not as standalone categories because reporting standards were not met.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09) Second Follow-up Restricted-Use Data File (NCES 2018-141).

This NCES Data Point presents information about education topics of current interest. It was authored by Allison LaFave of AnLar. Estimates based on samples are subject to sampling variability, and apparent differences may not be statistically significant. All stated differences are statistically significant at the .05 level using a two-tailed Student's *t* test. No adjustments were made for multiple comparisons. In the design, conduct, and data processing of NCES surveys, efforts are made to minimize effects of nonsampling errors, such as item response, measurement error, data processing error, or other systematic error.