

Differences in Postsecondary Enrollment Among Recent High School Completers

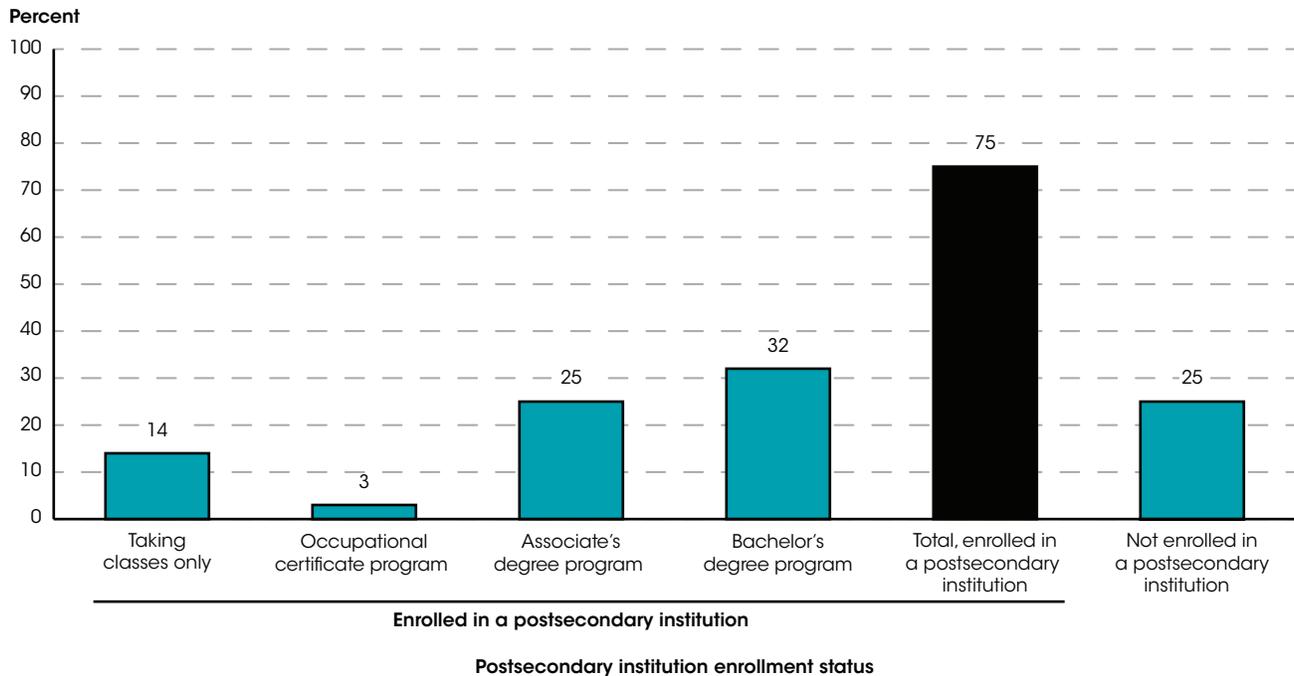
In fall 2013, among fall 2009 ninth-graders who had completed high school, three-quarters were enrolled at postsecondary institutions: some 14 percent were taking postsecondary classes only and were not enrolled in a degree program, 3 percent were enrolled in occupational certificate programs, 25 percent were enrolled in associate's degree programs, and 32 percent were enrolled in bachelor's degree programs. The remaining 25 percent were not enrolled in a postsecondary institution at all.

The attainment of postsecondary education credentials is associated with enhanced employment opportunities and increased earning potential. Both the financial returns and the nonfinancial returns (such as its positive effects on preventive health care use) are evidence of the importance of postsecondary education to the well-being of individuals and the society as a whole.^{1,2} In addition, recent results from the [Program for the International Assessment of Adult Competencies \(PIAAC\)](#) allow for direct comparisons of a person's knowledge and skills with the person's level of education. PIAAC data indicate that among young adults ages 16–34, the higher the level of education completed, the larger the percentages of young adults at the top proficiency levels in the domains of literacy, numeracy, and problem-solving in technology-rich environments, and the smaller the percentages at the bottom proficiency levels.^{3,4}

This Spotlight focuses on differences in the postsecondary enrollment status of recent high school completers (specifically, whether they are enrolled, and if they are

enrolled, whether they are taking classes only or are enrolled in an occupational certificate, associate's degree, or bachelor's degree program). The Spotlight examines how other variables, such as student demographics, socioeconomic status (SES), high school academic characteristics (i.e., mathematics coursetaking and grade point average [GPA]), and student expectations are related to students' postsecondary enrollment status. This Spotlight focuses on fall 2009 ninth-graders who graduated from high school by September 2013.⁵ Data were obtained from the High School Longitudinal Study of 2009 (HSLs:09) and its follow-up studies.⁶ HSLs:09 followed a nationally representative cohort of students who were in the 9th grade in fall 2009 and surveyed them again in spring 2012 as well as the last half of 2013, after most students had graduated from high school. Data from the HSLs:09 and its follow-up studies provide a unique opportunity for researchers to investigate the pathways into postsecondary education, as well as the educational and social factors that are associated with students' choice of schooling after high school.

Figure 1. Percentage distribution of fall 2009 ninth-graders who had completed high school, by fall 2013 postsecondary enrollment status: 2013



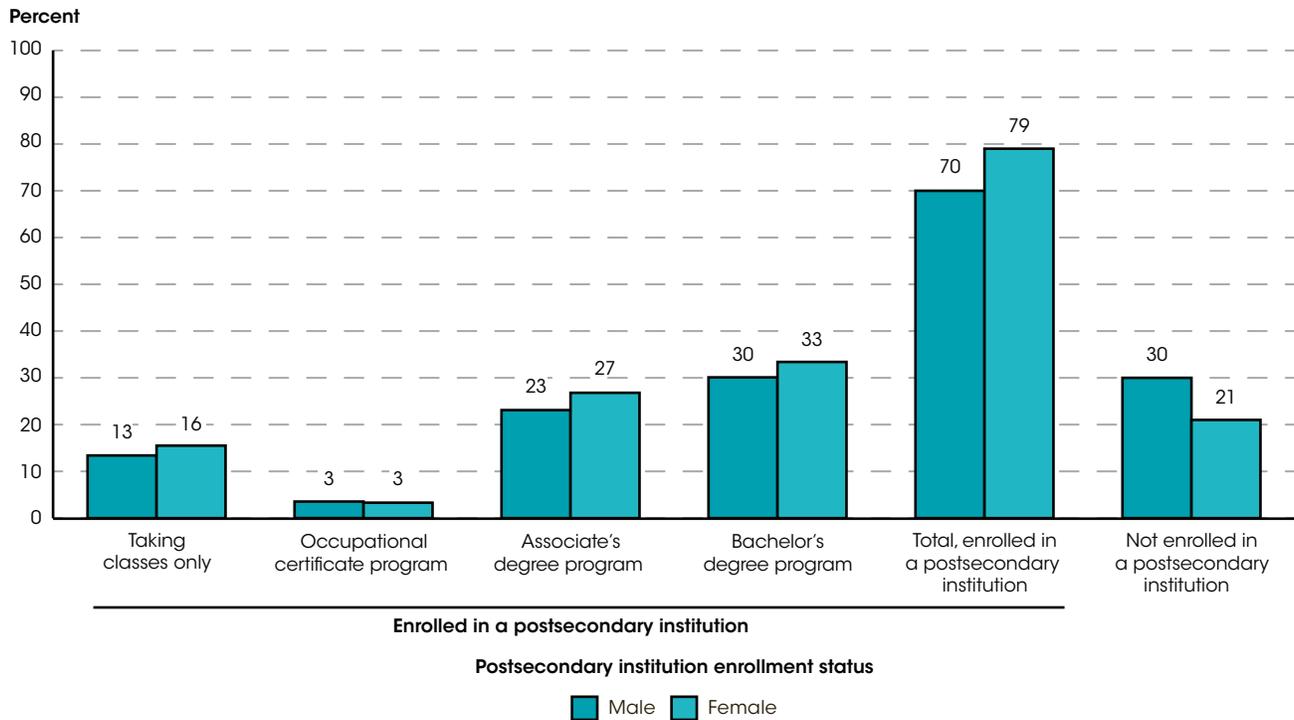
NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSL:09), Base-Year, First Follow-up, 2013 Update, and High School Transcripts Restricted-Use Data File. See *Digest of Education Statistics 2015*, table 302.43.

In fall 2013, among fall 2009 ninth-graders who had completed high school, three-quarters were enrolled at postsecondary institutions: 14 percent were taking postsecondary classes without being enrolled in a particular program, 3 percent were enrolled in

occupational certificate programs, 25 percent were enrolled in associate's degree programs, and 32 percent were enrolled in bachelor's degree programs. The remaining 25 percent were not enrolled in a postsecondary institution at all.

Figure 2. Percentage distribution of fall 2009 ninth-graders who had completed high school, by fall 2013 postsecondary enrollment status and sex: 2013

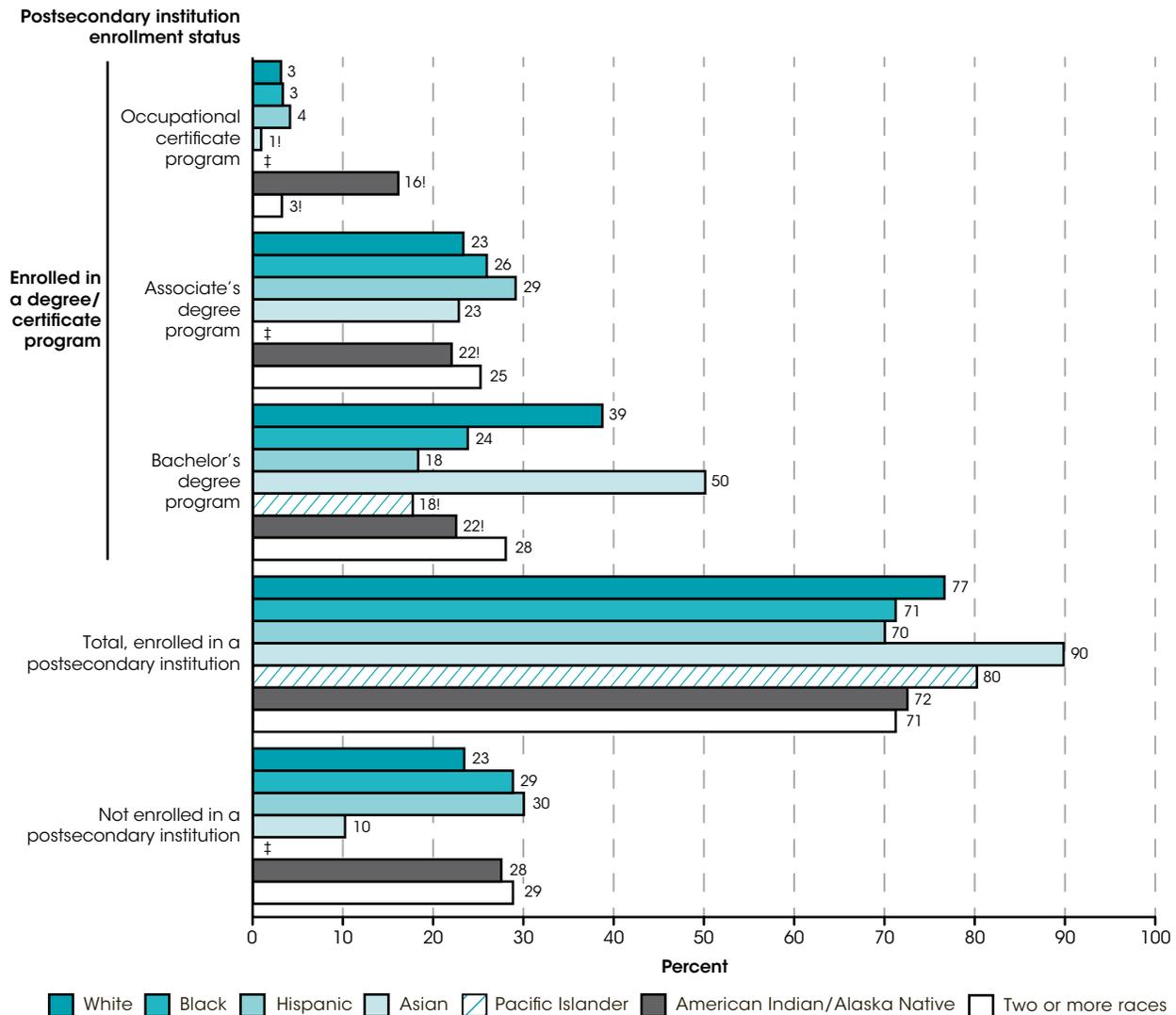


NOTE: Detail may not sum to totals because of rounding. Although rounded numbers are displayed, the figures are based on unrounded estimates.
 SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HLS:09), Base-Year, First Follow-up, 2013 Update, and High School Transcripts Restricted-Use Data File. See *Digest of Education Statistics 2015*, table 302.43.

Postsecondary enrollment status differed by individual and family characteristics, including sex, race, and SES. Some 70 percent of male students were enrolled in a postsecondary institution, compared with 79 percent of female students. Enrollment was higher for female than

for male students in bachelor's degree programs (33 vs. 30 percent) and associate's degree programs (27 vs. 23 percent). The percentages of males and females enrolled in occupational certificate programs; however, were not measurably different.

Figure 3. Percentage distribution of fall 2009 ninth-graders who had completed high school, by fall 2013 postsecondary enrollment status and race/ethnicity: 2013



! Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 and 50 percent.

‡ Reporting standards not met. Either there are too few cases for a reliable estimate or the coefficient of variation (CV) is 50 percent or greater.

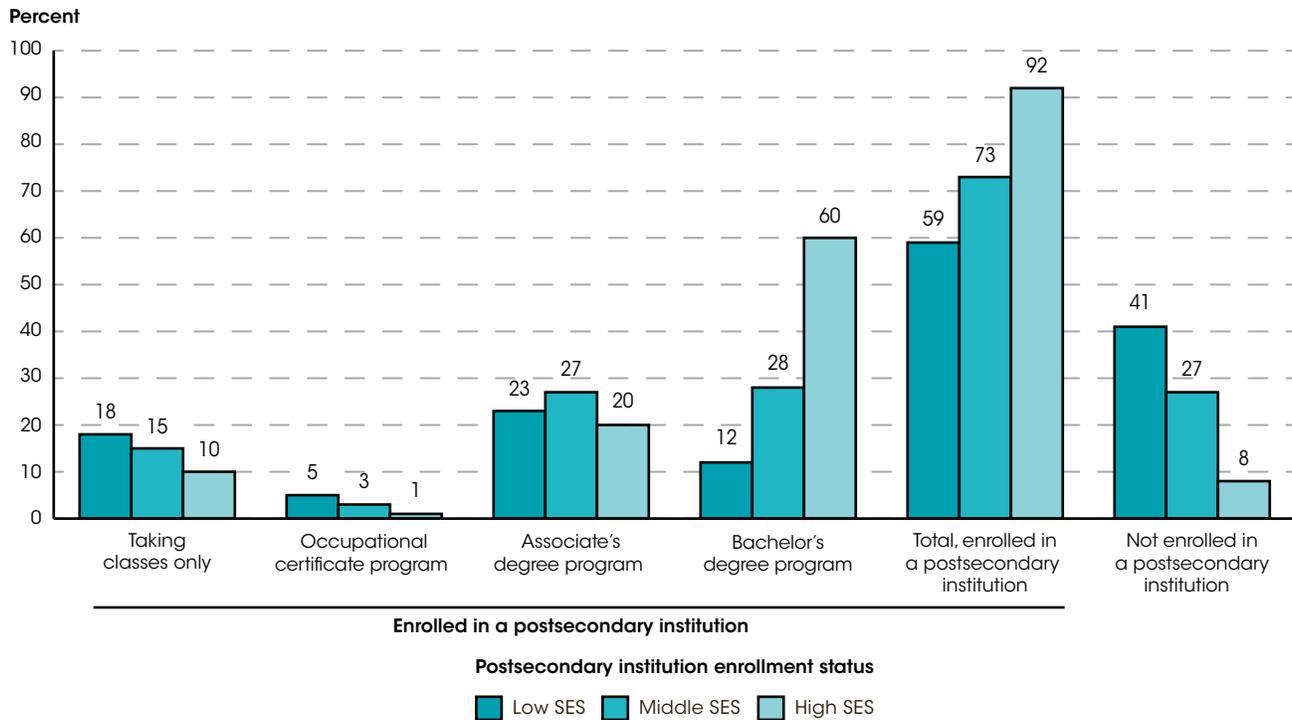
NOTE: Total enrolled in a postsecondary institution includes students who were taking classes only, although they are not shown separately in the figure. Detail may not sum to totals because of rounding. Race categories exclude persons of Hispanic ethnicity. Although rounded numbers are displayed, the figures are based on unrounded estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSL:09), Base-Year, First Follow-up, 2013 Update, and High School Transcripts Restricted-Use Data File. See *Digest of Education Statistics 2015*, table 302.43.

Among fall 2009 ninth-graders who had completed high school, postsecondary enrollment status differed by race/ethnicity. The findings for overall postsecondary enrollment are similar to those for enrollment in bachelor's degree programs. Enrollment in bachelor's degree programs was highest for Asian students: 50 percent of these students were enrolled in fall 2013. Enrollment in these programs was also higher for White students (39 percent) than for students of Two or more races (28 percent), Black students (24 percent), Hispanic students (18 percent), and Pacific Islander students (18 percent). For associate's degree programs, the percentage of Hispanic students (29 percent) enrolled in these programs was higher than the percentages of their White and Asian counterparts (23 percent each). The findings for students in occupational certificate

programs were the opposite of those for bachelor's degree students. The percentage of students enrolled in an occupational certificate program was lower for Asian students (1 percent) than for American Indian/Alaska Native students (16 percent), Hispanic students (4 percent), White students (3 percent), Black students (3 percent), and students of Two or more races (3 percent). In addition, higher percentages of Hispanic students (30 percent), Black students (29 percent), and students of Two or more races (29 percent) were not enrolled in a postsecondary institution, compared with the percentages of White (23 percent) and Asian (10 percent) students. The percentage of American Indian/Alaska Native students (28 percent) who were not enrolled in a postsecondary institution was also higher than that of Asian students.

Figure 4. Percentage distribution of fall 2009 ninth-graders who had completed high school, by fall 2013 postsecondary enrollment status and socioeconomic status (SES): 2013



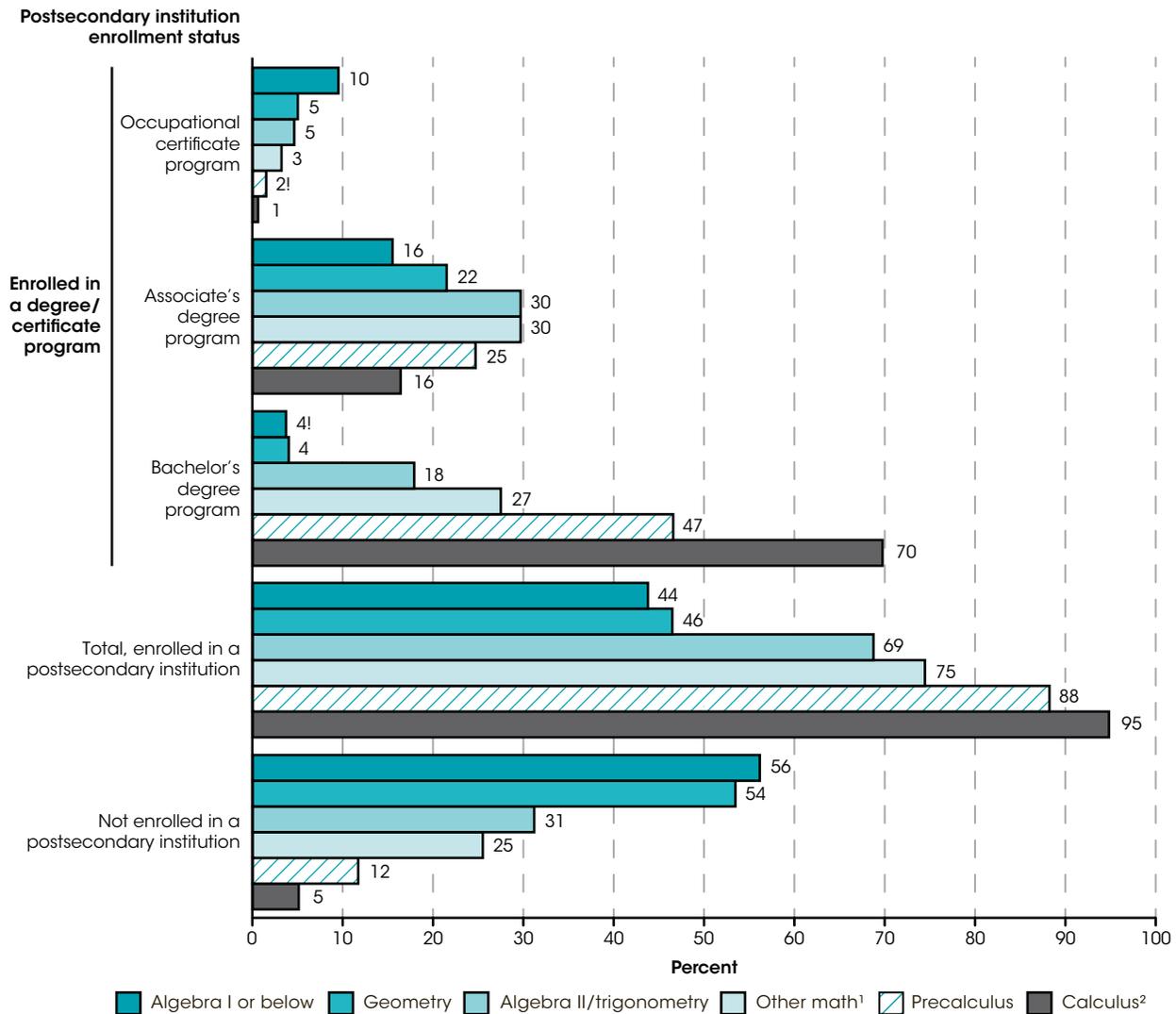
NOTE: SES was measured by a composite score based on parental education and occupations, family income, and school urbanicity in the student's 11th-grade year. The weighted SES distribution (weighted by W2STUDENT) was divided into five equal groups. Low SES corresponds to the lowest one-fifth of the population, and high SES corresponds to the highest one-fifth of the population. The three fifths in the middle were combined to form the middle SES category. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSL:09), Base-Year, First Follow-up, 2013 Update, and High School Transcripts Restricted-Use Data File. See *Digest of Education Statistics 2015*, table 302.43.

Students from families with a low SES are less likely than those from families with a higher SES to obtain higher levels of postsecondary education.⁷ In this Spotlight, postsecondary enrollment status also differed by SES, and the findings for overall postsecondary enrollment are similar to those for enrollment in bachelor's degree programs. The percentage of high-SES students enrolled in a bachelor's degree program was more than twice as high as the percentage of middle-SES students enrolled in a bachelor's degree program (60 vs. 28 percent), and both percentages were higher than the percentage of low-SES students (12 percent) enrolled in a bachelor's degree program. The pattern for enrollment in associate's degree programs was different: the percentage enrolled in

an associate's degree program was higher for middle-SES students (27 percent) than for low- and high-SES students (23 and 20 percent, respectively). Turning to enrollment in occupational certificate programs, these findings were the opposite of those observed for bachelor's degree students. The percentage enrolled in an occupational certificate program was highest for low-SES students (5 percent) and lowest for high-SES students (1 percent). Similarly, a higher percentage of low-SES students (41 percent) than of middle-SES students (27 percent) were not enrolled in a postsecondary institution, and both percentages were larger than the percentage of high-SES students (8 percent) who were not enrolled in a postsecondary institution.

Figure 5. Percentage distribution of fall 2009 ninth-graders who had completed high school, by fall 2013 postsecondary enrollment status and highest mathematics course completed in high school: 2013



! Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 and 50 percent.

¹Includes integrated math, algebra III, probability and statistics, and non-calculus Advanced Placement (AP) or International Baccalaureate (IB) courses.

²Includes AP/IB calculus.

NOTE: Total enrolled in a postsecondary institution includes students who were taking classes only, although they are not shown separately in the figure. Detail may not sum to totals because of rounding. Although rounded numbers are displayed, the figures are based on unrounded estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSL:09), Base-Year, First Follow-up, 2013 Update, and High School Transcripts Restricted-Use Data File. See *Digest of Education Statistics 2015*, table 302.43.

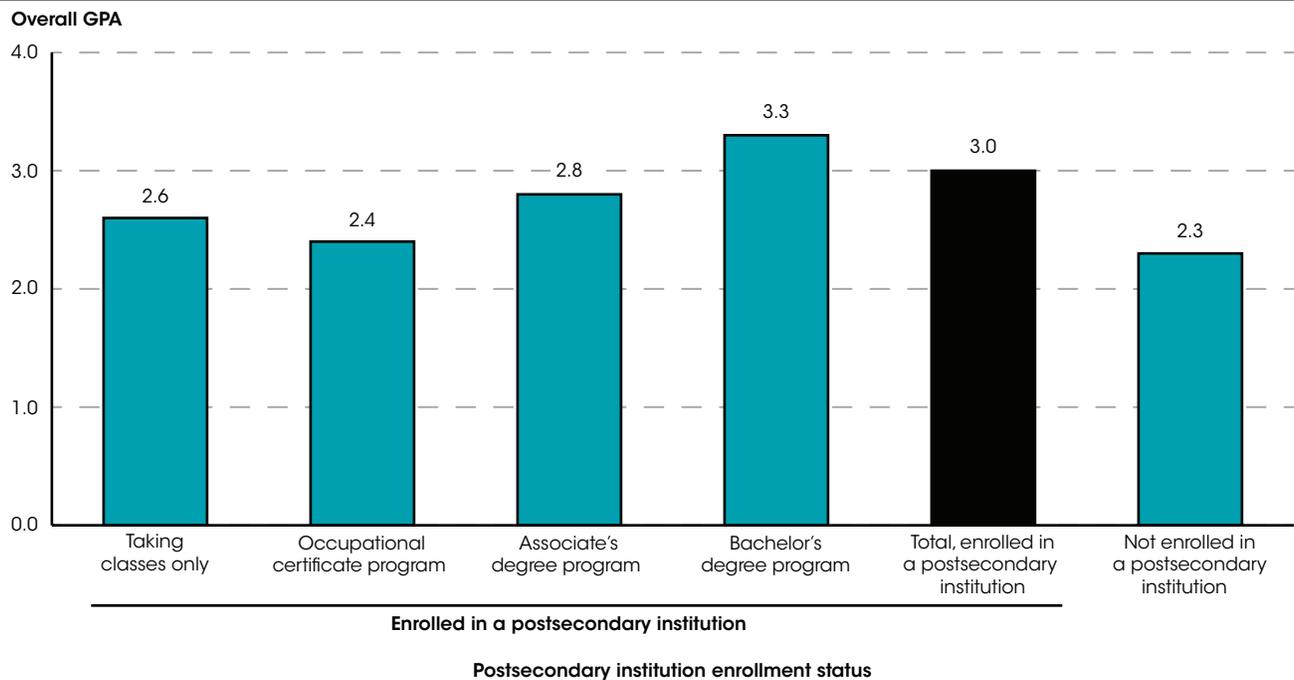
Students' high school academic characteristics, such as mathematics coursetaking and GPA in high school are strong predictors of students' success in postsecondary education.^{8,9} Postsecondary enrollment status also differed in this analysis by mathematics coursetaking and GPA. Enrollment in postsecondary institutions, overall, as well as enrollment in bachelor's degree programs specifically was highest for students with higher levels of high school math coursetaking.¹⁰ The majority of students whose highest mathematics course was calculus (70 percent) enrolled in a bachelor's degree program in fall 2013. This percentage was also higher for students whose highest level of mathematics was precalculus (47 percent) than for students whose highest level was

other math (27 percent) and algebra II or trigonometry (18 percent); the percentage was lowest for students who completed their highest mathematics course in lower-level courses such as algebra I or below (4 percent) and geometry (4 percent). Enrollment in associate's degree programs was higher for those who completed mid-level mathematics courses such as algebra II or trigonometry (30 percent) and other math (30 percent) than for those who completed both higher levels of mathematics courses (such as calculus [16 percent] and precalculus [25 percent]) and lower levels of mathematics courses (such as algebra I or below [16 percent] and geometry [22 percent]). Overall coursetaking patterns were similar for students who were enrolled in an occupational certificate program

and those who were not enrolled in a postsecondary institution. For example, more than half of students whose highest mathematics course was algebra I or below (56 percent) and students whose highest mathematics course was geometry (54 percent) were not enrolled in a postsecondary institution, compared with 5 percent of

students whose highest mathematics course was calculus. Additionally, 10 percent of students whose highest mathematics course was algebra I or below were enrolled in occupational certificate programs, compared with 1 percent of students whose highest mathematics course was calculus.

Figure 6. Average overall grade point average (GPA) earned in high school of fall 2009 ninth-graders who had completed high school, by students' fall 2013 postsecondary institution enrollment status: 2013



NOTE: GPA ranges from 0 to 4.

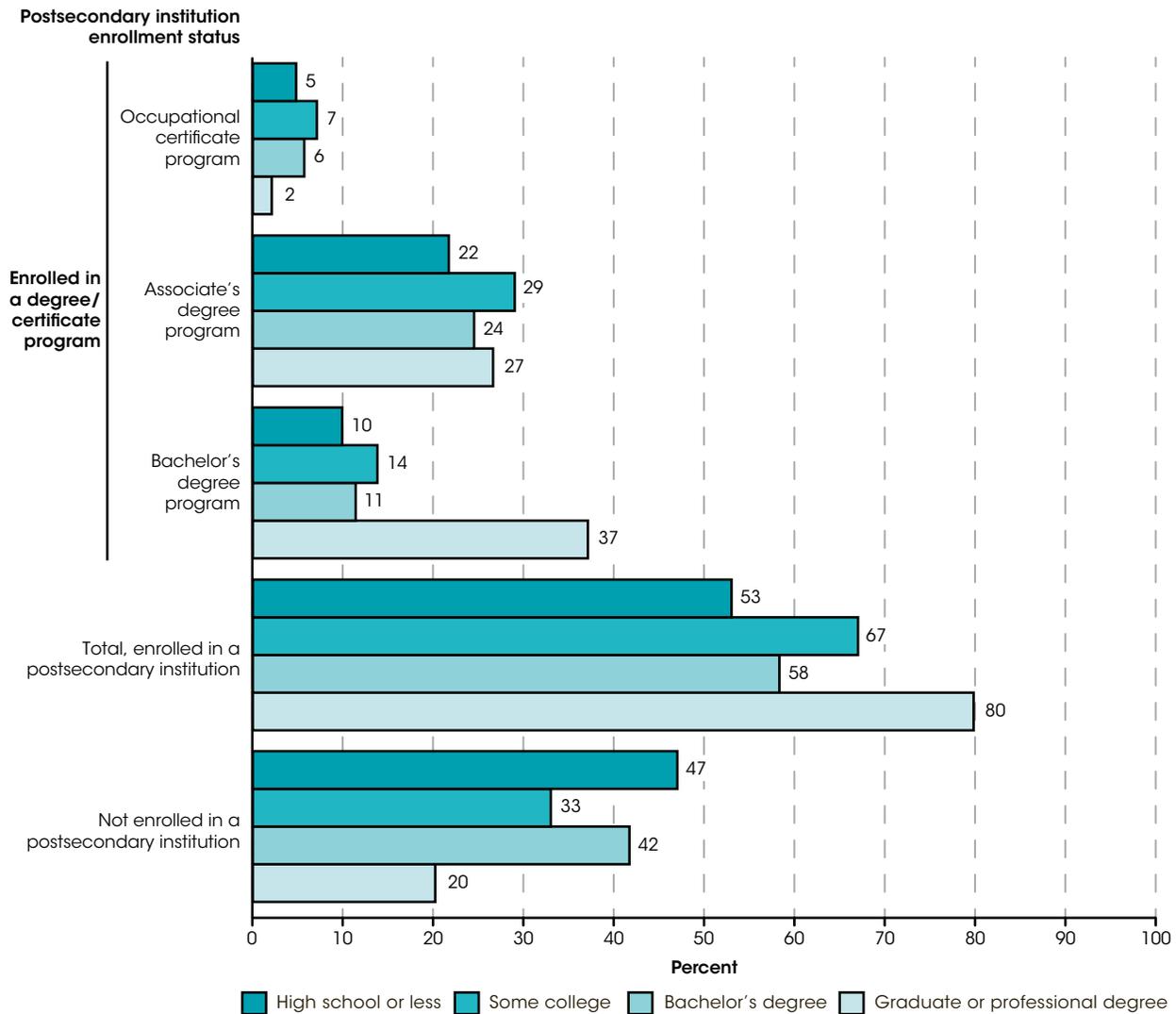
SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSL:09), Base-Year, First Follow-up, 2013 Update, and High School Transcripts Restricted-Use Data File. See *Digest of Education Statistics 2015*, table 302.43.

The average high school GPA was 2.8 for fall 2009 ninth-graders who had completed high school by 2013. Among students who were enrolled in a postsecondary degree or certificate program, the average high school GPA was highest for students who were enrolled in a bachelor's degree program (3.3) and lowest for those who were enrolled in an occupational certificate program (2.4). The average high school GPA of students who were not enrolled in a postsecondary institution (2.3) was lower than the average GPAs of students who were in a bachelor's degree program, students who were in an associate's degree program (2.8), and students who were taking classes only (2.6). But, it was not measurably

different from the average GPA of students who were enrolled in an occupational certificate program (2.4).

Students' educational expectations have been shown to relate to their eventual educational attainment.¹¹ HSL:09 collected data on ninth-graders' educational expectations in fall 2009: some 15 percent of these students expected to complete high school or less, 7 percent expected to complete some college, 17 percent expected to complete a bachelor's degree, and 39 percent expected to complete a graduate or professional degree (see High School Longitudinal Study of 2009, [table 1](#)). In addition, 22 percent of these students did not know what level of education they would complete.

Figure 7. Percentage distribution of fall 2009 ninth-graders who had completed high school, by fall 2013 postsecondary enrollment status and expected levels of educational attainment at 9th grade: 2013



NOTE: Total enrolled in a postsecondary institution includes students who were taking classes only, although they are not shown separately in the figure. Detail may not sum to totals because of rounding. Although rounded numbers are displayed, the figures are based on unrounded estimates. SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSL:09), Base-Year, First Follow-up, 2013 Update, and High School Transcripts Restricted-Use Data File. See *Digest of Education Statistics 2015*, table 302.43.

In this analysis, students' educational expectations were associated with their postsecondary enrollment status, and the findings for overall postsecondary enrollment were similar to those for enrollment in bachelor's degree programs. Students whose 9th-grade educational expectations were a graduate or professional degree were enrolled in bachelor's degree programs by 2013 at a higher rate (37 percent) than students whose 9th-grade educational expectations were high school or less (10 percent), a bachelor's degree (11 percent), or some college (14 percent). In contrast, students whose

educational expectations at 9th grade were a graduate or professional degree were enrolled in occupational certificate programs at a lower rate (2 percent) than students whose educational expectations at 9th grade were high school or less (5 percent), a bachelor's degree (6 percent), or some college (7 percent). In addition, 47 percent of students whose educational expectations at 9th grade were high school or less were not enrolled in a postsecondary institution by 2013 versus 20 percent of students whose expectations at 9th grade were a graduate or professional degree.

Endnotes:

¹ Baum, S., Ma, J., and Payea, K. (2013). *Education Pays 2013: The Benefits of Higher Education for Individuals and Society* (Trends in Higher Education Series Report). New York: The College Board. Retrieved from <https://trends.collegeboard.org/sites/default/files/education-pays-2013-full-report.pdf>.

² Fletcher, J.M., and Frisvold, D.E. (2009). Higher Education and Health Investments: Does More Schooling Affect Preventive Health Care Use? *Journal of Human Capital*, 3(2), 144–176. Retrieved from <http://doi.org/10.1086/645090>.

³ Rampey, B.D., Finnegan, R., Goodman, M., Mohadjer, L., Krenzke, T., Hogan, J., and Provasnik, S. (2016). *Skills of U.S. Unemployed, Young, and Older Adults in Sharper Focus: Results From the Program for the International Assessment of Adult Competencies (PIAAC) 2012/2014: First Look* (NCES 2016-039). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved March 22, 2016, from <http://nces.ed.gov/pubns2016/2016039.pdf>.

⁴ Zinshteyn, M. (2016, March 11). Americans With Bachelor Degrees Lag Behind Other Nations in Labor Skills. *The Rundown* [News blog]. PBS NewsHour. Retrieved from <http://www.pbs.org/newshour/rundown/americans-with-bachelor-degrees-lag-behind-other-nations-in-labor-skills/>.

⁵ The population of interest for this Spotlight is recent high school completers, or fall 2009 ninth-graders who graduated from high school by September 2013. For ease

of reference in the text, this group will also be referred to as “students.”

⁶ High School Longitudinal Study of 2009 (HSLs:09), Base-Year, First Follow-up, 2013 Update, and High School Transcripts Restricted-Use Data File.

⁷ Long, B.T. (2007). The Contributions of Economics to the Study of College Access and Success. *Teachers College Record*, 109(10): 2367–2443.

⁸ Hiss, W., and Franks, V.W. (2014). *Defining Promise: Optional Standardized Testing Policies in American College and University Admissions*. Arlington, VA: The National Association for College Admission Counseling (NACAC). Retrieved from <http://www.nacacnet.org/research/research-data/nacac-research/Documents/DefiningPromise.pdf>.

⁹ Levine, P.B., and Zimmerman, D.J. (1995). The Benefit of Additional High-School Math and Science Classes for Young Men and Women. *Journal of Business and Economic Statistics*, 13(2): 137–149.

¹⁰ The math sequence is as follows: below algebra I, algebra I (combined here), geometry, algebra II/trigonometry, other math, precalculus, and calculus. Other math includes courses such as integrated math, algebra III, probability and statistics, and non-calculus Advanced Placement (AP) or International Baccalaureate (IB) courses.

¹¹ Jacob, B.A., and Wilder, T. (2011). Educational Expectations and Attainment. In G.J. Duncan and R.J. Murnane (Eds.), *Whither Opportunity? Rising Inequality and the Uncertain Life Chances of Low-Income Children*. New York, NY: Russell Sage Press.

Reference tables: *Digest of Education Statistics 2015*, table 302.43; High School Longitudinal Study of 2009 table 1 at https://nces.ed.gov/surveys/hsls09/tables/educationalexpectations2009_01.asp

Related indicators: Educational Attainment of Young Adults, Undergraduate Enrollment, Immediate Transition to College, Postsecondary Attainment: Differences by Socioeconomic Status [*The Condition of Education 2015 Spotlight*]

Glossary: Associate’s degree, Bachelor’s degree, Certificate, College, Educational attainment, Enrollment, High school completer, Postsecondary education, Racial/ethnic group, Socioeconomic status (SES)