# U.S. DEPARTMENT OF EDUCATION AUGUST 2019 NCES 2019-430

# Advanced Placement, International Baccalaureate, and Dual-Enrollment Courses: Availability, Participation, and Related Outcomes for 2009 Ninth-Graders: 2013

Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses are generally regarded as academically rigorous courses for high school students. These courses have seen a surge in enrollment between 2003 and 2013 (College Board 2014; International Baccalaureate Organization 2008, 2013; Kleiner and Lewis 2005; Marken, Gray, and Lewis 2013). AP offers college-level courses developed by the College Board and taught by high school teachers at participating secondary schools in the United States. High school students who perform well on an AP subject exam may earn college credits or skip lower level courses at U.S. postsecondary institutions where they later enroll (College Board 2016). Students who take IB courses, developed by the International Baccalaureate Organization, often get these same benefits, but those who complete all courses and components of the IB diploma curriculum are also

granted an internationally recognized diploma (International Baccalaureate Organization 2012).

Whereas AP and IB courses are high school courses that cover college-level material, dual-enrollment courses (also referred to as *dual credit*) are college courses. Upon successful completion of dual-enrollment courses, high school students may earn high school credits as well as college credits that appear on a postsecondary transcript (An and Taylor 2019). Some high schools have formal dual-enrollment programs that provide guidelines for participation and may offer courses on site. Other high schools do not have formal programs but may grant high school credit for college credits earned by students who enroll in college courses on their own.

These Web Tables provide the most recent national statistics on the availability of these academically

rigorous courses and programs, the percentage of graduates who earn high school credits in them, and the postsecondary outcomes of students who earned varying numbers of such credits. They use nationally representative survey and transcript data collected through the High School Longitudinal Study of 2009 (HSLS:09), conducted by the U.S. Department of Education's National Center for Education Statistics (NCES).

The total number of credits earned in AP, IB, and dual-enrollment courses can only be determined with confidence for HSLS:09 students with complete transcript data; therefore, the estimates in these tables are based on the 79 percent of students who both had received a high school diploma before September 2013, when the high school transcript data collection began, and had complete transcript data. Also, AP and IB courses are combined in these

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estimates because IB courses have relatively small enrollment and many colleges and universities treat entering students who have successfully completed AP and IB courses similarly; that is, they may award college credit to these students, place them in higher level courses, or both.

The first four tables show the availability of AP courses, IB courses, and dualenrollment *programs* (as opposed to dual-enrollment courses) to students with different demographic and social characteristics and in different school settings. Estimates in these tables reflect the offerings of the 9th-graders' base-year schools as reported by their counselors at the time of the first follow-up data collection in the spring term of 2012 when most sample members were 11th-graders. First follow-up data are the most useful HSLS:09 data on AP, IB, and dualenrollment offerings because most students take these courses after the ninth grade, and the first follow-up counselor survey has more contextual data on offerings than the base-year counselor survey does. These four tables include only students with complete transcripts who received their high school diplomas before September 2013 from the schools they attended in the fall term of 2009 as ninth-grade students (68 percent of 2009 ninth-graders). This is because only counselors at those schools were administered the counselor survey; the first follow-up did not administer counselor surveys in schools to which

students moved after the fall term of ninth grade. Tables 5–14, however, include students who transferred to other schools after the fall term of ninth grade. Table 15 shows the characteristics of the following inference populations: (1) all fall-term 2009 ninth-grade students, (2) fall-term 2009 ninth-grade students who received a diploma before September 2013, (3) fall-term 2009 ninth-grade students who received a diploma before September 2013 and had a complete transcript (tables 5-14), and (4) fall-term 2009 ninth-grade students who received a diploma from their ninth-grade school before September 2013 and had a complete transcript (tables 1-4).

Tables 5–7 present the percentage of high school graduates who earned credits in AP, IB, and dual-enrollment courses, both overall and disaggregated by selected student and parent characteristics, including race/ethnicity and socioeconomic status. Tables 8-11 show standardized assessment scores of students with selected characteristics. Table 8 presents the percentage of AP test takers who scored 3 points or above on a 5-point scale (usually considered a passing score by postsecondary institutions) on selected AP exams. Tables 9-11 present college admissions test scores by the number and type of credits (i.e., AP, IB, or dual-enrollment) students earned and whether they took a dual-enrollment course on a college campus.

Tables 12–14 show the percentage of high school graduates who reported enrolling in an associate's or bachelor's degree program in the fall of 2013, disaggregated by the number and type of credits (i.e., AP, IB, or dual-enrollment) students earned, whether they took a dual-enrollment course on a college campus, and selected student and parent characteristics.

#### **RELATED NCES REPORTS**

Dual Enrollment: Participation and Characteristics (NCES 2019-176). <a href="https://nces.ed.gov/pubsearch/">https://nces.ed.gov/pubsearch/</a>
pubsinfo.asp?pubid=2019176.

High School Longitudinal Study of 2009 (HSLS:09) 2013 Update and High School Transcript Study: A First Look at Fall 2009 Ninth-Graders in 2013 (NCES 2015-037rev). https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015037rev.

High School Longitudinal Study of 2009 (HSLS:09) 2013 Update and High School Transcript Data File Documentation (NCES 2015-036).

https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015036.

Dual Enrollment Programs and Courses for High School Students at Postsecondary Institutions: 2010–11 (NCES 2013-002).

https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2013002.

Dual Credit and Exam-Based Courses in U.S. Public High Schools: 2010–11 (NCES 2013-001).

https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2013001.

Dual Credit and Exam-Based Courses in U.S. Public High Schools: 2002–03 (NCES 2005-009).

https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005009.

Dual Enrollment of High School Students at Postsecondary Institutions: 2002–03 (NCES 2005-008).

https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005008.

#### DATA

The estimates presented in these Web Tables are based on nationally representative data from HSLS:09, a study that is conducted by NCES and follows more than 23,000 students who were ninth-graders in 944 public and private high schools in 2009. HSLS:09 is primarily focused on students' trajectories from the beginning of high school into postsecondary education, the workforce, and beyond, including data on the courses, majors, and careers that students pursue. The study pays particular attention to students' experience in science, technology, engineering, and mathematics fields.

Data were collected via surveys of students, their parents, math and science teachers, school administrators, and school counselors in the ninthgrade year (2009) and first follow-up year (2012). In both years, student assessments in algebraic skills, reasoning, and problem solving were administered, providing information on students' math performance.

In 2013, when most sample members had recently graduated from high school, an update survey (referred to as the 2013 Update) was administered to sample members or their parents. Also in 2013, the HSLS:09 High School **Transcript Collection collected** transcripts from all high schools the students had attended, including schools to which they had transferred since they were sampled in 2009. For an overview of the survey methodology used for the HSLS:09 High School Transcript Collection, see the *High* School Longitudinal Study of 2009 (HSLS:09) 2013 Update and High School Transcripts Data File Documentation (Ingels et al. 2015).

#### **ANALYSIS**

The estimates in all tables were calculated using data contained in the High School Longitudinal Study of 2009 (HSLS:09) 2013 Update and High School Transcripts Restricted-use Data File (U.S. Department of Education 2015). The estimates and standard errors in these Web Tables were generated using Stata. Variance estimates were computed using the balanced repeated replication method to account for HSLS:09's complex sampling design. All estimates were generated using the sample weight W3W1W2STUTR and replicate weights W3W1W2STUTR001-W3W1W2STUTR200. The Stata programs that generate the estimates in these tables are available from https://nces.ed.gov/pubsearch/ pubsinfo.asp?pubid=2019430.

The analysis sample included all 2009 ninth-graders who had graduated from high school by September 2013 and, to ensure accurate estimates of graduates' coursetaking, had complete transcript data. The variable X3TOUTCOME identified students who had earned high school diplomas by September 2013. Graduates with complete transcript data met two criteria: they had earned at least 16 Carnegie credits (indicated by the variable X3TCREDTOT) and had transcript records for each grade or academic year of high school. For students who received their diplomas between the fall of 2012 and the summer of 2013, the variable X3TCOVERAGE was used to indicate transcript coverage in all four grades or academic years. Graduates who received their diplomas before the 2012–13 academic year did not have four years of high school attendance. Therefore, for these early graduates, transcripts covering each of the first three academic years (X3TSTATYR09, X3TSTATYR10, and X3TSTATYR11) or each of the first three high school grades (X3TSTATGR09, X3TSTATGR10, and X3TSTATGR11) were required to be included in the analysis sample.

For more information, contact NCES.Info@ed.gov (800) 677-6987

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#### **VARIABLES USED**

The variables used in these Web Tables are listed below.

Label	Name
Student's sex (2009)	X1SEX
Student's race/ethnicity (2009)	X1RACE
Student's native language (2009)	X1DUALLANG
Parents' socioeconomic status (2009)	X1SESQ5
Parents' highest level of education (2009)	X1PAREDU
Student's educational expectations (2009)	X1STUEDEXPCT
Student's mathematics achievement (2009)	X1TXMQUINT
Student's school sector (2012)	Derived from A2SCHTYPE and X2CONTROL
Student's school region (2012)	X2REGION
Student's school locale (2012)	X2LOCALE
Student's school size (2012)	A2HSSIZE
Student's school percentage of students who received free or reduced-price lunch (2012)	A2FREELUNCH
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)	Derived from A1ASIANPISTU, A1BLACKSTU, A1HISPSTU, A1WHITESTU, and A1AMINDIANSTU
Student's school percentage of English language learners (2012)	A2ELL
High school from which student received diploma (2013)	Derived from T3SNCESID, X1NCESID, and T3SSCHTYPE
Student's school offered AP courses (2012)	C2HAAPCRS
Student's school offered IB courses (2012)	C2HAIBPRGM
Student's school offered dual-enrollment program (2012)	C2DUALPROG
Number of AP or higher level IB math courses offered (2012)	Derived from C2NUMAPMATH and C2NUMIBMATH
Number of AP or higher level IB science courses offered (2012)	Derived from C2NUMAPSCI and C2NUMIBSCI
Dual-enrollment program has option to complete certificate program (2012)	C2DUALCERT
Dual-enrollment program has option to complete associate's degree (2012)	C2DUALAA
Students accepted to partner college through dual-enrollment program (2012)	C2DUALCLGACC
Dual-enrollment courses may be taken for credit at community colleges (2012)	C2COMCOL
Dual-enrollment courses may be taken for credit at 4-year colleges and universities (2012)	C24YRCOL
	(continued)

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VARIABLES—Continued	
Label	Name
Student earned any credits in AP or IB courses (2013)	X3TCREDAPIB
Student earned any credits in dual-enrollment courses (2013)	X3TCREDPPSE
Number of credits student earned in AP or IB courses (continuous) (2013)	X3TCREDAPIB
Number of credits student earned in dual-enrollment courses (continuous) (2013)	X3TCREDPPSE
Student's score on AP Calculus AB exam (2013)	X3TXAPCALCAB
Student's score on AP Biology exam (2013)	X3TXAPBIO
Student's score on AP English literature and composition exam (2013)	X3TXAPENGLIT
Student's score on AP U.S. History exam (2013)	X3TXAPUSHIST
Student's college entrance exam score on the SAT scale (2013)	X3TXSATCOMP
Student earned any dual-enrollment credits on college campus or off college campus only (2013)	Derived from T3SLOC and T3SCRDTYP
Student's enrollment in associate's or bachelor's degree program in fall of 2013 (2013)	Derived from X3CLASSES and X3PROGLEVEL

Table 1.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage whose school offered Advanced Placement (AP) courses, International Baccalaureate (IB) courses, and/or a dual-enrollment program, by selected student and parent characteristics: 2013

	_	ed by student's	school	
Selected student and parent characteristics	School offered AP courses, IB courses, or a dual-enrollment program <sup>1</sup>	AP or IB courses	Dual- enrollment program <sup>2</sup>	AP or IB courses and dual-enrollment program <sup>3</sup>
Total	99.7	91.8	88.8	80.8
Student's sex (2009)				
Female	99.7	91.4	89.2	80.9
Male	99.7	92.1	88.4	80.7
Student's race/ethnicity (2009) <sup>4</sup>				
Asian	100.0 <sup>5</sup>	95.8	78.4	74.2
Black/African American	100.0 <sup>5</sup>	92.3	88.1	80.3
Hispanic/Latino	99.9	94.9	88.1	83.1
Other	99.1	93.4	91.4	85.7
White	99.7	90.0	89.6	79.8
Student's native language (2009)				
English	99.7	90.8	88.7	79.8
English and a non-English language	99.8	95.3	86.0	81.6
Non-English	100.0 5	97.2	90.8	88.1
Parents' socioeconomic status (2009) <sup>6</sup>				
Lowest fifth	99.6	90.3	91.1	81.8
Middle three-fifths	99.8	91.1	90.6	81.9
Highest fifth	99.8	94.3	83.0	77.4
Parents' highest level of education (2009)				
High school credential or less	99.6	90.6	91.3	82.2
Undergraduate degree	99.8	91.5	88.4	80.0
Graduate degree	99.8	94.8	82.6	77.5
Student's educational expectations (2009)				
High school credential	99.6	90.0	90.5	80.8
Undergraduate degree	99.7	92.3	91.3	83.9
Graduate degree	99.8	92.7	86.7	79.5
Don't know	99.8	90.1	89.7	80.0
Student's mathematics achievement (2009) <sup>7</sup>				
Lowest fifth	99.4	89.2	92.7	82.5
Middle three-fifths	99.7	91.5	89.8	81.6
Highest fifth	100.0 <sup>5</sup>	93.8	84.1	77.9

Table 1.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage whose school offered Advanced Placement (AP) courses, International Baccalaureate (IB) courses, and/or a dual-enrollment program, by selected student and parent characteristics: 2013—Continued

		Offere	ed by student's	school
Selected student and parent characteristics	School offered AP courses, IB courses, or a dual-enrollment program <sup>1</sup>	AP or IB courses	Dual- enrollment program <sup>2</sup>	AP or IB courses and dual-enrollment program <sup>3</sup>
	, ,		· ·	
Student's school sector (2012)	00.0	00.0	04.7	00.0
Public	99.9	92.0	91.7	83.9
Regular	99.9	92.1	91.9	84.2
Charter or special-program school	100.0 5	94.0	86.1	79.7
Career/technical/vocational or alternative school	00.5	04.0.1	00.5	04.0.1
	99.5	81.0 !	99.5	81.0 !
Private	99.1	90.0	54.3	44.8
Student's school region (2012)				
Northeast	100.0 5	94.9	84.9	79.8
Midwest	99.3	84.8	91.1	76.7
South	99.9	92.6	93.7	86.3
West	100.0 5	95.7	81.4	77.1
Student's school locale (2012)				
City	100.0 5	97.4	83.3	80.6
Suburb	99.7	96.8	89.1	86.2
Town	100.0 <sup>5</sup>	84.9	97.8	82.8
Rural	99.7	84.8	90.3	75.4
Student's school size (2012)				
Fewer than 500 students	98.4	64.9	87.1	53.6
500 to 1,199 students	100.0 5	92.8	88.6	81.3
1,200 or more students	100.0 5	99.0	89.6	88.6
Student's school percentage of students who received free or reduced-price lunch (2012) <sup>8</sup>				
Lowest fifth (0–18 percent of students)	99.7	93.7	73.1	66.9
Middle three-fifths (19–67 percent of students)	99.9	90.9	94.4	85.3
Highest fifth (68–100 percent of students)	99.1	90.8	89.1	80.8
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) <sup>9</sup>				
Lowest fifth (0-7 percent of students)	99.8	85.1	91.4	76.6
Middle three-fifths (8-64 percent of students)	99.7	93.2	87.7	81.1
Highest fifth (65–100 percent of students)	99.6	96.9	92.6	89.8

#### Table 1.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage whose school offered Advanced Placement (AP) courses, International Baccalaureate (IB) courses, and/or a dual-enrollment program, by selected student and parent characteristics: 2013—Continued

	_	Offer	ed by student's	school
Selected student and parent characteristics	School offered AP courses, IB courses, or a dual-enrollment program <sup>1</sup>	AP or IB courses	Dual- enrollment program <sup>2</sup>	AP or IB courses and dual-enrollment program <sup>3</sup>
Student's school percentage of English language learners (2012)				
0 percent	99.5	77.6	82.7	60.8
1 to 5 percent	99.7	93.5	90.7	84.4
More than 5 percent	100.0 <sup>5</sup>	96.2	88.7	84.8

<sup>!</sup> Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.

NOTE: Estimates are based on fall 2009 ninth-graders who had received a high school diploma from their ninth-grade school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' schools' offerings were collected in the first follow-up data collection in 2012, when most students were in the 11th grade. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

<sup>&</sup>lt;sup>1</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. Students whose ninth-grade schools offered AP courses, IB courses, or a dual-enrollment program are included in these estimates. Students whose ninth-grade schools did not offer AP courses, IB courses, or a dual-enrollment program are excluded even if they took dual-enrollment courses independently.

<sup>&</sup>lt;sup>2</sup> Students whose ninth-grade schools offered a dual-enrollment program are included in these estimates. Students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.

<sup>&</sup>lt;sup>3</sup> Students whose ninth-grade schools offered AP or IB courses and a dual-enrollment program are included in these estimates. Students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.

<sup>&</sup>lt;sup>4</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.

<sup>&</sup>lt;sup>5</sup> Rounds to 100.

<sup>&</sup>lt;sup>6</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.

<sup>&</sup>lt;sup>7</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.

<sup>&</sup>lt;sup>8</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold; to be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.

<sup>&</sup>lt;sup>9</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in 2009, the base year of the study.

Table S1.

Standard errors for table 1: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage whose school offered Advanced Placement (AP) courses, International Baccalaureate (IB) courses, and/or a dual-enrollment program, by selected student and parent characteristics: 2013

	Offered by student's scho			school
Selected student and parent characteristics	School offered AP courses, IB courses, or a dual-enrollment program	AP or IB courses	Dual- enrollment program	AP or IB courses and dual-enrollment program
Total	0.13	1.27	1.59	2.04
Student's sex (2009)				
Female	0.12	1.52	1.70	2.27
Male	0.14	1.18	1.72	2.07
Student's race/ethnicity (2009)				
Asian	#	2.11	9.12	8.89
Black/African American	#	3.58	3.20	4.31
Hispanic/Latino	0.08	1.45	2.63	2.95
Other	0.68	1.66	1.96	2.62
White	0.18	1.63	1.60	2.32
Student's native language (2009)				
English	0.15	1.42	1.57	2.10
English and a non-English language	0.21	1.83	3.75	4.11
Non-English	0.02	1.02	2.79	3.05
Parents' socioeconomic status (2009)				
Lowest fifth	0.27	1.72	1.94	2.53
Middle three-fifths	0.12	1.44	1.64	2.19
Highest fifth	0.16	1.20	2.43	2.69
Parents' highest level of education (2009)				
High school credential or less	0.20	1.53	1.58	2.19
Undergraduate degree	0.12	1.58	1.83	2.37
Graduate degree	0.18	1.17	2.51	2.80
Student's educational expectations (2009)				
High school credential	0.19	1.98	2.27	2.93
Undergraduate degree	0.16	1.51	1.43	2.07
Graduate degree	0.11	1.28	1.99	2.32
Don't know	0.13	1.92	1.98	2.72
Student's mathematics achievement (2009)				
Lowest fifth	0.38	1.90	1.62	2.41
Middle three-fifths	0.17	1.36	1.49	2.06
Highest fifth	0.04	1.43	2.69	2.92

Table S1.

Standard errors for table 1: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage whose school offered Advanced Placement (AP) courses, International Baccalaureate (IB) courses, and/or a dual-enrollment program, by selected student and parent characteristics: 2013—Continued

		Offer	ed by student's	school
Selected student and parent characteristics	School offered AP courses, IB courses, or a dual-enrollment program	AP or IB courses	Dual- enrollment program	AP or IB courses and dual-enrollment program
Student's school sector (2012)				
Public	0.12	1.35	1.67	2.15
Regular	0.13	1.41	1.72	2.23
Charter or special-program school	†	4.91	9.80	12.23
Career/technical/vocational or	•			
alternative school	15.82	31.02	12.30	31.02
Private	0.92	3.86	6.40	6.14
Student's school region (2012)				
Northeast	#	2.73	4.27	4.93
Midwest	0.53	3.20	2.20	3.67
South	0.09	1.95	1.39	2.38
West	#	2.39	5.67	6.06
Student's school locale (2012)				
City	#	1.52	3.98	4.10
Suburb	0.35	1.49	2.44	2.76
Town	#	5.46	2.18	6.01
Rural	0.25	3.46	3.10	4.18
Student's school size (2012)				
Fewer than 500 students	0.83	6.15	3.23	6.11
500 to 1,199 students	#	2.29	2.49	3.54
1,200 or more students	#	0.66	2.42	2.51
Student's school percentage of students who received free or reduced-price lunch (2012)				
Lowest fifth (0–18 percent of students)	0.32	2.54	4.62	4.67
Middle three-fifths (19-67 percent of students)	0.06	1.81	1.76	2.51
Highest fifth (68–100 percent of students)	0.67	3.28	3.50	4.52
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)				
Lowest fifth (0-7 percent of students)	0.15	3.58	2.49	4.15
Middle three-fifths (8–64 percent of students)	0.22	1.63	2.54	2.94
Highest fifth (65–100 percent of students)	0.37	2.38	2.71	3.52

Table S1.

Standard errors for table 1: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage whose school offered Advanced Placement (AP) courses, International Baccalaureate (IB) courses, and/or a dual-enrollment program, by selected student and parent characteristics: 2013—Continued

		Offer	ed by student's	school
Selected student and parent characteristics	School offered AP courses, IB courses, or a dual-enrollment program	AP or IB courses	Dual- enrollment program	AP or IB courses and dual-enrollment program
Student's school percentage of English language learners (2012)				
0 percent	0.40	4.81	3.24	5.11
1 to 5 percent	0.24	2.00	2.02	2.92
More than 5 percent	#	1.41	3.80	4.01

<sup>†</sup> Not applicable.

<sup>#</sup> Rounds to zero.

Table 2.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered Advanced Placement (AP) and/or International Baccalaureate (IB) courses, average number of AP and higher level IB courses offered in all subjects, in math, and in science at their schools, by selected student and parent characteristics: 2013

Selected student and parent characteristics	Average number of Al offered at	P and higher level IB	<sup>1</sup> courses
	All subjects	Math	Science
Total	12.1	1.9	2.6
Student's sex (2009)			
Female	12.1	1.9	2.5
Male	12.0	1.9	2.6
Student's race/ethnicity (2009) <sup>2</sup>			
Asian	15.6	2.5	3.2
Black/African American	11.8	1.8	2.4
Hispanic/Latino	13.7	2.2	2.9
Other	11.8	1.9	2.4
White	11.3	1.8	2.4
Student's native language (2009)			
English	11.7	1.9	2.5
English and a non-English language	14.4	2.3	3.0
Non-English	13.6	2.2	2.9
Parents' socioeconomic status (2009) <sup>3</sup>			
Lowest fifth	10.8	1.8	2.3
Middle three-fifths	11.7	1.9	2.5
Highest fifth	13.9	2.2	2.9
Parents' highest level of education (2009)			
High school credential or less	11.0	1.8	2.4
Undergraduate degree	12.6	2.0	2.6
Graduate degree	14.0	2.1	2.9
Student's educational expectations (2009)			
High school credential	10.4	1.7	2.3
Undergraduate degree	12.3	2.0	2.6
Graduate degree	12.5	2.0	2.6
Don't know	11.7	1.9	2.5
Student's mathematics achievement (2009) <sup>4</sup>			
Lowest fifth	10.1	1.6	2.1
Middle three-fifths	11.7	1.9	2.5
Highest fifth	14.1	2.2	2.9

Table 2.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered Advanced Placement (AP) and/or International Baccalaureate (IB) courses, average number of AP and higher level IB courses offered in all subjects, in math, and in science at their schools, by selected student and parent characteristics: 2013—Continued

	Average number of A	P and higher level IB t student's school	<sup>1</sup> courses
Selected student and parent characteristics	All subjects	Math	Science
Student's school sector (2012)			
Public	12.1	1.9	2.6
Regular	12.0	2.0	2.6
Charter or special-program school	16.5	2.2	3.0
Career/technical/vocational or alternative school	‡	‡	‡
Private	11.4	1.8	2.5
Student's school region (2012)			
Northeast	10.1	1.7	2.4
Midwest	10.8	1.7	2.2
South	14.1	2.1	2.9
West	11.6	2.2	2.5
Student's school locale (2012)			
City	13.4	2.1	2.7
Suburb	14.7	2.3	3.2
Town	7.2	1.4	1.7
Rural	9.8	1.6	2.1
Student's school size (2012)			
Fewer than 500 students	5.8	1.1	1.3
500 to 1,199 students	8.6	1.4	1.8
1,200 or more students	15.3	2.4	3.2
Student's school percentage of students who			
received free or reduced-price lunch (2012) <sup>5</sup>			
Lowest fifth (0–18 percent of students)	14.7	2.3	3.1
Middle three-fifths (19–67 percent of students)	11.8	1.9	2.5
Highest fifth (68–100 percent of students)	9.8	1.7	2.2
Student's school percentage of students who			
were non-Hispanic Black or African American,			
non-Hispanic American Indian or Alaska Native,			
and Hispanic or Latino students of			
any race (2009) <sup>6</sup>	0.4	4.5	4.0
Lowest fifth (0–7 percent of students)	8.4	1.5	1.8
Middle three-fifths (8–64 percent of students) Highest fifth (65–100 percent of students)	13.2 12.6	2.1 1.9	2.8 2.6
riighest iitii (00–100 percent of students)	12.0	1.5	2.0

#### Table 2.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered Advanced Placement (AP) and/or International Baccalaureate (IB) courses, average number of AP and higher level IB courses offered in all subjects, in math, and in science at their schools, by selected student and parent characteristics: 2013—Continued

Selected student and parent characteristics	Average number of AP and higher level IB <sup>1</sup> courses offered at student's school		
	All subjects	Math	Science
Student's school percentage of English language learners (2012)			
0 percent	10.6	1.6	2.3
1 to 5 percent	11.9	1.9	2.5
More than 5 percent	13.3	2.2	2.9
Student's school offered dual-enrollment program (2012) <sup>7</sup>			
School did not offer dual-enrollment program	13.2	2.1	3.0
School offered dual-enrollment program	11.9	1.9	2.5

<sup>‡</sup> Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate

<sup>&</sup>lt;sup>1</sup> Most IB courses may be taken at the standard level or higher level. Higher level courses include additional elements and require more instructional hours than standard-level courses. This table presents the number of higher level IB courses offered. Data on the number of standard-level IB courses are not available.

<sup>&</sup>lt;sup>2</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.

<sup>&</sup>lt;sup>3</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.

<sup>&</sup>lt;sup>4</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSI S-00

<sup>&</sup>lt;sup>5</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.

<sup>&</sup>lt;sup>6</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in 2009, the base year of the study.

<sup>&</sup>lt;sup>7</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. NOTE: Estimates are based on fall 2009 ninth-graders who had received a high school diploma from their ninth-grade school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' schools' offerings were collected in the first follow-up data collection in 2012, when most students were in the 11th grade. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

Table S2.

Standard errors for table 2: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered Advanced Placement (AP) and/or International Baccalaureate (IB) courses, average number of AP and higher level IB courses offered in all subjects, in math, and in science at their schools, by selected student and parent characteristics: 2013

	Average number of A	P and higher level IB / student's school	courses
Selected student and parent characteristics	All subjects	Math	Science
Total	0.37	0.06	0.09
Student's sex (2009)			
Female	0.41	0.06	0.10
Male	0.38	0.06	0.10
Student's race/ethnicity (2009)			
Asian	0.66	0.10	0.17
Black/African American	0.89	0.13	0.22
Hispanic/Latino	0.59	0.09	0.18
Other	0.65	0.10	0.15
White	0.40	0.06	0.09
Student's native language (2009)			
English	0.37	0.06	0.09
English and a non-English language	0.76	0.13	0.17
Non-English	0.65	0.10	0.26
Parents' socioeconomic status (2009)			
Lowest fifth	0.48	0.08	0.15
Middle three-fifths	0.40	0.07	0.10
Highest fifth	0.46	0.06	0.09
Parents' highest level of education (2009)			
High school credential or less	0.39	0.06	0.11
Undergraduate degree	0.41	0.07	0.09
Graduate degree	0.52	0.07	0.11
Student's educational expectations (2009)			
High school credential	0.56	0.10	0.15
Undergraduate degree	0.45	0.06	0.11
Graduate degree	0.37	0.06	0.09
Don't know	0.50	0.08	0.13
Student's mathematics achievement (2009)			
Lowest fifth	0.77	0.15	0.20
Middle three-fifths	0.37	0.06	0.09
Highest fifth	0.44	0.07	0.09

Table S2.

Standard errors for table 2: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered Advanced Placement (AP) and/or International Baccalaureate (IB) courses, average number of AP and higher level IB courses offered in all subjects, in math, and in science at their schools, by selected student and parent characteristics: 2013—Continued

	Average number of A offered by	P and higher level IB	courses
Selected student and parent characteristics	All subjects	Math	Science
Student's school sector (2012)			
Public	0.40	0.06	0.10
Regular	0.43	0.06	0.10
Charter or special-program school	2.28	0.28	0.53
Career/technical/vocational or alternative school	†	†	†
Private	1.07	0.14	0.21
Student's school region (2012)			
Northeast	0.85	0.19	0.25
Midwest	0.70	0.09	0.15
South	0.59	0.08	0.13
West	0.88	0.11	0.23
Student's school locale (2012)			
City	0.65	0.12	0.19
Suburb	0.72	0.11	0.17
Town	0.74	0.14	0.22
Rural	0.59	0.09	0.15
Student's school size (2012)			
Fewer than 500 students	0.68	0.10	0.17
500 to 1,199 students	0.47	0.08	0.12
1,200 or more students	0.51	0.07	0.12
Student's school percentage of students who received free or reduced-price lunch (2012)			
Lowest fifth (0–18 percent of students)	0.63	0.09	0.13
Middle three-fifths (19-67 percent of students)	0.50	0.07	0.12
Highest fifth (68–100 percent of students)	0.86	0.15	0.30
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)			
Lowest fifth (0–7 percent of students)	0.66	0.12	0.16
Middle three-fifths (8–64 percent of students)	0.47	0.07	0.11
Highest fifth (65–100 percent of students)	1.27	0.21	0.37

#### Table S2.

Standard errors for table 2: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered Advanced Placement (AP) and/or International Baccalaureate (IB) courses, average number of AP and higher level IB courses offered in all subjects, in math, and in science at their schools, by selected student and parent characteristics: 2013—Continued

	Average number of AP and higher level IB courses offered by student's school			
Selected student and parent characteristics	All subjects	Math	Science	
Student's school percentage of English language learners (2012)				
0 percent	0.85	0.14	0.18	
1 to 5 percent	0.45	0.08	0.11	
More than 5 percent	0.75	0.09	0.19	
Student's school offers dual-enrollment program (2012)				
School does not offer dual-enrollment program	0.93	0.18	0.22	
School offers dual-enrollment program	0.41	0.06	0.10	

<sup>†</sup> Not applicable.

Table 3.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered a dual-enrollment program, percentage whose school's dual-enrollment program had various characteristics, by selected student and parent characteristics: 2013

	Dual-en	Dual-enrollment program <sup>1</sup> characteristics				
Selected student and parent characteristics	Option to complete certificate program	Option to complete associate's degree	Automatic acceptance to partner college			
Total	53.9	21.4	17.4			
Student's sex (2009)						
Female	55.7	21.8	17.0			
Male	52.0	21.0	17.8			
Student's race/ethnicity (2009) <sup>2</sup>						
Asian	49.2	10.6	14.3			
Black/African American	59.1	27.1	27.3			
Hispanic/Latino	54.3	25.2	19.2			
Other	58.6	24.9	21.6			
White	52.3	19.1	14.4			
Student's native language (2009)						
English	54.2	21.1	17.7			
English and a non-English language	54.4	26.0	14.3 !			
Non-English	50.0	21.5	15.2			
Parents' socioeconomic status (2009) <sup>3</sup>						
Lowest fifth	56.7	25.9	16.4			
Middle three-fifths	54.3	21.8	19.5			
Highest fifth	50.6	17.2	12.3			
Parents' highest level of education (2009)						
High school credential or less	55.7	24.3	18.0			
Undergraduate degree	52.0	20.2	17.7			
Graduate degree	51.9	17.9	11.5			
Student's educational expectations (2009)						
High school credential	57.6	24.0	20.7			
Undergraduate degree	53.4	22.4	16.3			
Graduate degree	53.9	20.4	17.4			
Don't know	52.5	21.0	17.3			
Student's mathematics achievement (2009) <sup>4</sup>						
Lowest fifth	56.4	23.0	26.1			
Middle three-fifths	53.4	21.9	16.4			
Highest fifth	53.5	19.1	14.6			

Table 3.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered a dual-enrollment program, percentage whose school's dual-enrollment program had various characteristics, by selected student and parent characteristics: 2013—Continued

	Dual-enrollment program <sup>1</sup> characteristics				
Selected student and parent characteristics	Option to complete certificate program	Option to complete associate's degree	Automatic acceptance to partner college		
Student's school sector (2012)					
Public	55.4	22.1	18.1		
Regular	55.2	21.9	17.0		
Charter or special-program school	65.2	30.7 !	‡		
Career/technical/vocational or alternative school	‡	‡	91.2 !		
Private	16.4!	‡	‡		
Student's school region (2012)					
Northeast	37.5	‡	‡		
Midwest	50.4	14.7	14.9		
South	64.1	28.8	21.9		
West	52.8	29.7	14.7		
Student's school locale (2012)					
City	52.3	14.8	14.2 !		
Suburb	51.2	25.4	15.0		
Town	54.0	26.8	13.5 !		
Rural	57.7	20.7	24.7		
Student's school size (2012)					
Fewer than 500 students	42.2	19.7	20.0 !		
500 to 1,199 students	56.3	19.7	14.9		
1,200 or more students	55.6	22.8	18.4		
Student's school percentage of students who					
received free or reduced-price lunch (2012) <sup>5</sup>					
Lowest fifth (0–18 percent of students)	38.4	7.4 !	7.9 !		
Middle three-fifths (19-67 percent of students)	57.1	22.6	16.7		
Highest fifth (68–100 percent of students)	61.3	35.3	25.3		
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) <sup>6</sup>					
Lowest fifth (0–7 percent of students)	48.5	14.6	14.2		
Middle three-fifths (8–64 percent of students)	54.8	22.5	16.2		
Highest fifth (65–100 percent of students)	62.4	25.0	27.8 !		

#### Table 3.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered a dual-enrollment program, percentage whose school's dual-enrollment program had various characteristics, by selected student and parent characteristics: 2013—Continued

	Dual-enrollment program <sup>1</sup> characteristics				
Selected student and parent characteristics	Option to complete certificate program	Option to complete associate's degree	Automatic acceptance to partner college		
Student's school percentage of English language learners (2012)					
0 percent	46.1	10.8 !	20.0		
1 to 5 percent	56.9	22.1	16.3		
More than 5 percent	55.6	27.7	15.2		

<sup>!</sup> Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.

NOTE: Estimates are based on fall 2009 ninth-graders who had received a high school diploma from their ninth-grade school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' schools' offerings were collected in the first follow-up data collection in 2012, when most students were in the 11th grade. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

<sup>‡</sup> Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.

<sup>&</sup>lt;sup>1</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. Students who received their high school diploma from ninth-grade schools that offered a dual-enrollment program are included in these estimates. Students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently.

<sup>&</sup>lt;sup>2</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.

<sup>&</sup>lt;sup>3</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.

<sup>&</sup>lt;sup>4</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.

<sup>&</sup>lt;sup>5</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.

<sup>&</sup>lt;sup>6</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in 2009, the base year of the study.

Table S3.
Standard errors for table 3: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered a dual-enrollment program, percentage whose school's dual-enrollment program had various characteristics, by selected student and parent characteristics: 2013

	Dual-er	Dual-enrollment program characteristics				
Selected student and parent characteristics	Option to complete certificate program	Option to complete associate's degree	Automatic acceptance to partner college			
Total	2.87	1.88	2.39			
Student's sex (2009)						
Female	3.13	1.99	2.32			
Male	2.86	1.98	2.63			
Student's race/ethnicity (2009)						
Asian	5.78	2.34	4.04			
Black/African American	5.21	4.16	5.65			
Hispanic/Latino	5.55	4.25	4.40			
Other	4.73	4.05	3.98			
White	2.82	2.01	2.06			
Student's native language (2009)						
English	2.71	1.86	2.33			
English and a non-English language	5.74	5.35	4.33			
Non-English	6.76	4.49	3.97			
Parents' socioeconomic status (2009)						
Lowest fifth	4.26	3.18	2.91			
Middle three-fifths	3.03	1.97	2.76			
Highest fifth	3.02	2.15	2.00			
Parents' highest level of education (2009)						
High school credential or less	3.31	2.50	2.65			
Undergraduate degree	3.05	1.96	2.89			
Graduate degree	3.22	2.52	2.02			
Student's educational expectations (2009)						
High school credential	4.18	3.03	4.02			
Undergraduate degree	3.06	2.14	2.01			
Graduate degree	2.94	1.98	2.53			
Don't know	3.52	2.42	3.03			
Student's mathematics achievement (2009)						
Lowest fifth	5.03	3.09	6.51			
Middle three-fifths	2.94	2.09	2.28			
Highest fifth	3.33	2.35	1.97			

Standard errors for table 3: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013 and whose school offered a dual-enrollment

from their ninth-grade school by the fall of 2013 and whose school offered a dual-enrollment program, percentage whose school's dual-enrollment program had various characteristics, by selected student and parent characteristics: 2013—Continued

	Dual-enrollment program characteristics				
Selected student and parent characteristics	Option to complete certificate program	Option to complete associate's degree	Automatic acceptance to partner college		
Colocted Stadent and parent characteristics	continuate program	associate s degree	to partifer contage		
Student's school sector (2012)					
Public	3.00	1.99	2.50		
Regular	2.92	2.06	2.14		
Charter or special-program school	18.22	15.31	†		
Career/technical/vocational or alternative school	†	†	27.69		
Private	6.91	†	†		
Student's school region (2012)					
Northeast	7.83	†	†		
Midwest	5.16	3.32	2.90		
South	3.66	3.05	3.35		
West	7.78	5.44	5.18		
Student's school locale (2012)					
City	6.06	3.59	5.01		
Suburb	4.45	3.49	2.75		
Town	7.94	5.50	4.69		
Rural	4.97	3.80	4.99		
Children and a large (2012)					
Student's school size (2012)	0.00	4.50	0.47		
Fewer than 500 students	6.66	4.53	6.17		
500 to 1,199 students	5.05	3.38	3.17		
1,200 or more students	3.81	2.59	3.57		
Student's school percentage of students who received free or reduced-price lunch (2012)					
Lowest fifth (0–18 percent of students)	5.63	3.00	3.00		
Middle three-fifths (19–67 percent of students)	3.63	2.58	2.82		
Highest fifth (68–100 percent of students)	7.46	6.19	5.47		
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of					
any race (2009)	F 75	0.00	0.00		
Lowest fifth (0–7 percent of students)	5.75	3.90	3.96		
Middle three-fifths (8–64 percent of students) Highest fifth (65–100 percent of students)	3.84 9.60	2.74 6.82	2.61 8.96		
Student's school percentage of English language learners (2012)					
0 percent	6.37	4.20	5.77		
1 to 5 percent	3.54	2.90	2.83		
More than 5 percent	6.34	3.98	3.89		

<sup>†</sup> Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09) 2013 Update and High School Transcripts Restricted-use Data File.

Table 4.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage who had the option to take courses for high school credit at community colleges and 4-year colleges and universities, by dual-enrollment program offering and selected student and parent characteristics: 2013

		chool offered nent program <sup>1</sup>		ool did not offer ent program <sup>2</sup>
Selected student and parent characteristics	Courses may be taken for credit at community colleges	Courses may be taken for credit at 4-year colleges and universities	Courses may be taken for credit at community colleges	Courses may be taken for credit at 4-year colleges and universities
Total	92.3	63.6	81.0	55.7
Student's sex (2009)				
Female	92.8	63.3	81.0	51.5
Male	91.8	64.0	81.1	59.7
Student's race/ethnicity (2009) <sup>3</sup>				
Asian	96.3	64.0	93.9	‡
Black/African American	91.2	67.9	55.9!	‡
Hispanic/Latino	95.3	54.9	96.4	47.2!
Other	93.6	61.2	65.3	41.6!
White	91.1	66.2	80.2	75.3
Student's native language (2009)				
English	91.5	64.6	77.7	59.8
English and a non-English language	95.9	61.2	94.3	‡
Non-English	96.4	57.8	95.1	37.4!
Parents' socioeconomic status (2009) <sup>4</sup>				
Lowest fifth	92.2	57.0	86.2	48.6!
Middle three-fifths	91.7	62.9	81.9	53.5
Highest fifth	94.0	69.9	77.1	62.9
Parents' highest level of education (2009)				
High school credential or less	91.3	58.1	83.5	51.0
Undergraduate degree	92.4	65.4	81.2	59.6
Graduate degree	93.1	71.1	73.5	61.6
Student's educational expectations (2009)				
High school credential	91.6	61.7	80.9	41.2!
Undergraduate degree	92.4	62.0	85.1	57.8
Graduate degree	92.6	65.4	77.9	58.9
Don't know	92.2	63.0	84.4	51.7
Student's mathematics achievement (2009) <sup>5</sup>				
Lowest fifth	91.4	61.2	90.7	55.6
Middle three-fifths	91.5	62.8	79.4	54.4
Highest fifth	95.1	67.3	80.6	57.2

Table 4.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage who had the option to take courses for high school credit at community colleges and 4-year colleges and universities, by dual-enrollment program offering and selected student and parent characteristics: 2013—Continued

	Student's school offered dual-enrollment program <sup>1</sup>		Student's scho	ol did not offer
			dual-enrollm	ent program <sup>2</sup>
	Courses may	Courses may be	Courses may be	Courses may be
	be taken for credit at	taken for credit at 4-year	Courses may be taken for credit	taken for credit at 4-year
	community	colleges and	at community	colleges and
Selected student and parent characteristics	colleges	universities	colleges	universities
Student's school sector (2012)				
Public	92.9	63.7	87.9	56.9
Regular	92.3	62.0	88.6	59.1
Charter or special-program school	100.0 6	85.1	83.4!	‡
Career/technical/vocational or alternative				·
school	92.4 !	‡	‡	‡
Private	79.2	66.6	63.1	58.2
Student's school region (2012)				
Northeast	91.3	79.8	97.4	76.8
Midwest	88.6	76.1	71.8	68.0
South	92.5	58.9	‡	‡
West	97.6	43.8	96.1	45.3 !
Student's school locale (2012)				
City	93.3	66.8	81.3	36.7!
Suburb	98.1	74.5	88.7	71.7
Town	84.9	58.3	‡	‡
Rural	89.0	53.1	76.0	75.6
Student's school size (2012)				
Fewer than 500 students	84.8	38.3	51.5!	50.1!
500 to 1,199 students	89.7	70.1	67.3	48.7!
1,200 or more students	95.8	67.4	95.6	61.7
Student's school percentage of students who				
received free or reduced-price lunch (2012) <sup>7</sup>				
Lowest fifth (0–18 percent of students)	90.9	71.2	79.7	58.5
Middle three-fifths (19–67 percent of students)	92.8	65.2	94.6	77.8
Highest fifth (68–100 percent of students)	92.6	46.7	73.2	‡
Student's school percentage of students who were non-Hispanic Black or African American,				
non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of				
any race (2009) <sup>8</sup>				
Lowest fifth (0–7 percent of students)	88.7	63.8	77.8	79.8
Middle three-fifths (8–64 percent of students)	92.6	66.1	88.5	58.9
Highest fifth (65–100 percent of students)	95.5	51.1	77.1	‡

#### Table 4.

Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage who had the option to take courses for high school credit at community colleges and 4-year colleges and universities, by dual-enrollment program offering and selected student and parent characteristics: 2013—Continued

		Student's school offered dual-enrollment program <sup>1</sup>		hool did not offer Iment program <sup>2</sup>	
Selected student and parent characteristics	Courses may be taken for credit at community colleges	Courses may be taken for credit at 4-year colleges and universities	Courses may be taken for credit at community colleges	Courses may be taken for credit at 4-year colleges and universities	
Student's school percentage of English language learners (2012)					
0 percent	81.1	58.9	67.0	59.6	
1 to 5 percent	94.6	68.6	77.4	68.6	
More than 5 percent	94.0	55.7	96.1	‡_	

<sup>!</sup> Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.

NOTE: Estimates are based on fall 2009 ninth-graders who had received a high school diploma from their ninth-grade school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' schools' offerings were collected in the first follow-up data collection in 2012, when most students were in the 11th grade. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

<sup>‡</sup> Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.

<sup>&</sup>lt;sup>1</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. Students who received their high school diploma from ninth-grade schools that offered a dual-enrollment program are included in these estimates. Students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently.

<sup>&</sup>lt;sup>2</sup> Students whose ninth-grade schools did not offer a dual-enrollment program are included in these estimates even if they took dual-enrollment courses independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.

<sup>&</sup>lt;sup>3</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.

<sup>&</sup>lt;sup>4</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.

<sup>&</sup>lt;sup>5</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSI S:09

<sup>&</sup>lt;sup>6</sup> Rounds to 100.

<sup>&</sup>lt;sup>7</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.

<sup>&</sup>lt;sup>8</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in 2009, the base year of the study.

Table S4.

Standard errors for table 4: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage who had the option to take courses for high school credit at community colleges and 4-year colleges and universities, by dual-enrollment program offering and selected student and parent characteristics: 2013

		Student's school offered dual-enrollment program		ool did not offer nent program
Selected student and parent characteristics	Courses may be taken for credit at community colleges	Courses may be taken for credit at 4-year colleges and universities	Courses may be taken for credit at community colleges	Courses may be taken for credit at 4-year colleges and universities
Total	1.38	3.11	5.96	10.69
Student's sex (2009)				
Female	1.35	3.26	6.66	11.56
Male	1.58	3.19	6.38	10.70
Student's race/ethnicity (2009)				
Asian	1.17	6.41	8.94	†
Black/African American	4.04	5.66	18.70	†
Hispanic/Latino	1.53	6.31	3.00	16.63
Other	2.25	4.98	11.49	14.34
White	1.66	3.14	6.88	7.51
Student's native language (2009)				
English	1.51	3.00	6.71	10.04
English and a non-English language	1.42	5.82	5.83	†
Non-English	1.35	7.20	4.03	18.60
Parents' socioeconomic status (2009)				
Lowest fifth	2.44	4.46	7.84	14.92
Middle three-fifths	1.56	3.29	6.52	12.10
Highest fifth	1.27	3.31	8.29	11.69
Parents' highest level of education (2009)				
High school credential or less	1.78	3.68	6.68	12.69
Undergraduate degree	1.53	3.31	6.02	11.32
Graduate degree	1.65	3.49	10.02	11.86
Student's educational expectations (2009)				
High school credential	2.43	4.65	11.14	15.78
Undergraduate degree	1.50	3.43	5.87	11.02
Graduate degree	1.45	3.24	7.37	11.29
Don't know	1.75	3.75	5.92	13.41
Student's mathematics achievement (2009)				
Lowest fifth	2.83	5.60	6.01	15.88
Middle three-fifths	1.53	3.30	6.63	10.44
Highest fifth	1.07	3.31	7.36	13.85

Table S4.

Standard errors for table 4: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage who had the option to take courses for high school credit at community colleges and 4-year colleges and universities, by dual-enrollment program offering and selected student and parent characteristics: 2013—Continued

	Student's school offered dual-enrollment program			ool did not offer nent program
Selected student and parent characteristics	Courses may be taken for credit at community colleges	Courses may be taken for credit at 4-year colleges and universities	Courses may be taken for credit at community colleges	Courses may be taken for credit at 4-year colleges and universities
Student's school sector (2012)				
Public	1.45	3.27	5.93	13.05
Regular	1.56	3.42	6.53	14.22
Charter or special-program school	†	12.80	32.83	†
Career/technical/vocational or alternative	'		02.00	'
school	35.57	†	†	†
Private	6.63	8.40	12.40	12.33
Student's school region (2012)				
Northeast	4.78	7.45	3.36	17.76
Midwest	3.43	5.44	13.53	12.99
South	2.03	4.18	†	†
West	2.04	8.13	5.43	22.28
Student's school locale (2012)				
City	3.05	6.46	9.16	16.48
Suburb	0.98	4.23	10.26	15.81
Town	5.18	8.78	†	†
Rural	2.97	6.03	14.64	16.07
Student's school size (2012)				
Fewer than 500 students	4.86	7.58	17.98	18.84
500 to 1,199 students	3.05	4.89	13.55	15.55
1,200 or more students	1.46	4.16	3.28	15.22
Student's school percentage of students who received free or reduced-price lunch (2012)				
Lowest fifth (0–18 percent of students)	3.00	5.16	8.80	16.29
Middle three-fifths (19–67 percent of students)	1.74	3.99	4.61	16.73
Highest fifth (68–100 percent of students)	3.95	9.27	18.86	†
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)				
Lowest fifth (0-7 percent of students)	3.86	6.36	13.23	13.51
Middle three-fifths (8-64 percent of students)	1.72	3.43	6.07	15.84
Highest fifth (65–100 percent of students)	3.63	11.04	19.09	†

Table S4.

Standard errors for table 4: Among fall 2009 ninth-graders who received a high school diploma from their ninth-grade school by the fall of 2013, percentage who had the option to take courses for high school credit at community colleges and 4-year colleges and universities, by dual-enrollment program offering and selected student and parent characteristics: 2013—Continued

		chool offered nent program	Student's school did not offer dual-enrollment program			
Selected student and parent characteristics	Courses may be taken for credit at community colleges	Courses may be taken for credit at 4-year colleges and universities	Courses may be taken for credit at community colleges	Courses may be taken for credit at 4-year colleges and universities		
Student's school percentage of English language learners (2012)						
0 percent	5.73	7.91	13.87	14.68		
1 to 5 percent	1.47	3.82	10.47	12.99		
More than 5 percent	2.69	6.31	4.23	†		

<sup>†</sup> Not applicable.

Table 5.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013

Selected student and parent characteristics	any h	rcent earni igh school ecified cou	credit	Average high school credits earned in specified courses by students earning any credit in specified courses				
	Any AP, IB, or dual- enrollment courses <sup>1</sup>	Any AP or IB courses	Any dual- enrollment courses <sup>2</sup>	AP, IB, or dual- enrollment courses <sup>3</sup>	AP or IB courses	Dual- enrollment courses <sup>4</sup>		
Total	46.3	42.2	10.9	3.6	3.3	2.5		
Student's sex (2009)								
Female	50.6	46.4	12.0	3.5	3.2	2.5		
Male	41.9	37.8	9.7	3.7	3.4	2.6		
Student's race/ethnicity (2009) <sup>5</sup>								
Asian	76.8	75.8	10.1	5.2	4.8	3.2		
Black/African American	34.2	30.2	6.5 !	3.0	2.9	2.3		
Hispanic/Latino	42.0	39.5	8.7	3.5	3.2	2.4		
Other	43.6	40.0	9.3	3.4	3.2	2.2		
White	49.0	44.0	13.0	3.6	3.2	2.6		
Student's native language (2009)								
English	45.5	41.0	11.8	3.5	3.2	2.5		
English and a non-English language	47.5	46.0	7.2	4.3	4.0	2.8		
Non-English	53.8	51.0	7.2	3.7	3.5	2.5		
Parents' socioeconomic status (2009) <sup>6</sup>								
Lowest fifth	30.9	28.0	5.8	2.8	2.6	2.1		
Middle three-fifths	41.9	37.5	10.4	3.3	3.0	2.5		
Highest fifth	69.3	65.4	15.9	4.3	3.9	2.7		
Parents' highest level of education (2009)								
High school credential or less	35.6	32.1	7.8	3.0	2.8	2.3		
Undergraduate degree	52.5	47.8	13.1	3.7	3.3	2.6		
Graduate degree	70.1	66.2	15.4	4.5	4.2	2.7		
Student's educational expectations (2009)								
High school credential	21.2	17.6	4.4	2.2	2.3	1.4		
Undergraduate degree	42.9	39.1	10.3	3.2	2.9	2.4		
Graduate degree	59.4	55.3	13.6	4.0	3.7	2.7		
Don't know	36.8	32.2	9.5	3.0	2.8	2.3		

Table 5.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

	any hi	rcent earni igh school ecified cou	credit	Average high school credits earned in specified courses by students earning any credit in specified courses			
Selected student and parent characteristics	Any AP, IB, or dual- enrollment courses <sup>1</sup>	Any AP or IB courses	Any dual- enrollment courses <sup>2</sup>	AP, IB, or dual- enrollment courses <sup>3</sup>	AP or IB courses	Dual- enrollment courses <sup>4</sup>	
Student's mathematics achievement (2009) <sup>7</sup>							
Lowest fifth	14.4	11.4	3.9	1.8	1.6	2.1	
Middle three-fifths	41.9	37.4	10.2	3.0	2.7	2.2	
Highest fifth	77.9	74.2	17.2	4.7	4.2	3.1	
Student's school sector (2012)							
Public	45.5	41.4	10.9	3.7	3.3	2.6	
Regular	45.3	41.0	11.6	3.6	3.2	2.6	
Charter or special-program school	59.2	58.0	4.6 !	4.5	4.4	3.2 !	
Career/technical/vocational or							
alternative school	‡	‡	‡	2.2 !	2.2 !	1.6 !	
Private	59.8	56.1	10.1	3.1	3.0	1.8	
Student's school region (2012)							
Northeast	42.4	40.1	8.1 !	3.7	3.3	3.0	
Midwest	46.4	40.2	12.3	2.9	2.7	2.0	
South	48.5	44.4	13.2	4.1	3.6	2.6	
West	46.5	43.3	7.7	3.4	3.2	2.5	
Student's school locale (2012)							
City	52.0	49.5	9.6	4.0	3.7	2.3	
Suburb	51.3	48.3	9.8	3.7	3.4	2.7	
Town	37.2	30.2	9.9	2.5	2.3	2.3	
Rural	39.9	34.4	13.7	3.4	2.9	2.7	
Student's school size (2012)							
Fewer than 500 students	35.8	28.4	12.2	2.8	2.5	2.4	
500 to 1,199 students	43.7	38.4	11.9	3.4	3.1	2.7	
1,200 or more students	51.5	49.2	9.8	3.9	3.6	2.5	

Table 5.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

	any h	rcent earni igh school ecified coι	credit	Average high school credits earned in specified courses by students earning any credit in specified courses			
Selected student and parent characteristics	Any AP, IB, or dual- enrollment courses <sup>1</sup>	Any AP or IB courses	Any dual- enrollment courses <sup>2</sup>	AP, IB, or dual- enrollment courses <sup>3</sup>	AP or IB courses	Dual- enrollment courses <sup>4</sup>	
Student's school percentage of students who received free or reduced-price lunch (2012) <sup>8</sup>							
Lowest fifth (0–18 percent of students) Middle three-fifths (19–67 percent	59.7	56.0	11.7	3.6	3.3	2.5	
of students)	44.8	40.2	11.9	3.7	3.4	2.6	
Highest fifth (68–100 percent of students)	37.2	33.7	7.4	3.3	3.1	2.3	
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) <sup>9</sup>							
Lowest fifth (0–7 percent of students)	43.4	36.3	15.6	3.0	2.6	2.3	
Middle three-fifths (8–64 percent							
of students)	50.0	46.1	10.9	3.8	3.5	2.7	
Highest fifth (65–100 percent of students)	46.7	45.2	8.1	4.1	3.8	2.6	
Student's school percentage of English language learners (2012)							
0 percent	43.6	37.7	11.3	3.3	3.1	2.3	
1 to 5 percent	47.2	43.6	11.8	3.7	3.3	2.7	
More than 5 percent	48.0	43.8	9.7	3.7	3.5	2.4	
Student's school offerings (2012) <sup>10</sup>							
Offered AP and/or IB course only	56.4	56.0	2.0 !	3.4	3.4	3.1 !	
Offered dual-enrollment program only <sup>11</sup> Offered AP or IB courses and	21.1	7.7 !	14.3 !	2.5	1.5 !	2.9	
dual-enrollment program <sup>12</sup>	49.8	45.7	12.6	3.7	3.4	2.5	
High school from which student received diploma (2013)							
Ninth-grade school	48.0	43.6	11.5	3.7	3.4	2.5	
Another high school	35.7	33.3	6.9	3.0	2.7	2.5	

#### Table 5

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

- ! Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.
- ‡ Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.
- <sup>1</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. These estimates include students who earned any credits in AP courses, IB courses, and dual-enrollment courses that were offered through a program, and dual-enrollment credits taken independently.
- <sup>2</sup> These estimates include students who earned credits in dual-enrollment courses that were offered through a program and dual-enrollment courses taken independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>3</sup> These estimates include credits earned in AP courses, IB courses, and dual-enrollment courses that were offered through a program, and dual-enrollment courses taken independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>4</sup> These estimates include credits earned in dual-enrollment courses that were offered through a program and dual-enrollment courses taken independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>5</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.
- <sup>6</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.
- <sup>7</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.
- <sup>8</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.
- <sup>9</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.
- <sup>10</sup> These data were only collected from students' ninth-grade schools; data were not collected from any schools students had transferred to as of the first follow-up data collection. Estimates are based on 2012 data for students who received their high school diploma from their ninth-grade school.
- <sup>11</sup> Students and credits earned by students whose ninth-grade schools offered a dual-enrollment program but did not offer AP or IB courses are included in these estimates. Students and credits earned by students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- 12 Students and credits earned by students whose ninth-grade schools offered AP or IB courses and a dual-enrollment program are included in these estimates. Students and credits earned by students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs. NOTE: Estimates are based on fall 2009 ninth-graders who had received a high school diploma from any high school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' high school credits earned were collected from the high school transcripts and reflect Carnegie units. The Carnegie unit is a standard of measurement that represents one credit for 120 hours of classroom time over the course of a year at the secondary-school level in the United States, equivalent to the completion of a 1-year academic course taken one period a day, 5 days a week. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

Table S5.

Standard errors for table 5: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013

	any h	rcent earni igh school ecified cou	credit	Average high school credits earned in specified courses by students earning any credit in specified courses				
Selected student and parent characteristics	Any AP, IB, or dual- enrollment courses	Any AP or IB courses	Any dual- enrollment courses	AP, IB, or dual- enrollment courses	AP or IB courses	Dual- enrollment courses		
Total	1.32	1.39	1.01	0.08	0.08	0.12		
Student's sex (2009)								
Female	1.59	1.67	1.19	0.09	0.09	0.14		
Male	1.45	1.46	0.95	0.13	0.10	0.17		
Student's race/ethnicity (2009)								
Asian	3.89	3.94	1.49	0.25	0.26	0.53		
Black/African American	2.79	2.58	2.02	0.21	0.23	0.36		
Hispanic/Latino	2.54	2.63	1.34	0.23	0.19	0.31		
Other	3.24	3.45	1.66	0.21	0.22	0.23		
White	1.48	1.51	1.44	0.09	0.08	0.17		
Student's native language (2009)								
English	1.31	1.38	1.13	0.09	0.08	0.14		
English and a non-English language	4.41	4.41	1.63	0.30	0.26	0.49		
Non-English	3.70	3.76	1.51	0.22	0.22	0.38		
Parents' socioeconomic status (2009)								
Lowest fifth	2.42	2.36	1.21	0.19	0.22	0.22		
Middle three-fifths	1.45	1.50	1.10	0.10	0.09	0.15		
Highest fifth	1.52	1.66	1.55	0.14	0.12	0.20		
Parents' highest level of education (2009)								
High school credential or less	1.48	1.54	1.05	0.13	0.13	0.18		
Undergraduate degree	1.80	1.84	1.31	0.11	0.10	0.14		
Graduate degree	1.69	1.83	1.59	0.16	0.14	0.25		
Student's educational expectations (2009)								
High school credential	2.81	2.80	1.01	0.26	0.31	0.15		
Undergraduate degree	1.74	1.69	1.14	0.11	0.11	0.17		
Graduate degree	1.64	1.73	1.38	0.10	0.09	0.15		
Don't know	1.93	2.00	1.25	0.14	0.13	0.23		

Table S5.

Standard errors for table 5: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

Selected student and parent characteristics	any h	rcent earni igh school ecified cou	credit	Average high school credits earned in specified courses by students earning any credit in specified courses			
	Any AP, IB, or dual- enrollment courses	Any AP or IB courses	Any dual- enrollment courses	AP, IB, or dual- enrollment courses	AP or IB	Dual- enrollment courses	
Student's mathematics achievement (2009)							
Lowest fifth	1.70	1.62	0.88	0.20	0.20	0.43	
Middle three-fifths	1.39	1.45	1.06	0.10	0.09	0.14	
Highest fifth	1.58	1.71	1.69	0.14	0.11	0.22	
Student's school sector (2012)							
Public	1.43	1.52	1.09	0.09	0.08	0.13	
Regular	1.44	1.54	1.17	0.10	0.09	0.13	
Charter or special-program school	6.73	6.90	2.12	0.48	0.49	1.01	
Career/technical/vocational or							
alternative school	†	†	†	0.85	0.91	0.52	
Private	3.43	3.53	2.24	0.14	0.15	0.18	
Student's school region (2012)							
Northeast	3.93	3.94	2.68	0.22	0.18	0.55	
Midwest	2.60	2.82	2.35	0.16	0.14	0.20	
South	1.74	1.80	1.51	0.15	0.14	0.13	
West	3.53	3.60	1.66	0.17	0.18	0.37	
Student's school locale (2012)							
City	2.80	2.82	1.80	0.15	0.14	0.20	
Suburb	1.94	2.06	1.65	0.18	0.16	0.31	
Town	2.50	3.56	2.67	0.17	0.17	0.24	
Rural	2.82	2.68	2.14	0.15	0.16	0.23	
Student's school size (2012)							
Fewer than 500 students	3.52	3.20	2.53	0.16	0.17	0.29	
500 to 1,199 students	2.49	2.57	2.09	0.19	0.18	0.28	
1,200 or more students	1.81	1.77	1.28	0.11	0.11	0.16	

Table S5.

Standard errors for table 5: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

	any h	rcent earni igh school ecified cou	credit	Average high school credits earned in specified courses by students earning any credit in specified courses			
Selected student and parent characteristics	Any AP, IB, or dual- enrollment courses	Any AP or IB courses	Any dual- enrollment courses	AP, IB, or dual- enrollment courses	AP or IB courses	Dual- enrollment courses	
Student's school percentage of students who received free or reduced-price lunch (2012)							
Lowest fifth (0–18 percent of students) Middle three-fifths (19–67 percent	2.20	2.24	1.96	0.14	0.13	0.19	
of students)	1.78	1.87	1.44	0.12	0.10	0.18	
Highest fifth (68–100 percent of students)	3.08	3.04	2.00	0.32	0.35	0.27	
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)							
Lowest fifth (0–7 percent of students)	2.93	2.95	3.02	0.17	0.12	0.26	
Middle three-fifths (8-64 percent							
of students)	1.82	1.87	1.30	0.11	0.11	0.21	
Highest fifth (65–100 percent of students)	5.06	5.12	2.30	0.38	0.38	0.43	
Student's school percentage of English language learners (2012)							
0 percent	3.48	3.19	2.65	0.22	0.24	0.20	
1 to 5 percent	1.77	1.80	1.36	0.13	0.12	0.19	
More than 5 percent	2.34	2.49	1.58	0.17	0.18	0.26	
Student's school offerings (2012)							
Offers AP and/or IB course only	3.84	3.80	1.02	0.19	0.20	1.19	
Offers dual-enrollment program only	6.05	3.43	5.57	0.47	0.64	0.53	
Offers AP or IB courses and dual-enrollment program	1.49	1.52	1.29	0.11	0.10	0.14	
High school from which student received diploma (2013)							
Ninth-grade school	1.41	1.51	1.10	0.09	0.08	0.13	
Another high school	2.44	2.36	1.40	0.18	0.13	0.32	

<sup>†</sup> Not applicable.

Table 6.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in various racial/ethnic groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013

	Percent earning any high school credits in AP, IB, and dual-enrollment courses <sup>1</sup>					Average high school credits earned by students earning any high school credits in AP, IB, and dual-enrollment courses <sup>2</sup>				
Only the district and a second above 10.1.1		Black/African	Hispanic/	O11 3			Black/African	Hispanic/	_ 3	
Selected student and parent characteristics	Asian	American	Latino	Other <sup>3</sup>	White	Asian	American	Latino	Other <sup>3</sup>	White
Total	76.8	34.2	42.0	43.6	49.0	5.2	3.0	3.5	3.4	3.6
Student's sex (2009)										
Female	80.3	39.7	47.3	45.3	53.5	5.1	3.2	3.3	3.2	3.6
Male	73.3	26.9	36.4	41.7	44.6	5.3	2.6	3.7	3.7	3.6
Student's native language (2009)										
English	75.5	33.9	39.5	42.4	48.8	4.8	3.1	3.7	3.4	3.6
English and a non-English language	79.8	‡	37.4	64.0	57.2	5.5	‡	3.5	4.7	4.5
Non-English	77.2	36.9!	49.1	52.9	63.3	5.4	1.7 !	3.3	2.8	3.6
Parents' socioeconomic status (2009) <sup>4</sup>										
Lowest fifth	57.1	23.7	36.1	25.3	25.0	4.4	2.0	2.9	2.1	2.5
Middle three-fifths	72.7	34.2	41.5	40.6	42.3	4.7	2.9	3.4	3.0	3.3
Highest fifth	89.7	55.9	71.8	64.3	69.0	5.9	4.2	5.0	4.6	4.1
Parents' highest level of education (2009)										
High school credential or less	73.9	25.0	37.9	35.2	35.6	4.9	2.3	3.0	2.4	3.1
Undergraduate degree	77.5	45.1	47.3	53.4	53.4	4.6	3.4	4.1	3.9	3.5
Graduate degree	94.6	49.1	71.2	59.1	71.2	6.8	4.5	4.4	4.6	4.3
Student's educational expectations (2009)										
High school credential	60.5	26.7!	26.2	17.2 !	15.7	‡	‡	2.3	‡	1.9
Undergraduate degree	64.8	32.8	39.7	40.2	45.3	3.7	3.6	3.3	2.9	3.2
Graduate degree	87.2	45.0	57.0	54.5	62.3	6.4	2.9	4.2	3.8	4.0
Don't know	70.6	10.4!	33.6	41.9	39.4	3.9	2.1	2.5	3.5	3.1
Student's mathematics achievement (2009) <sup>5</sup>										
Lowest fifth	‡	13.9	12.9	17.2 !	14.8	‡	1.4	1.3	‡	2.1
Middle three-fifths	69.6	35.7	42.4	40.4	42.0	3.8	2.9	3.2	2.9	2.8
Highest fifth	90.3	75.4	76.6	74.8	77.3	6.3	3.9	4.6	4.5	4.6

Table 6.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in various racial/ethnic groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

	Percen	t earning any hiç	gh school cre	dits in AP, I	B, and		ge high schoo ing any high s		-		
		dual-enro	ollment cours	es <sup>1</sup>		dual-enrollment courses <sup>2</sup>					
		Black/African	Hispanic/				Black/African	Hispanic/			
Selected student and parent characteristics	Asian	American	Latino	Other <sup>3</sup>	White	Asian	American	Latino	Other <sup>3</sup>	White	
Student's school sector (2012)											
Public	77.3	33.6	41.2	42.8	47.9	5.2	3.1	3.5	3.4	3.7	
Regular	75.7	32.9	39.1	43.7	48.3	5.1	2.8	3.3	3.5	3.7	
Charter or special-program school	96.1	45.9	74.8	39.5	54.5	6.3	5.0	4.6	3.4	4.0	
Career/technical/vocational or											
alternative school	‡	‡	‡	‡	‡	1.9!	‡	‡	‡	‡	
Private	70.0	47.9	67.5	60.3	58.9	4.6	2.1	3.4	3.2	3.1	
Student's school region (2012)											
Northeast	71.0	23.4!	30.6!	33.9	47.7	4.3	3.9	3.8	3.5	3.7	
Midwest	72.3	40.3	40.2	48.1	46.9	5.2	2.3	3.5	2.3	2.9	
South	79.8	35.4	52.9	45.5	50.6	6.5	3.0	4.2	3.7	4.1	
West	79.2	33.0	37.0	44.9	51.8	4.7	3.4	2.4	3.7	3.6	
Student's school locale (2012)											
City	83.7	38.1	43.8	46.9	61.1	5.3	3.2	3.6	3.6	4.2	
Suburb	72.4	38.7	46.5	52.9	53.8	5.3	3.1	3.9	3.5	3.6	
Town	46.6!	24.7!	34.2	30.4 !	39.8	3.6!	1.7!	1.8	2.6	2.6	
Rural	72.8	26.9	35.2	39.2	42.4	4.7	2.6	3.1	3.5	3.5	
Student's school size (2012)											
Fewer than 500 students	50.6	43.7!	26.8	28.2	36.9	3.7	2.9	3.2	2.6	2.7	
500 to 1,199 students	72.7	27.5	48.6	34.4	46.4	4.9	2.9	3.7	3.4	3.4	
1,200 or more students	80.3	36.3	42.8	52.9	57.0	5.4	3.3	3.4	3.6	4.0	

Table 6.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in various racial/ethnic groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

	Percen	t earning any hig	gh school cre	dits in AP, I	B, and		nge high schoo ing any high s		-	
	dual-enrollment courses <sup>1</sup>				dual-enrollment courses <sup>2</sup>					
		Black/African	Hispanic/				Black/African	Hispanic/		
Selected student and parent characteristics	Asian	American	Latino	Other <sup>3</sup>	White	Asian	American	Latino	Other <sup>3</sup>	White
Student's school percentage of students who received free or reduced-price lunch (2012) <sup>6</sup>										
Lowest fifth (0–18 percent of students)	82.2	47.6	53.6	52.1	60.5	5.4	3.7	3.3	3.9	3.4
Middle three-fifths (19–67 percent of students)	76.4	33.0	41.3	45.3	45.7	5.4	3.0	3.5	3.3	3.8
Highest fifth (68–100 percent of students)	60.7	34.4	41.6	25.1	33.9	4.2	3.0	3.4	3.1	3.2
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) <sup>7</sup>										
Lowest fifth (0-7 percent of students)	72.3	38.1	22.2	44.1	43.7	5.2	‡	2.5	2.7	3.0
Middle three-fifths (8-64 percent of students)	72.7	31.7	44.9	47.5	53.5	5.4	2.8	3.2	3.4	3.9
Highest fifth (65–100 percent of students)	87.3	32.1	47.9	43.6	59.4	4.5	3.7	4.1	4.2	4.6
Student's school percentage of English language learners (2012)										
0 percent	85.5	45.2	57.9	40.6	40.8	6.1	3.0!	3.4	3.3	3.1
1 to 5 percent	73.0	30.6	45.0	41.8	50.5	5.7	3.1	4.2	3.1	3.6
More than 5 percent	76.8	37.0	40.3	46.9	55.2	4.8	3.1	3.0	3.8	4.1
Student's school offerings (2012) <sup>8</sup>										
Offered AP and/or IB course only	80.5	27.4!	41.4	57.3	65.7	4.7	2.7	2.2	3.9	3.6
Offered dual-enrollment program only <sup>9</sup>	‡	44.1!	‡	23.3 !	18.7 !	‡	2.0!	2.0!	2.0!	2.7
Offered AP or IB courses and	•		·			•				
dual-enrollment program <sup>10</sup>	79.2	32.7	47.3	47.6	52.5	5.4	3.4	3.7	3.4	3.7
High school from which student received diploma (2013)										
Ninth-grade school	76.6	33.1	44.6	46.3	50.3	5.3	3.2	3.5	3.4	3.6
Another high school	79.2	38.4	30.6	26.4	37.2	4.2	2.3	3.3	3.2	3.0

#### Table 6.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in various racial/ethnic groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

- ! Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.
- ‡ Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.
- <sup>1</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. These estimates include students who earned any credits in AP courses, IB courses, and dual-enrollment courses that were offered through a program, and dual-enrollment credits taken independently.
- <sup>2</sup> These estimates include credits earned in AP courses, IB courses, and dual-enrollment courses that were offered through a program, and dual-enrollment courses taken independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>3</sup> "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other. It excludes students of Hispanic or Latino origin.
- <sup>4</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.
- <sup>5</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.
- <sup>6</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.
- <sup>7</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.
- <sup>8</sup> These data were only collected from students' ninth-grade schools; data were not collected from any schools students had transferred to as of the first follow-up data collection. Estimates are based on 2012 data for students who received their high school diploma from their ninth-grade school.
- <sup>9</sup> Students and credits earned by students whose ninth-grade schools offered a dual-enrollment program but did not offer AP or IB courses are included in these estimates. Students and credits earned by students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>10</sup> Students and credits earned by students whose ninth-grade schools offered AP or IB courses and a dual-enrollment program are included in these estimates. Students and credits earned by students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.

NOTE: Estimates are based on fall 2009 ninth-graders who had received a high school diploma from any high school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' high school credits earned were collected from the high school transcripts and reflect Carnegie units. The Carnegie unit is a standard of measurement that represents one credit for 120 hours of classroom time over the course of a year at the secondary-school level in the United States, equivalent to the completion of a 1-year academic course taken one period a day, 5 days a week. All race categories exclude Hispanic or Latino origin unless specified. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

Table S6.

Standard errors for table 6: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in various racial/ethnic groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013

	Percent earning any high school credits in AP, IB, and dual-enrollment courses						age high schoo ning any high s dual-eni		in AP, IB,	
		Black/African	Hispanic/				Black/African	Hispanic/		
Selected student and parent characteristics	Asian	American	Latino	Other	White	Asian	American	Latino	Other	White
Total	3.89	2.79	2.54	3.24	1.48	0.25	0.21	0.23	0.21	0.09
Student's sex (2009)										
Female	4.27	3.99	3.33	4.83	1.76	0.28	0.28	0.24	0.24	0.11
Male	4.61	3.62	2.95	3.46	1.60	0.38	0.38	0.44	0.32	0.12
Student's native language (2009)										
English	5.41	2.90	3.31	3.24	1.52	0.40	0.22	0.42	0.23	0.10
English and a non-English language	5.46	†	5.43	13.86	8.59	0.46	†	0.52	0.76	0.67
Non-English	5.38	16.87	4.35	13.81	8.66	0.38	0.66	0.29	0.72	0.46
Parents' socioeconomic status (2009)										
Lowest fifth	10.72	4.50	3.98	6.55	2.63	0.76	0.31	0.32	0.47	0.23
Middle three-fifths	5.25	3.50	2.95	3.83	1.64	0.34	0.26	0.34	0.21	0.10
Highest fifth	3.10	5.10	5.56	5.24	1.58	0.40	0.65	0.48	0.38	0.14
Parents' highest level of education (2009)										
High school credential or less	5.67	3.82	3.01	4.31	1.91	0.43	0.26	0.33	0.23	0.16
Undergraduate degree	5.50	5.18	5.45	5.20	1.89	0.36	0.37	0.37	0.29	0.13
Graduate degree	1.86	6.48	6.36	6.63	1.79	0.56	0.56	0.56	0.49	0.17
Student's educational expectations (2009)										
High school credential	12.22	10.10	6.31	7.16	1.88	†	†	0.41	†	0.21
Undergraduate degree	9.03	5.66	4.49	5.10	2.00	0.37	0.58	0.38	0.38	0.11
Graduate degree	2.89	4.22	3.13	4.07	1.75	0.40	0.20	0.33	0.23	0.12
Don't know	7.65	3.15	4.23	5.89	2.37	0.48	0.35	0.32	0.51	0.17
Student's mathematics achievement (2009)										
Lowest fifth	†	4.09	3.52	6.02	1.99	†	0.20	0.17	†	0.28
Middle three-fifths	6.28	3.89	2.72	3.26	1.61	0.26	0.25	0.25	0.22	0.10
Highest fifth	2.86	5.77	4.87	4.85	1.72	0.37	0.53	0.49	0.34	0.14

Table S6.

Standard errors for table 6: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in various racial/ethnic groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

	earning any hig			IB, and	Average high school credits earned by students earning any high school credits in AP, IB, and dual-enrollment courses					
	dual-enrollment courses								ses	
Selected student and parent characteristics	Asian	Black/African American	Hispanic/ Latino	Other	White	Asian	Black/African American	Hispanic/ Latino	Other	White
Student's school sector (2012)										
Public	4.09	3.00	2.60	3.45	1.61	0.27	0.23	0.25	0.23	0.11
Regular	4.13	3.13	2.39	3.67	1.66	0.29	0.21	0.26	0.24	0.11
Charter or special-program school	4.88	12.60	12.07	8.95	6.47	1.24	1.10	0.76	0.82	0.53
Career/technical/vocational or										
alternative school	†	†	†	†	†	0.81	†	†	†	†
Private	9.04	9.01	8.73	6.21	4.26	0.87	0.32	0.35	0.42	0.15
Student's school region (2012)										
Northeast	13.66	7.82	9.70	6.16	3.46	0.39	0.67	0.71	0.66	0.25
Midwest	4.87	5.34	4.46	4.95	3.08	0.52	0.36	0.51	0.27	0.16
South	4.92	3.95	3.36	4.28	1.90	0.40	0.33	0.40	0.30	0.15
West	6.06	6.45	4.48	7.12	4.51	0.48	0.53	0.22	0.49	0.24
Student's school locale (2012)										
City	3.65	5.44	4.19	4.72	2.62	0.42	0.41	0.34	0.32	0.20
Suburb	7.54	4.53	4.04	4.20	1.93	0.40	0.41	0.41	0.35	0.19
Town	17.84	7.91	8.94	9.18	2.57	1.30	0.84	0.53	0.45	0.16
Rural	8.73	5.57	6.08	6.18	3.33	0.49	0.36	0.30	0.59	0.18
Student's school size (2012)										
Fewer than 500 students	12.69	13.54	6.78	5.66	3.83	0.46	0.47	0.76	0.44	0.17
500 to 1,199 students	9.58	4.22	8.46	6.99	2.48	0.81	0.43	0.60	0.40	0.20
1,200 or more students	4.20	4.24	2.93	4.10	1.80	0.30	0.36	0.27	0.28	0.12

Table S6.
Standard errors for table 6: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in various racial/ethnic groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013

	Percent earning any high school credits in AP, IB, and dual-enrollment courses						age high schoo ning any high s dual-en		in AP, IB,	
		Black/African	Hispanic/	Hispanic/			Black/African	Hispanic/		
Selected student and parent characteristics	Asian	American	Latino	Other	White	Asian	American	Latino	Other	White
Student's school percentage of students who received free or reduced-price lunch (2012)										
Lowest fifth (0–18 percent of students)	4.51	6.28	6.96	5.14	2.43	0.43	0.34	0.45	0.43	0.14
Middle three-fifths (19–67 percent of students)	4.80	4.19	3.64	3.95	2.04	0.45	0.38	0.34	0.29	0.14
Highest fifth (68–100 percent of students)	14.79	5.51	4.50	7.28	3.73	0.43	0.45	0.44	0.77	0.32
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)										
Lowest fifth (0-7 percent of students)	7.88	11.08	5.23	5.57	3.05	0.83	†	0.40	0.34	0.18
Middle three-fifths (8-64 percent of students)	5.14	4.00	3.17	4.13	1.91	0.39	0.21	0.25	0.27	0.14
Highest fifth (65–100 percent of students)	9.58	5.76	6.08	12.98	7.60	0.77	0.65	0.47	0.82	0.66
Student's school percentage of English language learners (2012)										
0 percent	8.25	9.11	10.40	5.77	3.71	0.79	1.00	0.36	0.42	0.17
1 to 5 percent	5.97	3.43	4.12	3.86	1.91	0.60	0.30	0.40	0.25	0.14
More than 5 percent	5.04	6.01	3.64	6.34	3.19	0.31	0.45	0.25	0.49	0.23
Student's school offerings (2012)										
Offers AP and/or IB course only	5.45	9.20	6.36	8.59	3.87	0.30	0.47	0.31	0.58	0.25
Offers dual-enrollment program only	†	20.46	†	11.40	6.32	†	0.81	0.89	0.75	0.74
Offers AP or IB courses and										
dual-enrollment program	4.74	3.20	3.07	4.44	1.51	0.37	0.33	0.28	0.25	0.12
High school from which student received diploma (2013)										
Ninth-grade school	4.23	2.93	2.74	3.74	1.58	0.27	0.27	0.24	0.23	0.10
Another high school	6.31	6.89	5.01	5.68	2.37	0.57	0.46	0.65	0.63	0.18

<sup>†</sup> Not applicable.

—Continued

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09) 2013 Update and High School Transcripts Restricted-use Data File.

Table 7.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in different socioeconomic status (SES) groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013

	high scho	cent earning a ol credits in Al	P, IB, and	earned b	ge high school by students ear bol credits in A enrollment cou	rning any NP, IB, and
	Lowest	Middle	Highest	Lowest	Middle	Highest
	fifth SES <sup>3</sup>	three-fifths	fifth	fifth	three-fifths SES <sup>3</sup>	fifth
Selected student and parent characteristics		SES <sup>3</sup>	SES <sup>3</sup>	SES <sup>3</sup>		SES <sup>3</sup>
Total	30.9	41.9	69.3	2.8	3.3	4.3
Student's sex (2009)						
Female	35.8	46.1	74.5	2.7	3.2	4.4
Male	25.6	37.6	64.2	2.9	3.5	4.3
Student's race/ethnicity (2009) <sup>4</sup>						
Asian	57.1	72.7	89.7	4.4	4.7	5.9
Black/African American	23.7	34.2	55.9	2.0	2.9	4.2
Hispanic/Latino Other	36.1 25.3	41.5	71.8 64.3	2.9 2.1	3.4	5.0
White	25.3 25.0	40.6 42.3	69.0	2.1	3.0 3.3	4.6 4.1
	20.0	42.0	05.0	2.0	0.0	7.1
Student's native language (2009)	00.0	40.0	07.0	0.4	0.0	4.0
English	22.6 33.1	40.9 45.5	67.9 81.3	2.4 2.9	3.3 4.2	4.2 5.5
English and a non-English language Non-English	33.1 49.6	45.5 51.0	86.3	3.1	3.5	5.8
Ç	40.0	01.0	00.0	0.1	0.0	0.0
Parents' highest level of education (2009)	20.4	07.4		0.7	2.0	
High school credential or less Undergraduate degree	32.4 27.4	37.4 47.1	‡ 67.5	2.7 2.1	3.2 3.5	‡ 4.0
Graduate degree	‡	59.9	71.9	‡	3.6	4.7
	•			•		
Student's educational expectations (2009) High school credential	20.2	19.7	39.9	2.1	2.3	2.2
Undergraduate degree	29.3	40.5	62.3	2.4	3.0	4.0
Graduate degree	43.6	54.1	75.4	3.4	3.7	4.7
Don't know	26.7	32.8	62.2	2.3	2.9	3.5
Student's mathematics achievement (2009) <sup>5</sup>						
Lowest fifth	12.0	13.6	31.5	1.5	1.9	1.8
Middle three-fifths	32.7	39.5	58.7	2.7	2.8	3.5
Highest fifth	72.5	72.7	84.9	3.6	4.5	5.1
Student's school sector (2012)						
Public	29.9	42.0	69.2	2.8	3.4	4.5
Regular	27.5	42.3	68.6	2.5	3.3	4.5
Charter or special-program school	65.8	50.8	80.4	4.2	4.1	5.8
Career/technical/vocational or						
alternative school	‡ 	‡	‡ 00.0	‡	2.0!	‡
Private	69.9 !	44.4	68.8	2.7	2.7	3.3
Student's school region (2012)						
Northeast	34.4 !		63.2	3.6	3.5	4.0
Midwest	29.5	41.8	67.2	2.3	2.5	3.7
South West	29.8 32.1	44.7 43.2	74.3 69.5	2.8 2.4	3.8 3.1	4.9 4.3

Table 7.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in different socioeconomic status (SES) groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

	Percent earning any high school credits in AP, IB, and dual-enrollment courses <sup>1</sup>			earned b	ge high school by students ear pol credits in A enrollment co	rning any NP, IB, and
	Lowest	Middle	Highest	Lowest	Middle	Highest
Selected student and parent characteristics	fifth SES <sup>3</sup>	three-fifths SES <sup>3</sup>	fifth SES <sup>3</sup>	fifth SES <sup>3</sup>	three-fifths SES <sup>3</sup>	fifth SES <sup>3</sup>
	JEJ	323	323	323	323	323
Student's school locale (2012)	40.0	40.0	70.0	0.0	0.5	5.0
City Suburb	40.0 34.1	46.8	76.0 72.1	3.2 2.6	3.5	5.0 4.2
Town	34.1 21.5	46.0 35.0	61.4	2.0 1.7	3.6 2.3	3.1
Rural	18.9	37.4	61.6	2.3	3.2	4.0
		<b>0</b>	00	2.0	V.=	
Student's school size (2012) Fewer than 500 students	17.7	31.5	56.2	2.2	2.7	3.0
500 to 1,199 students	32.9	38.9	68.0	3.4	3.1	4.1
1,200 or more students	33.3	47.5	73.8	2.5	3.6	4.8
Student's school percentage of students who received free or reduced-price lunch (2012) <sup>6</sup>						
Lowest fifth (0–18 percent of students)	50.1	50.3	70.2	2.9	3.3	3.9
Middle three-fifths (19–67 percent of students)	28.2	41.8	68.2	2.8	3.4	4.7
Highest fifth (68–100 percent of students)	32.4	37.7	59.3	2.7	3.3	5.0
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) <sup>7</sup>	,					
Lowest fifth (0-7 percent of students)	20.1	38.4	62.0	2.9	2.7	3.4
Middle three-fifths (8-64 percent of students)	29.3	45.5	72.3	2.5	3.4	4.6
Highest fifth (65–100 percent of students)	43.6	43.2	79.4	3.4	4.2	5.2
Student's school percentage of English language learners (2012)						
0 percent	30.4	35.4	64.6	2.4	2.9	3.9
1 to 5 percent	28.4	42.9	69.2	3.3	3.4	4.3
More than 5 percent	34.0	46.1	72.1	2.4	3.5	4.9
Student's school offerings (2012) <sup>8</sup>						
Offered AP and/or IB course only	32.2	47.3	77.1	2.1	2.9	4.1
Offered dual-enrollment program only <sup>9</sup> Offered AP or IB courses and	15.7 !	20.7	29.0 !	1.6	2.4	3.3!
dual-enrollment program <sup>10</sup>	35.2	45.6	71.1	2.9	3.5	4.5
High school from which student received diploma (2013)						
Ninth-grade school	32.4	43.4	69.8	2.8	3.4	4.4
Another high school	24.2	32.6	64.5	2.4	2.7	3.9

#### Table 7

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in different socioeconomic status (SES) groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

- ! Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.
- ‡ Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.
- <sup>1</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. These estimates include students who earned any credits in AP courses, IB courses, and dual-enrollment courses that were offered through a program, and dual-enrollment credits taken independently.
- <sup>2</sup> These estimates include credits earned in AP courses, IB courses, and dual-enrollment courses that were offered through a program, and dual-enrollment courses taken independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>3</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.
- <sup>4</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.
- <sup>5</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.
- <sup>6</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.
- <sup>7</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.
- <sup>8</sup> These data were only collected from students' ninth-grade schools; data were not collected from any schools students had transferred to as of the first follow-up data collection. Estimates are based on 2012 data for students who received their high school diploma from their ninth-grade school.
- <sup>9</sup> Students and credits earned by students whose ninth-grade schools offered a dual-enrollment program but did not offer AP or IB courses are included in these estimates. Students and credits earned by students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>10</sup> Students and credits earned by students whose ninth-grade schools offered AP or IB courses and a dual-enrollment program are included in these estimates. Students and credits earned by students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs. NOTE: Estimates are based on fall 2009 ninth-graders who had received a high school diploma from any high school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' high school credits earned were collected from the high school transcripts and reflect Carnegie units. The Carnegie unit is a standard of measurement that represents one credit for 120 hours of classroom time over the course of a year at the secondary-school level in the United States, equivalent to the completion of a 1-year academic course taken one period a day, 5 days a week. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

Table S7.

Standard errors for table 7: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in different socioeconomic status (SES) groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013

	high scho	cent earning a ol credits in Al enrollment cou	P, IB, and	Average high school credits earned by students earning any high school credits in AP, IB, and dual-enrollment courses			
Selected student and parent characteristics	Lowest fifth SES	Middle three-fifths SES	Highest fifth SES	Lowest fifth SES	Middle three-fifths SES	Highest fifth SES	
Total	2.42	1.45	1.52	0.19	0.10	0.14	
Student's sex (2009)							
Female	3.07	1.81	1.87	0.21	0.11	0.16	
Male	2.79	1.73	1.96	0.27	0.19	0.17	
Student's race/ethnicity (2009)							
Asian	10.72	5.25	3.10	0.76	0.34	0.40	
Black/African American	4.50	3.50	5.10	0.31	0.26	0.65	
Hispanic/Latino	3.98	2.95	5.56	0.32	0.34	0.48	
Other	6.55	3.83	5.24	0.47	0.21	0.38	
White	2.63	1.64	1.58	0.23	0.10	0.14	
Student's native language (2009)							
English	1.98	1.47	1.56	0.16	0.10	0.15	
English and a non-English language	7.45	4.74	5.81	0.48	0.49	0.46	
Non-English	5.58	4.24	3.51	0.32	0.29	0.44	
Parents' highest level of education (2009)							
High school credential or less	2.39	1.81	†	0.19	0.16	†	
Undergraduate degree	6.53	2.09	2.02	0.29	0.13	0.17	
Graduate degree	†	4.67	1.59	†	0.31	0.17	
Student's educational expectations (2009)							
High school credential	5.44	2.69	7.48	0.49	0.29	0.33	
Undergraduate degree	4.33	2.01	2.67	0.27	0.14	0.23	
Graduate degree	4.10	2.11	1.71	0.29	0.13	0.16	
Don't know	4.60	2.13	3.23	0.31	0.19	0.22	
Student's mathematics achievement (2009)							
Lowest fifth	2.74	1.94	4.99	0.36	0.28	0.22	
Middle three-fifths	2.57	1.61	2.00	0.21	0.10	0.20	
Highest fifth	7.38	2.17	1.62	0.31	0.20	0.17	
Student's school sector (2012)							
Public	2.26	1.56	1.75	0.20	0.11	0.16	
Regular	2.13	1.59	1.86	0.14	0.12	0.16	
Charter or special-program school	14.87	6.44	6.25	0.82	0.53	0.89	
Career/technical/vocational or							
alternative school	†	†	†	†	0.93	†	
Private	24.02	4.08	3.30	0.67	0.15	0.19	
Student's school region (2012)							
Northeast	10.98	4.04	3.63	0.44	0.27	0.31	
Midwest	3.29	2.76	3.07	0.28	0.15	0.24	
South West	3.07 5.65	2.11 3.88	2.22 3.67	0.34 0.28	0.21 0.19	0.21 0.30	

Table S7.

Standard errors for table 7: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students in different socioeconomic status (SES) groups earning any high school credits in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and average number of high school credits earned, by selected student and parent characteristics: 2013—Continued

	high scho	cent earning a ol credits in Al enrollment cou	P, IB, and	Average high school credits earned by students earning any high school credits in AP, IB, and dual-enrollment courses			
Selected student and parent characteristics	Lowest fifth SES	Middle three-fifths SES	Highest fifth SES	Lowest fifth SES	Middle three-fifths SES	Highest fifth SES	
Student's school locale (2012)							
City	4.88	3.34	2.85	0.34	0.16	0.27	
Suburb	3.97	2.16	2.27	0.27	0.26	0.19	
Town	4.95	2.41	4.39	0.21	0.15	0.39	
Rural	3.16	2.97	3.58	0.28	0.17	0.23	
Student's school size (2012)							
Fewer than 500 students	4.34	3.73	4.53	0.23	0.20	0.24	
500 to 1,199 students	6.24	2.45	2.98	0.47	0.22	0.27	
1,200 or more students	3.08	2.15	1.93	0.19	0.15	0.17	
Student's school percentage of students who received free or reduced-price lunch (2012)							
Lowest fifth (0–18 percent of students)	13.05	2.65	2.35	0.55	0.19	0.17	
Middle three-fifths (19–67 percent of students)	2.87	2.01	2.11	0.25	0.13	0.21	
Highest fifth (68–100 percent of students)	3.88	3.49	7.76	0.37	0.39	0.68	
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)  Lowest fifth (0–7 percent of students)	4.26	3.21	3.36	0.57	0.18	0.24	
Middle three-fifths (8–64 percent of students)	2.94	2.16	1.96	0.16	0.10	0.27	
Highest fifth (65–100 percent of students)	6.91	5.65	6.52	0.48	0.51	0.62	
Student's school percentage of English language learners (2012)							
0 percent	8.21	3.47	3.76	0.36	0.20	0.32	
1 to 5 percent	3.60	1.98	2.03	0.37	0.16	0.19	
More than 5 percent	3.76	2.73	3.12	0.19	0.21	0.29	
Student's school offerings (2012) Offers AP and/or IB course only	8.08	5.61	3.04	0.38	0.30	0.30	
Offers dual-enrollment program only	6.33	5.78	10.77	0.38	0.30	1.27	
Offers AP or IB courses and	0.55	3.70	10.77	0.20	0.41	1.21	
dual-enrollment program	2.83	1.70	1.69	0.24	0.13	0.17	
High school from which student received diploma (2013)							
Ninth-grade school	2.45	1.65	1.60	0.20	0.11	0.14	
Another high school	5.04	2.93	4.10	0.33	0.21	0.41	

<sup>†</sup> Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09) 2013 Update and High School Transcripts Restricted-use Data File.

Table 8.

Among fall 2009 ninth-graders who took selected Advanced Placement (AP) exams and received a high school diploma by the fall of 2013, percentage of test takers scoring 3 or above, by selected student and parent characteristics: 2013

		Percent of test takers scoring 3 or above on the AP English							
	AP Calculus	AP Biology	AP English literature and	AP U.S. History					
Selected student and parent characteristics	AP Calculus AB exam	exam	composition exam	exam					
			,						
Total	53.4	50.3	52.8	49.6					
Student's sex (2009)									
Female	50.3	45.1	53.9	45.6					
Male	56.3	57.9	51.1	54.4					
Student's race/ethnicity (2009) <sup>1</sup>									
Asian	63.8	62.3	53.4	53.3					
Black/African American	‡	‡	31.9!	38.2					
Hispanic/Latino	40.6	29.0!	31.3!	21.4					
Other	70.0	56.3	69.5	46.6					
White	55.4	57.1	60.7	61.3					
Student's native language (2009)									
English	55.5	51.1	56.9	53.8					
English and a non-English language	48.9	47.1	62.4	46.3					
Non-English	46.0	46.2	25.4!	26.3					
Parents' socioeconomic status (2009) <sup>2</sup>									
Lowest fifth	17.9!	‡	‡	‡					
Middle three-fifths	50.3	48.3	50.1	42.7					
Highest fifth	65.9	59.6	70.2	68.5					
Parents' highest level of education (2009)									
High school credential or less	39.7	35.3	41.1	39.2					
Undergraduate degree	49.5	50.3	58.0	47.6					
Graduate degree	75.6	63.0	67.7	71.2					
Student's educational expectations (2009)									
High school credential	‡	‡	‡	‡					
Undergraduate degree	46.2	48.6	50.2	43.6					
Graduate degree	55.3	50.6	56.2	52.3					
Don't know	53.1	47.4	36.9	46.6					
Student's mathematics achievement (2009) <sup>3</sup>									
Lowest fifth	‡	‡	‡	‡					
Middle three-fifths	30.0	29.0	33.8	32.0					
Highest fifth	67.3	67.5	71.5	65.7					

Table 8.

Among fall 2009 ninth-graders who took selected Advanced Placement (AP) exams and received a high school diploma by the fall of 2013, percentage of test takers scoring 3 or above, by selected student and parent characteristics: 2013—Continued

	Percent	of test takers sco	oring 3 or above on the	AP exam
			AP English	AP
	AP Calculus	AP Biology	literature and	U.S. History
Selected student and parent characteristics	AB exam	exam	composition exam	exam
Student's school sector (2012)				
Public	51.6	49.3	50.9	48.0
Regular	51.6	49.5	55.5	53.0
Charter or special-program school	56.4	47.5!	‡	‡
Career/technical/vocational or				
alternative school	‡	‡	‡	‡
Private	69.3	69.8	79.1	68.7
Student's school region (2012)				
Northeast	59.1	53.8	49.5	57.6
Midwest	49.5	50.0	57.2	57.5
South	55.5	46.7	50.5	44.3
West	48.3	53.1	60.6	48.2
Student's school locale (2012)				
City	48.1	43.8	45.4	37.9
Suburb	60.3	48.5	58.2	60.1
Town	42.9	53.7	54.5	42.9
Rural	56.7	68.2	57.2	54.1
Student's school size (2012)				
Fewer than 500 students	50.1	66.8	69.7	59.9
500 to 1,199 students	47.4	50.6	43.2	44.9
1,200 or more students	58.0	49.8	58.7	51.2
Student's school percentage of students who received free or reduced-price				
lunch (2012) <sup>4</sup>				
Lowest fifth (0–18 percent of students)	63.4	66.3	79.8	68.4
Middle three-fifths (19–67 percent of students)	58.6	49.7	51.8	49.8
Highest fifth (68–100 percent of students)	18.0!	‡	25.2	15.1 !
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) <sup>5</sup>				
Lowest fifth (0-7 percent of students)	63.9	59.5	59.8	63.5
Middle three-fifths (8–64 percent of students)	53.8	57.4	64.1	60.6
Highest fifth (65–100 percent of students)	40.0!	‡	30.2!	13.0 !

Table 8.

Among fall 2009 ninth-graders who took selected Advanced Placement (AP) exams and received a high school diploma by the fall of 2013, percentage of test takers scoring 3 or above, by selected student and parent characteristics: 2013—Continued

	Percent	of test takers sc	Percent of test takers scoring 3 or above on the AP exam								
Selected student and parent characteristics	AP Calculus AB exam	AP Biology exam	AP English literature and composition exam	AP U.S. History exam							
Student's school percentage of English language learners (2012)											
0 percent	70.7	73.5	72.2	67.3							
1 to 5 percent	52.3	46.4	52.8	49.8							
More than 5 percent	47.0	46.4	48.0	41.6							
High school from which student received diploma (2013)											
Ninth-grade school	53.2	50.9	53.9	50.4							
Another high school	56.9	39.7	39.1	39.1							

<sup>!</sup> Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.

NOTE: Estimates are based on fall 2009 ninth-graders who had taken selected Advanced Placement exams and received a high school diploma from any high school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' AP exam scores were collected from the College Board and high school transcripts. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

<sup>‡</sup> Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.

<sup>&</sup>lt;sup>1</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.

<sup>&</sup>lt;sup>2</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.

<sup>&</sup>lt;sup>3</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.

<sup>&</sup>lt;sup>4</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.

<sup>&</sup>lt;sup>5</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.

Table S8.

Standard errors for table 8: Among fall 2009 ninth-graders who took selected Advanced Placement (AP) exams and received a high school diploma by the fall of 2013, percentage of test takers scoring 3 or above, by selected student and parent characteristics: 2013

	Percent of test takers scoring 3 or above on the AP exam				
		AP English			
	AP Calculus	AP Biology	literature and	U.S. History	
Selected student and parent characteristics	AB exam	exam	composition exam	exam	
Total	4.06	4.57	4.07	4.10	
Student's sex (2009)					
Female	5.32	6.10	5.55	4.72	
Male	4.56	6.53	4.74	4.54	
Student's race/ethnicity (2009)					
Asian	8.09	9.19	11.80	7.70	
Black/African American	†	†	11.36	12.91	
Hispanic/Latino	10.27	11.81	9.63	6.94	
Other	11.09	13.26	8.13	7.23	
White	4.53	4.94	3.67	4.12	
Student's native language (2009)					
English	4.50	4.74	3.36	4.08	
English and a non-English language	9.64	13.02	8.15	10.78	
Non-English	11.76	12.27	12.15	8.66	
Parents' socioeconomic status (2009)					
Lowest fifth	7.01	†	†	†	
Middle three-fifths	6.00	6.89	4.26	5.90	
Highest fifth	4.23	6.76	3.85	3.53	
Parents' highest level of education (2009)					
High school credential or less	7.24	7.96	6.20	8.54	
Undergraduate degree	7.44	7.47	5.04	5.02	
Graduate degree	4.39	6.73	5.42	3.93	
Student's educational expectations (2009)					
High school credential	†	†	†	†	
Undergraduate degree	7.58	9.23	6.16	5.72	
Graduate degree	4.70	5.74	5.18	4.99	
Don't know	9.11	9.53	7.54	6.88	
Student's mathematics achievement (2009)					
Lowest fifth	†	†	†	†	
Middle three-fifths	7.67	7.20	5.36	4.85	
Highest fifth	3.42	4.47	4.27	3.92	

Table S8.

Standard errors for table 8: Among fall 2009 ninth-graders who took selected Advanced Placement (AP) exams and received a high school diploma by the fall of 2013, percentage of test takers scoring 3 or above, by selected student and parent characteristics: 2013—Continued

	Percent of test takers scoring 3 or above on the AP exam				
			AP English	AP	
	AP Calculus	AP Biology	literature and	U.S. History	
Selected student and parent characteristics	AB exam	exam	composition exam	exam	
Student's school sector (2012)					
Public	4.55	5.13	4.21	4.52	
Regular	4.96	4.75	3.67	4.43	
Charter or special-program school	14.67	23.08	†	†	
Career/technical/vocational or			·	•	
alternative school	†	†	†	†	
Private	5.41	6.06	6.05	6.09	
Student's school region (2012)					
Northeast	9.15	7.83	12.73	12.17	
Midwest	9.24	8.82	9.79	7.27	
South	4.91	7.65	4.85	3.90	
West	11.68	11.90	8.96	12.39	
Student's school locale (2012)					
City	6.48	8.51	7.14	6.24	
Suburb	6.71	5.93	5.38	5.49	
Town	11.90	14.78	13.03	9.41	
Rural	10.88	9.73	5.83	9.18	
Student's school size (2012)					
Fewer than 500 students	9.44	9.39	6.62	8.46	
500 to 1,199 students	6.54	8.82	7.30	8.94	
1,200 or more students	5.75	5.81	4.58	5.35	
Student's school percentage of students who received free or reduced-price lunch (2012)					
Lowest fifth (0–18 percent of students)	5.07	6.30	3.97	5.01	
Middle three-fifths (19–67 percent of students)	5.94	7.38	5.43	6.12	
Highest fifth (68–100 percent of students)	7.66	†	6.80	6.11	
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)					
Lowest fifth (0-7 percent of students)	7.50	10.39	6.30	6.84	
Middle three-fifths (8–64 percent of students)	4.79	4.92	3.73	4.06	
Highest fifth (65–100 percent of students)	14.84	†	9.43	5.74	

Table S8.

Standard errors for table 8: Among fall 2009 ninth-graders who took selected Advanced Placement (AP) exams and received a high school diploma by the fall of 2013, percentage of test

takers scoring 3 or above, by selected student and parent characteristics: 2013—Continued

Percent of test takers scoring 3 or above on the AP exam **AP English** AP **AP Calculus** literature and AP Biology **U.S. History** AB exam composition exam Selected student and parent characteristics exam exam Student's school percentage of English language learners (2012) 0 percent 6.60 7.59 6.66 8.02 1 to 5 percent 5.38 5.10 4.94 6.22 More than 5 percent 9.37 8.52 6.76 9.15 High school from which student received diploma (2013) Ninth-grade school 4.23 4.70 4.33 4.33 Another high school 11.84 11.64 9.28 7.42

<sup>†</sup> Not applicable.

Table 9.

Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by number of high school credits earned in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and selected student and parent characteristics: 2013

	Average SAT or ACT exam score on the SAT scale <sup>1</sup>				
	Earned no AP, IB, or dual-	Earned up to 3 AP, IB, and dual-	Earned more than 3 AP, IB, and dual-		
Selected student and parent characteristics	enrollment credits <sup>2</sup>	enrollment credits <sup>3</sup>	enrollment credits <sup>4</sup>		
Total	881	1006	1145		
Student's sex (2009)					
Female	870	983	1109		
Male	894	1038	1186		
Student's race/ethnicity (2009) <sup>5</sup>					
Asian	860	1004	1202		
Black/African American	790	866	1055		
Hispanic/Latino	831	928	1049		
Other	841	993	1141		
White	928	1052	1180		
Student's native language (2009)					
English	894	1021	1156		
English and a non-English language	814	987	1143		
Non-English	778	905	1077		
Parents' socioeconomic status (2009) <sup>6</sup>					
Lowest fifth	800	888	994		
Middle three-fifths	878	985	1120		
Highest fifth	971	1080	1210		
Parents' highest level of education (2009)					
High school credential or less	843	955	1079		
Undergraduate degree	914	1026	1151		
Graduate degree	955	1087	1227		
Student's educational expectations (2009)					
High school credential	809	869	‡		
Undergraduate degree	898	1007	1113		
Graduate degree	922	1025	1157		
Don't know	831	981	1144		
Student's mathematics achievement (2009) <sup>7</sup>					
Lowest fifth	731	808	‡		
Middle three-fifths	884	963	1049		
Highest fifth	1057	1123	1228		
Student's school sector (2012)					
Public	877	1001	1140		
Regular	889	1007	1147		
Charter or special-program school	759	941	1108		
Career/technical/vocational or alternative	222				
school	688	‡ 1085	981 !		
Private	970	1085	1249		

Table 9.

Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by number of high school credits earned in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and selected student and parent characteristics: 2013—Continued

	Average SAT or ACT exam score on the SAT scale <sup>1</sup>				
•	Earned no	Earned up to 3	Earned more than 3		
	AP, IB, or dual-	AP, IB, and dual-	AP, IB, and dual-		
Selected student and parent characteristics	enrollment credits <sup>2</sup>	enrollment credits <sup>3</sup>	enrollment credits <sup>4</sup>		
Student's school region (2012)					
Northeast	885	1045	1145		
Midwest	909	1022	1212		
South	859	975	1121		
West	875	1001	1149		
Student's school locale (2012)					
City	835	976	1134		
Suburb	897	1012	1160		
Town	877	1035	1167		
Rural	901	1016	1135		
Student's school size (2012)					
Fewer than 500 students	952	1057	1180		
500 to 1,199 students	856	1007	1128		
1,200 or more students	871	1000	1152		
Student's school percentage of students who					
received free or reduced-price lunch (2012) <sup>8</sup>					
Lowest fifth (0–18 percent of students)	968	1083	1228		
Middle three-fifths (19-67 percent of students)	882	1000	1132		
Highest fifth (68–100 percent of students)	800	892	1060		
Student's school percentage of students who					
were non-Hispanic Black or African American,					
non-Hispanic American Indian or Alaska Native,					
and Hispanic or Latino students of					
any race (2009) <sup>9</sup>					
Lowest fifth (0–7 percent of students)	934	1052	1185		
Middle three-fifths (8–64 percent of students)	891	1023	1162		
Highest fifth (65–100 percent of students)	741	887	1059		
Student's school percentage of English language learners (2012)					
0 percent	937	1058	1212		
1 to 5 percent	883	1016	1135		
More than 5 percent	845	971	1138		
High school from which student received diploma (2013)					
Ninth-grade school	881	1011	1145		
Another high school	880	962	1144		

#### Table 9.

Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by number of high school credits earned in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and selected student and parent characteristics: 2013—Continued

- ! Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.
- ‡ Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.
- <sup>1</sup> These estimates represent a composite of math and reading college-entrance exam scores. ACT scores were standardized to the SAT scale using the ACT-to-SAT concordance scale.
- <sup>2</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. These estimates include college-entrance exam scores of students who did not earn any credits in AP courses, IB courses, and dual-enrollment courses that were offered through a program, or dual-enrollment courses taken independently.
- <sup>3</sup> These estimates include college-entrance exam scores of students who earned up to a total of 3 credits in AP courses, IB courses, and dual-enrollment courses that were offered through a program, and dual-enrollment courses taken independently. See footnote 2 for a definition of dual enrollment and dual-enrollment programs.
- <sup>4</sup> These estimates include college-entrance exam scores of students who earned a total of more than 3 credits in AP courses, IB courses, and dual-enrollment courses that were offered through a program, and dual-enrollment courses taken independently. See footnote 2 for a definition of dual enrollment and dual-enrollment programs.
- <sup>5</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.
- <sup>6</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.
- <sup>7</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.
- <sup>8</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.
- <sup>9</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.

NOTE: Estimates are based on fall 2009 ninth-graders who had taken either the SAT or ACT and received a high school diploma from any high school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' high school credits earned were collected from the high school transcripts and reflect Carnegie units. The Carnegie unit is a standard of measurement that represents one credit for 120 hours of classroom time over the course of a year at the secondary-school level in the United States, equivalent to the completion of a 1-year academic course taken one period a day, 5 days a week. Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, those who earned any high school credits in AP, IB, or dual-enrollment courses earned on average 3.6 credits in these courses combined. Collegeentrance exam scores were collected from the College Board, ACT, and high school transcripts. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

Table S9.

Standard errors for table 9: Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by number of high school credits earned in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and selected student and parent characteristics: 2013

	Average SAT or ACT exam score on the SAT scale				
Selected student and parent characteristics	Earned no AP, IB, or dual- enrollment credits	Earned up to 3 AP, IB, and dual- enrollment credits	Earned more than 3 AP, IB, and dual- enrollment credits		
Total	8.5	7.7	9.3		
Student's sex (2009)					
Female	11.8	8.7	11.3		
Male	9.1	10.5	10.3		
Student's race/ethnicity (2009)					
Asian	24.5	24.1	26.0		
Black/African American	15.8	22.3	35.7		
Hispanic/Latino	17.9	17.7	17.7		
Other	27.8	19.2	26.4		
White	6.6	6.8	10.0		
Student's native language (2009)					
English	9.3	7.1	9.6		
English and a non-English language	24.8	28.9	31.1		
Non-English	21.0	22.5	28.7		
Parents' socioeconomic status (2009)					
Lowest fifth	11.9	20.1	21.0		
Middle three-fifths	10.8	8.7	10.4		
Highest fifth	12.1	10.1	12.0		
Parents' highest level of education (2009)					
High school credential or less	11.0	13.8	13.9		
Undergraduate degree	13.1	8.9	11.6		
Graduate degree	15.4	12.4	13.7		
Student's educational expectations (2009)					
High school credential	18.7	47.4	†		
Undergraduate degree	10.2	13.2	15.6		
Graduate degree	10.8	8.5	11.9		
Don't know	13.8	17.4	15.5		
Student's mathematics achievement (2009)					
Lowest fifth	12.4	22.5	†		
Middle three-fifths	7.5	7.7	10.5		
Highest fifth	11.6	8.2	8.5		
Student's school sector (2012)					
Public	9.0	7.9	9.8		
Regular	7.2	7.5	10.2		
Charter or special-program school	55.9	43.2	34.2		
Career/technical/vocational or alternative school	64.5	_	400.0		
	64.5	† 23.4	488.6		
Private	14.9	23.4	14.9		

Table S9.

Standard errors for table 9: Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by number of high school credits earned in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and selected student and parent characteristics: 2013—Continued

	Average SAT or ACT exam score on the SAT scale				
Selected student and parent characteristics	Earned no AP, IB, or dual- enrollment credits	Earned up to 3 AP, IB, and dual- enrollment credits	Earned more than 3 AP, IB, and dual- enrollment credits		
Student's school region (2012)					
Northeast	21.6	21.4	20.5		
Midwest	14.5	14.2	21.5		
South	12.0	11.7	11.7		
West	18.1	20.7	26.7		
Student's school locale (2012)					
City	27.4	17.4	16.3		
Suburb	8.0	12.0	13.0		
Town	18.0	18.8	33.2		
Rural	10.4	10.6	16.9		
Student's school size (2012)					
Fewer than 500 students	13.8	14.2	29.0		
500 to 1,199 students	16.4	14.8	21.3		
1,200 or more students	11.0	9.6	11.9		
Student's school percentage of students who received free or reduced-price lunch (2012) Lowest fifth (0–18 percent of students) Middle three-fifths (19–67 percent of students) Highest fifth (68–100 percent of students)	12.2 11.6 16.8	9.9 9.2 22.2	11.0 11.4 29.1		
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)  Lowest fifth (0–7 percent of students)	11.2	11.0	26.5		
Middle three-fifths (8–64 percent of students)	10.7	9.7	10.3		
Highest fifth (65–100 percent of students)  Student's school percentage of English language learners (2012)	21.4	22.4	19.7		
0 percent	12.4	20.9	20.3		
1 to 5 percent	11.3	9.2	11.8		
More than 5 percent	15.5	16.9	20.1		
High school from which student received diploma (2013)					
Ninth-grade school	9.0	8.0	9.9		
Another high school	18.3	23.9	33.2		

<sup>†</sup> Not applicable.

Table 10.

Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by type of high school credits earned and selected student and parent characteristics: 2013

	Average SAT or ACT exam score on the SAT scale <sup>1</sup>			
	Earned no AP, IB, or dual- enrollment	Earned AP or	Earned dual- enrollment	Earned both AP or IB and dual-
Selected student and parent characteristics	credits <sup>2</sup>	IB credits only	credits only <sup>3</sup>	enrollment credits <sup>4</sup>
Total	881	1075	973	1093
Student's sex (2009)				
Female	870	1044	960	1051
Male	894	1114	988	1151
Student's race/ethnicity (2009) <sup>5</sup>				
Asian	860	1135	‡	1159
Black/African American	790	968	793	964
Hispanic/Latino	831	983	906	1006
Other	841	1058	1013	1086
White	928	1117	1003	1125
Student's native language (2009)				
English	894	1090	981	1093
English and a non-English language	814	1069	926	1131
Non-English	778	996	806	1067
Parents' socioeconomic status (2009) <sup>6</sup>				
Lowest fifth	800	937	‡	995
Middle three-fifths	878	1045	966	1068
Highest fifth	971	1156	1040	1144
Parents' highest level of education (2009)				
High school credential or less	843	1012	937	1034
Undergraduate degree	914	1095	985	1082
Graduate degree	955	1167	1046	1177
Student's educational expectations (2009)				
High school credential	809	977	‡	‡
Undergraduate degree	898	1056	997	1057
Graduate degree	922	1094	999	1113
Don't know	831	1050	943	1077
Student's mathematics achievement (2009) <sup>7</sup>				
Lowest fifth	731	809	‡	‡
Middle three-fifths	884	1000	937	+ 1015
Highest fifth	1057	1190	1106	1185
Student's school sector (2012)				
Public	877	1069	980	1097
Regular	889	1072	981	1095
Charter or special-program school	759	1063	928!	
Career/technical/vocational or	. 30			
alternative school	688	740 !	‡	‡
Private	970	1154	1016	1166

Table 10.

Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by type of high school credits earned and selected student and parent characteristics: 2013—Continued

	Average SAT or ACT exam score on the SAT scale <sup>1</sup>				
	Earned no AP, IB, or dual enrollment	Earned AP or	Earned dual- enrollment	Earned both AP or IB and dual-	
Selected student and parent characteristics	credits <sup>2</sup>	IB credits only	credits only <sup>3</sup>	enrollment credits <sup>4</sup>	
Student's school region (2012)					
Northeast	885	1102	‡	1110	
Midwest	909	1090	949	1140	
South	859	1054	974	1075	
West	875	1068	1036	1065	
Student's school locale (2012)					
City	835	1065	911	1084	
Suburb	897	1084	952	1101	
Town	877	1067	1036	1163	
Rural	901	1078	977	1085	
Student's school size (2012)					
Fewer than 500 students	952	1114	1023	1125	
500 to 1,199 students	856	1061	955	1119	
1,200 or more students	871	1079	973	1088	
Student's school percentage of students who received free or reduced-price lunch (2012) <sup>8</sup> Lowest fifth (0–18 percent of students) Middle three-fifths (19–67 percent of students) Highest fifth (68–100 percent of students)	968 882 800	1156 1065 971	1031 983 811	1140 1097 1017	
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) <sup>9</sup> Lowest fifth (0–7 percent of students)  Middle three-fifths (8–64 percent of students)  Highest fifth (65–100 percent of students)	934 891 741	1108 1095 989	997 1006 838	1118 1104 1012	
Student's school percentage of English language learners (2012)					
0 percent	937	1139	994	1150	
1 to 5 percent	883	1073	980	1096	
More than 5 percent	845	1053	981	1084	
High school from which student received diploma (2013)					
Ninth-grade school	881	1077	985	1096	
Another high school	880	1050	‡	1054	

#### Table 10.

Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by type of high school credits earned and selected student and parent characteristics: 2013—Continued

- ! Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.
- ‡ Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.
- <sup>1</sup> These estimates represent a composite of math and reading college-entrance exam scores. ACT scores were standardized to the SAT scale using the ACT-to-SAT concordance scale.
- <sup>2</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. These estimates include college-entrance exam scores of students who did not earn any credits in AP courses, IB courses, and dual-enrollment courses that were offered through a program, or dual-enrollment courses taken independently.
- <sup>3</sup> These estimates include college-entrance exam scores of students who earned credits in dual-enrollment courses that were offered through a program or taken independently but who did not earn any credits in AP or IB courses. See footnote 2 for a definition of dual enrollment and dual-enrollment programs.
- <sup>4</sup> These estimates include college-entrance exam scores of students who earned credits in AP or IB courses and credits in dual-enrollment courses that were offered through a program or taken independently. See footnote 2 for a definition of dual enrollment and dual-enrollment programs.
- <sup>5</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.
- <sup>6</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.
- <sup>7</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.
- <sup>8</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.
- <sup>9</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.

NOTE: AP = Advanced Placement; IB = International Baccalaureate. Estimates are based on fall 2009 ninth-graders who had taken either the SAT or ACT and received a high school diploma from any high school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' high school credits earned were collected from the high school transcripts and reflect Carnegie units. The Carnegie unit is a standard of measurement that represents one credit for 120 hours of classroom time over the course of a year at the secondary-school level in the United States, equivalent to the completion of a 1-year academic course taken one period a day, 5 days a week. College-entrance exam scores were collected from the College Board, ACT, and high school transcripts. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

Table S10.

Standard errors for table 10: Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by type of high school credits earned and selected student and parent characteristics: 2013

	Average SAT or ACT exam score on the SAT scale				
Selected student and parent characteristics	Earned no AP, IB, or dual- enrollment credits	Earned AP or IB credits only	Earned dual- enrollment credits only	Earned both AP or IB and dual- enrollment credits	
Total	8.5	7.9	19.8	11.4	
Student's sex (2009)					
Female	11.8	8.4	27.9	14.9	
Male	9.1	10.6	22.0	13.6	
Student's race/ethnicity (2009)					
Asian	24.5	28.2	†	32.1	
Black/African American	15.8	27.0	53.0	51.1	
Hispanic/Latino	17.9	16.0	49.4	28.4	
Other	27.8	19.7	47.0	32.2	
White	6.6	7.4	16.1	10.7	
Student's native language (2009)					
English	9.3	7.4	17.3	13.0	
English and a non-English language	24.8	20.7	21.1	31.6	
Non-English	21.0	26.6	90.0	35.2	
Parents' socioeconomic status (2009)					
Lowest fifth	11.9	21.4	†	35.3	
Middle three-fifths	10.8	8.5	20.8	14.5	
Highest fifth	12.1	10.8	21.6	19.5	
Parents' highest level of education (2009)					
High school credential or less	11.0	13.4	27.6	21.8	
Undergraduate degree	13.1	8.6	21.5	16.2	
Graduate degree	15.4	12.4	22.1	22.2	
Student's educational expectations (2009)					
High school credential	18.7	69.0	†	†	
Undergraduate degree	10.2	12.2	25.1	24.4	
Graduate degree	10.8	9.7	17.6	15.1	
Don't know	13.8	15.6	30.2	40.2	
Student's mathematics achievement (2009)					
Lowest fifth	12.4	26.4	†	†	
Middle three-fifths	7.5	7.5	18.8	12.7	
Highest fifth	11.6	6.7	22.5	13.9	
Student's school sector (2012)					
Public	9.0	7.9	18.2	11.3	
Regular	7.2	8.2	18.5	11.5	
Charter or special-program school	55.9	24.4	309.2	88.5	
Career/technical/vocational or	33.0	2	555.2	33.0	
alternative school	64.5	298.0	†	†	
Private	14.9	23.0	44.9	25.0	

Table S10

Standard errors for table 10: Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by type of high school credits earned and selected student and parent characteristics: 2013—Continued

	Average SAT or ACT exam score on the SAT scale				
Selected student and parent characteristics	Earned no AP, IB, or dual- enrollment credits	Earned AP or	Earned dual- enrollment credits only	Earned both AP or IB and dual- enrollment credits	
Student's school region (2012)					
Northeast	21.6	17.0	†	32.5	
Midwest	14.5	13.9	45.3	28.4	
South	12.0	11.3	23.4	13.9	
West	18.1	23.5	27.8	34.7	
Student's school locale (2012)					
City	27.4	15.3	68.3	28.4	
Suburb	8.0	10.4	45.7	21.1	
Town	18.0	22.3	25.9	46.5	
Rural	10.4	15.7	24.6	12.5	
Student's school size (2012)					
Fewer than 500 students	13.8	16.6	20.7	37.2	
500 to 1,199 students	16.4	15.2	38.2	17.9	
1,200 or more students	11.0	10.3	24.9	15.7	
Student's school percentage of students who received free or reduced-price lunch (2012) Lowest fifth (0–18 percent of students) Middle three-fifths (19–67 percent of students) Highest fifth (68–100 percent of students)	12.2 11.6 16.8	10.7 9.7 23.6	21.5 17.5 116.6	16.7 14.1 30.0	
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)  Lowest fifth (0–7 percent of students)  Middle three-fifths (8–64 percent of students)	11.2 10.7	12.7 9.8	23.9 22.3	20.2 17.7	
Highest fifth (65–100 percent of students)	21.4	21.7	106.0	16.6	
Student's school percentage of English language learners (2012)					
0 percent	12.4	21.1	39.5	27.6	
1 to 5 percent	11.3	8.5	21.5	11.5	
More than 5 percent	15.5	18.7	46.9	29.1	
High school from which student received diploma (2013)					
Ninth-grade school	9.0	8.4	15.9	11.1	
Another high school	18.3	23.0	†	57.9	

<sup>†</sup> Not applicable.

Table 11.

Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by location of dual-enrollment courses and selected student and parent characteristics: 2013

	Average SAT or ACT exam score on the SAT scale <sup>1</sup>				
		Earned any	Earned		
	Earned no	dual-enrollment	dual-enrollment		
	dual-enrollment	credits on college	credits off college		
Selected student and parent characteristics	credits <sup>2</sup>	campus <sup>3</sup>	campus only⁴		
Total	981	1056	1056		
Student's sex (2009)					
Female	962	1032	1025		
Male	1003	1089	1093		
Student's race/ethnicity (2009) <sup>5</sup>					
Asian	1090	‡	1124		
Black/African American	862	893	885		
Hispanic/Latino	912	989	985		
Other	950	1046	1054		
White	1024	1098	1084		
Student's native language (2009)					
English	990	1063	1057		
English and a non-English language	976	1081	1116		
Non-English	913	994	1002		
Parents' socioeconomic status (2009) <sup>6</sup>					
Lowest fifth	852	‡	936		
Middle three-fifths	955	1016	1037		
Highest fifth	1099	1143	1116		
Parents' highest level of education (2009)					
High school credential or less	914	990	1002		
Undergraduate degree	1011	1042	1057		
Graduate degree	1103	1129	1146		
Student's educational expectations (2009)					
High school credential	854	‡	‡		
Undergraduate degree	973	1047	1038		
Graduate degree	1029	1099	1079		
Don't know	916	953	1049		
Student's mathematics achievement (2009) <sup>7</sup>					
Lowest fifth	745	‡	‡		
Middle three-fifths	936	977	987		
Highest fifth	1160	1191	1165		
Student's school sector (2012)					
Public	975	1064	1060		
Regular	980	1063	1059		
Charter or special-program school	961	1077	1142		
Career/technical/vocational or alternative					
school	703	‡	‡		
Private	1075	1040	1120		

Table 11.

Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by location of dual-enrollment courses and selected student and parent characteristics: 2013—Continued

	Average SAT or ACT exam score on the SAT scale <sup>1</sup>				
	Earned no dual-enrollment	Earned any dual-enrollment credits on college	Earned dual-enrollment credits off college		
Selected student and parent characteristics	credits <sup>2</sup>	campus <sup>3</sup>	campus only⁴		
Student's school region (2012)					
Northeast	992	‡	1059		
Midwest	989	1033	1067		
South	965	1073	1046		
West	987	998	1066		
Student's school locale (2012)					
City	978	1007	1058		
Suburb	1002	1101	1060		
Town	951	1113	1066		
Rural	972	1063	1048		
Student's school size (2012)					
Fewer than 500 students	1008	‡	1064		
500 to 1,199 students	954	1082	1063		
1,200 or more students	994	1051	1067		
Student's school percentage of students who received free or reduced-price lunch (2012) <sup>8</sup>					
Lowest fifth (0–18 percent of students)	1085	‡	1106		
Middle three-fifths (19–67 percent of students)	968	1064	1061		
Highest fifth (68–100 percent of students)	885	1003	954		
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) <sup>9</sup>					
Lowest fifth (0–7 percent of students)	1006	‡	1077		
Middle three-fifths (8-64 percent of students)	1000	1084	1073		
Highest fifth (65–100 percent of students)	884	1015	963		
Student's school percentage of English language learners (2012)					
0 percent	1023	1055	1099		
1 to 5 percent	983	1064	1064		
More than 5 percent	960	1070	1039		
High school from which student received diploma (2013)					
Ninth-grade school	982	1062	1063		
Another high school	965	‡	980		

#### Table 11

Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by location of dual-enrollment courses and selected student and parent characteristics: 2013—Continued

- ‡ Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.
- <sup>1</sup> These estimates represent a composite of math and reading college-entrance exam scores. ACT scores were standardized to the SAT scale using the ACT-to-SAT concordance scale.
- <sup>2</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. These estimates include college-entrance exam scores of students who did not earn any credits in dual-enrollment courses that were offered through a program or taken independently.
- <sup>3</sup> These estimates include college-entrance exam scores of students who earned dual-enrollment credits in a course taken on a college campus. This includes dual-enrollment courses that were offered through a program and dual-enrollment courses taken independently. See footnote 2 for a definition of dual enrollment and dual-enrollment programs. Courses taken at community colleges and 4-year colleges and universities are included. Courses taken at high schools, career or vocational centers, and online are excluded.
- <sup>4</sup> These estimates include college-entrance exam scores of students who only earned dual-enrollment credits in a course taken off of a college campus. This includes dual-enrollment courses that were offered through a program and dual-enrollment courses taken independently. See footnote 2 for a definition of dual enrollment and dual-enrollment programs. Courses taken at high schools, career or vocational centers, and online are included. Courses taken at community colleges and 4-year colleges and universities are excluded.
- <sup>5</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.
- <sup>6</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.
- <sup>7</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09
- <sup>8</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.
- <sup>9</sup> Students in these racial/ethnic groups tend to be underrepresented in Advanced Placement, International Baccalaureate, and dualenrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.

NOTE: Estimates are based on fall 2009 ninth-graders who had taken either the SAT or ACT and received a high school diploma from any high school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' high school credits earned were collected from the high school transcripts and reflect Carnegie units. The Carnegie unit is a standard of measurement that represents one credit for 120 hours of classroom time over the course of a year at the secondary-school level in the United States, equivalent to the completion of a 1-year academic course taken one period a day, 5 days a week. College entrance exam scores were collected from the College Board, ACT, and high school transcripts. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

Standard errors for table 11: Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or

ACT exam score on the SAT scale, by location of dual-enrollment courses and selected student and parent characteristics: 2013

	Average SAT or ACT exam score on the SAT scale		
Selected student and parent characteristics	Earned no dual-enrollment credits	Earned any dual-enrollment credits on college campus	Earned dual-enrollment credits off college campus only
Total	6.9	23.8	11.1
Student's sex (2009)			
Female	8.1	26.4	14.7
Male	8.7	39.9	15.3
Student's race/ethnicity (2009)			
Asian	26.1	†	46.4
Black/African American	12.8	204.4	37.4
Hispanic/Latino	13.5	73.2	26.2
Other	23.8	53.7	26.9
White	6.1	22.2	12.0
Student's native language (2009)			
English	6.7	29.6	10.5
English and a non-English language	21.0	55.7	31.0
Non-English	20.8	40.8	56.9
Parents' socioeconomic status (2009)			
Lowest fifth	13.1	†	33.9
Middle three-fifths	7.3	35.9	12.3
Highest fifth	9.4	29.5	17.3
Parents' highest level of education (2009)			
High school credential or less	10.4	27.8	18.4
Undergraduate degree	8.0	44.8	12.4
Graduate degree	11.1	44.8	20.1
Student's educational expectations (2009)			
High school credential	15.6	†	†
Undergraduate degree	8.2	42.2	18.9
Graduate degree	8.0	29.7	12.9
Don't know	13.6	67.0	24.1
Student's mathematics achievement (2009)			
Lowest fifth	12.1	†	†
Middle three-fifths	5.6	28.2	12.0
Highest fifth	5.9	26.4	12.6
Student's school sector (2012)			
Public	7.0	25.3	10.2
Regular	6.5	26.8	10.2
Charter or special-program school	34.1	319.4	110.7
Career/technical/vocational or alternative school	on o	_	<b>_</b>
Private	80.8 17.8	† 59.2	† 24.0

Table S11

Standard errors for table 11: Among fall 2009 ninth-graders who took either the SAT or ACT college entrance exam and received a high school diploma by the fall of 2013, average SAT or ACT exam score on the SAT scale, by location of dual-enrollment courses and selected student and parent characteristics: 2013—Continued

	Average SAT or ACT exam score on the SAT scale		
Selected student and parent characteristics	Earned no dual-enrollment credits	Earned any dual-enrollment credits on college campus	Earned dual-enrollment credits off college campus only
Student's school region (2012)			_
Northeast	14.9	†	28.3
Midwest	13.0	59.1	38.5
South	10.3	25.2	12.4
West	20.2	46.5	20.2
Student's school locale (2012)			
City	18.5	61.5	33.4
Suburb	9.0	28.8	20.3
Town	16.3	143.9	30.6
Rural	10.4	32.4	12.9
Student's school size (2012)			
Fewer than 500 students	12.3	†	23.4
500 to 1,199 students	14.1	53.9	20.9
1,200 or more students	10.1	35.7	13.1
Student's school percentage of students who received free or reduced-price lunch (2012)			
Lowest fifth (0–18 percent of students)	10.4	†	17.0
Middle three-fifths (19-67 percent of students)	9.4	32.8	11.0
Highest fifth (68–100 percent of students)	17.9	46.6	50.8
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)			
Lowest fifth (0-7 percent of students)	10.8	†	16.8
Middle three-fifths (8–64 percent of students)	9.5	42.7	13.0
Highest fifth (65–100 percent of students)	24.1	34.2	41.8
Student's school percentage of English language learners (2012)			
0 percent	15.9	84.0	36.0
1 to 5 percent	8.5	38.8	11.0
More than 5 percent	14.1	52.1	27.2
High school from which student received diploma (2013)			
Ninth-grade school	7.7	24.7	9.4
Another high school	15.9	†	50.1

<sup>†</sup> Not applicable.

Table 12.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by number of high school credits earned in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and selected student and parent characteristics: 2013

	Percent enrolled in associate's or bachelor's degree program		
	Earned no AP, IB, or dual-	Earned up to 3 AP, IB, and dual-	Earned more than 3 AP, IB, and dual-
Selected student and parent characteristics	enrollment credits <sup>1</sup>	enrollment credits <sup>2</sup>	enrollment credits <sup>3</sup>
Total	45.0	71.8	87.1
Student's sex (2009)			
Female	47.9	72.1	86.2
Male	42.4	71.3	88.3
Student's race/ethnicity (2009) <sup>4</sup>			
Asian	55.6	72.2	89.7
Black/African American	44.6	64.7	79.1
Hispanic/Latino	37.4	60.9	86.9
Other	39.9	69.3	84.5
White	49.0	77.2	88.3
Student's native language (2009)			
English	46.9	74.9	87.4
English and a non-English language	38.2	55.1	93.4
Non-English	36.6	58.6	82.0
Parents' socioeconomic status (2009) <sup>5</sup>			
Lowest fifth	29.1	56.9	72.9
Middle three-fifths	44.7	68.3	84.4
Highest fifth	72.5	86.0	93.1
Parents' highest level of education (2009)			
High school credential or less	34.4	61.9	76.2
Undergraduate degree	58.1	78.7	89.3
Graduate degree	73.1	85.4	93.3
Student's educational expectations (2009)			
High school credential	27.4	62.5	88.1
Undergraduate degree	45.7	75.3	84.9
Graduate degree	57.1	76.5	89.3
Don't know	40.7	58.3	79.2
Student's mathematics achievement (2009) <sup>6</sup>			
Lowest fifth	34.7	54.6	81.0
Middle three-fifths	46.3	69.3	84.8
Highest fifth	64.1	81.3	89.1
Student's school sector (2012)			
Public	43.9	70.0	87.3
Regular	44.2	70.7	87.3
Charter or special-program school	44.8	60.8	88.4
Career/technical/vocational or			
alternative school	35.5 !	‡	‡
Private	76.6	88.8	92.8

Table 12.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by number of high school credits earned in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and selected student and parent characteristics: 2013—Continued

	Percent enrolled in associate's or bachelor's degree program		
	Earned no AP, IB, or dual-	Earned up to 3 AP, IB, and dual-	Earned more than 3 AP, IB, and dual-
Selected student and parent characteristics	enrollment credits <sup>1</sup>	enrollment credits <sup>2</sup>	enrollment credits <sup>3</sup>
Student's school region (2012)			
Northeast	52.6	84.6	90.8
Midwest	49.3	76.4	87.8
South	40.5	65.7	85.7
West	41.9	67.6	86.2
Student's school locale (2012)			
City	42.9	68.0	86.1
Suburb	50.0	73.8	88.9
Town	41.3	74.7	85.7
Rural	44.8	72.0	86.8
Student's school size (2012)			
Fewer than 500 students	50.8	76.6	90.5
500 to 1,199 students	43.5	77.3	87.1
1,200 or more students	45.1	68.3	87.5
Student's school percentage of students who			
received free or reduced-price lunch (2012)	07.5	05.4	00.4
Lowest fifth (0–18 percent of students)	67.5 42.7	85.1 69.5	93.1 86.3
Middle three-fifths (19–67 percent of students) Highest fifth (68–100 percent of students)	42.7 36.5	69.5 60.1	81.9
,	00.0	00.1	01.5
Student's school percentage of students who were non-Hispanic Black or African American,			
non-Hispanic American Indian or Alaska Native,			
and Hispanic or Latino students of			
any race (2009) <sup>8</sup>			
Lowest fifth (0-7 percent of students)	52.8	81.4	88.4
Middle three-fifths (8-64 percent of students)	48.3	72.2	87.6
Highest fifth (65–100 percent of students)	36.2	64.1	87.8
Student's school percentage of English language learners (2012)			
0 percent	53.2	82.0	91.4
1 to 5 percent	44.3	73.5	88.6
More than 5 percent	42.8	65.4	84.2
High school from which student received diploma (2013)			
Ninth-grade school	47.7	73.1	87.6
Another high school	31.0	61.3	81.8

#### Table 12.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by number of high school credits earned in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and selected student and parent characteristics: 2013—Continued

- ! Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.
- ‡ Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.
- <sup>1</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. These estimates include college-entrance exam scores of students who did not earn any credits in AP courses, IB courses, and dual-enrollment courses that were offered through a program, or dual-enrollment courses taken independently.
- <sup>2</sup> These estimates include enrollment of students who earned up to a total of 3 credits in AP courses, IB courses, and dual-enrollment courses that were offered through a program, and dual-enrollment courses taken independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>3</sup> These estimates include enrollment of students who earned a total of more than 3 credits in AP courses, IB courses, and dualenrollment courses that were offered through a program, and dual-enrollment courses taken independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>4</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.
- <sup>5</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.
- <sup>6</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.
- <sup>7</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.
- <sup>8</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.

NOTE: Estimates are based on fall 2009 ninth-graders who had received a high school diploma from any high school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' high school credits earned were collected from the high school transcripts and reflect Carnegie units. The Carnegie unit is a standard of measurement that represents one credit for 120 hours of classroom time over the course of a year at the secondary-school level in the United States, equivalent to the completion of a 1-year academic course taken one period a day, 5 days a week. Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, those who earned any high school credits in AP, IB, or dual-enrollment courses earned on average 3.6 credits in these courses combined. Students' associate's and bachelor's degree program enrollment status was collected in the 2013 Update. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

Table S12.

Standard errors for table 12: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by number of high school credits earned in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and selected student and parent characteristics: 2013

	Percent enrolled in associate's or bachelor's degree program		
Selected student and parent characteristics	Earned no AP, IB, or dual- enrollment credits	Earned up to 3 AP, IB, and dual- enrollment credits	Earned more than 3 AP, IB, and dual- enrollment credits
Total	1.16	1.36	1.26
Student's sex (2009)			
Female	1.45	1.82	1.73
Male	1.62	1.92	1.51
Student's race/ethnicity (2009)			
Asian	4.63	5.01	2.33
Black/African American	3.27	5.36	7.71
Hispanic/Latino	2.69	3.65	3.48
Other	2.75	3.91	4.18
White	1.38	1.44	1.24
Student's native language (2009)			
English	1.08	1.43	1.55
English and a non-English language	5.34	5.98	2.36
Non-English	4.43	4.88	5.15
Parents' socioeconomic status (2009)			
Lowest fifth	2.51	5.58	7.63
Middle three-fifths	1.33	1.70	1.98
Highest fifth	1.90	1.46	1.25
Parents' highest level of education (2009)			
High school credential or less	1.65	2.98	3.63
Undergraduate degree	1.85	1.63	2.04
Graduate degree	2.42	1.93	1.34
Student's educational expectations (2009)			
High school credential	2.32	8.13	11.49
Undergraduate degree	2.32	2.65	3.30
Graduate degree	1.82	2.02	1.15
Don't know	2.36	3.34	3.56
Student's mathematics achievement (2009)			
Lowest fifth	2.81	5.60	9.28
Middle three-fifths	1.50	1.57	2.07
Highest fifth	3.10	2.21	1.22
Student's school sector (2012)			
Public	1.18	1.36	1.25
Regular	1.25	1.45	1.34
Charter or special-program school	4.43	6.22	4.76
Career/technical/vocational or			
alternative school	11.65	†	1 25
Private	3.34	2.77	4.25

Table S12.

Standard errors for table 12: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by number of high school credits earned in Advanced Placement (AP), International Baccalaureate (IB), and dual-enrollment courses and selected student and parent characteristics: 2013—Continued

	Percent enrolled in associate's or bachelor's degree program				
Selected student and parent characteristics	Earned no AP, IB, or dual- enrollment credits	Earned up to 3 AP, IB, and dual- enrollment credits	Earned more than 3 AP, IB, and dualenrollment credits		
•	cinoninent credits	emoninent creates	emonnent creats		
Student's school region (2012)  Northeast	2.88	2.89	3.19		
Midwest	1.74	2.09	2.53		
South	1.73	2.44	1.79		
West	3.11	2.44	3.29		
Student's school locale (2012)					
City	2.83	3.15	2.39		
Suburb	2.01	2.06	1.73		
Town	3.53	4.51	3.21		
Rural	1.51	2.28	3.04		
Student's asked size (2012)					
Student's school size (2012) Fewer than 500 students	2.56	3.18	2.51		
500 to 1,199 students	1.85	2.74	2.48		
1,200 or more students	1.64	1.75	1.57		
Student's school percentage of students who received free or reduced-price lunch (2012) Lowest fifth (0–18 percent of students) Middle three-fifths (19–67 percent of students) Highest fifth (68–100 percent of students)	2.44 1.43 2.54	1.72 1.54 4.27	1.45 1.61 4.55		
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)  Lowest fifth (0–7 percent of students)  Middle three-fifths (8–64 percent of students)	2.07 1.81	2.08 1.88	2.19 1.75		
Highest fifth (65–100 percent of students)	3.72	4.76	3.40		
Student's school percentage of English language learners (2012)					
0 percent	2.34	2.95	2.16		
1 to 5 percent	1.56	1.74	1.54		
More than 5 percent	2.12	2.73	2.66		
High school from which student received diploma (2013)					
Ninth-grade school	1.24	1.35	1.23		
Another high school	2.96	4.83	4.78		

<sup>†</sup> Not applicable.

Table 13.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by type of high school credits earned and selected student and parent characteristics: 2013

	Percent enrolled in associate's or bachelor's degree program					
	Earned no AP, IB, or dual- enrollment	Earned AP or IB	Earned dual- enrollment	Earned both AP or IB and dual-enrollment		
Selected student and parent characteristics	credits <sup>1</sup>	credits only	credits only <sup>2</sup>	credits <sup>3</sup>		
Total	45.0	78.1	67.3	84.6		
Student's sex (2009)						
Female	47.9	78.3	67.0	81.7		
Male	42.4	77.8	67.5	88.8		
Student's race/ethnicity (2009) <sup>4</sup>						
Asian	55.6	82.6	‡	94.6		
Black/African American	44.6	73.0	59.4	52.7!		
Hispanic/Latino	37.4	68.9	50.8	86.4		
Other	39.9	77.1	58.5	76.7		
White	49.0	81.8	73.5	86.5		
Student's native language (2009)						
English	46.9	80.3	71.0	83.7		
English and a non-English language	38.2	72.2	‡	93.3		
Non-English	36.6	68.5	28.5	88.9		
Parents' socioeconomic status (2009) <sup>5</sup>						
Lowest fifth	29.1	64.2	34.5	68.1		
Middle three-fifths	44.7	73.9	67.6	81.0		
Highest fifth	72.5	89.4	83.9	92.3		
Parents' highest level of education (2009)						
High school credential or less	34.4	67.2	58.6	71.6		
Undergraduate degree	58.1	84.0	74.3	84.2		
Graduate degree	73.1	88.2	86.8	96.7		
Student's educational expectations (2009)						
High school credential	27.4	72.2	49.2	‡		
Undergraduate degree	45.7	77.8	77.0	84.7		
Graduate degree	57.1	82.3	74.4	87.5		
Don't know	40.7	65.4	53.2	72.2		
Student's mathematics achievement (2009) <sup>6</sup>						
Lowest fifth	34.7	64.5	30.3	‡		
Middle three-fifths	46.3	74.3	67.9	79.0		
Highest fifth	64.1	84.6	83.6	91.5		
Student's school sector (2012)						
Public	43.9	77.1	66.5	84.4		
Regular	44.2	77.0	67.2	84.4		
Charter or special-program school	44.8	79.1	‡	‡		
Career/technical/vocational or			•	·		
alternative school	35.5!	‡	‡	‡		
Private	76.6	90.9	80.4	90.4		

Table 13.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by type of high school credits earned and selected student and parent characteristics: 2013—Continued

	Percent enrolled in associate's or bachelor's degree program					
	Earned no AP, IB, or dual- enrollment	Earned AP or IB	Earned dual- enrollment	Earned both AP or IB and dual-enrollment		
Selected student and parent characteristics	credits <sup>1</sup>	credits only	credits only <sup>2</sup>	credits <sup>3</sup>		
Student's school region (2012)						
Northeast	52.6	87.0	81.4	93.0		
Midwest	49.3	80.5	65.5	90.9		
South	40.5	73.8	66.3	82.4		
West	41.9	75.8	63.7	74.4		
Student's school locale (2012)						
City	42.9	77.7	45.6	81.3		
Suburb	50.0	79.3	74.1	87.9		
Town	41.3	76.8	73.2	90.9		
Rural	44.8	77.4	70.1	83.7		
Student's school size (2012)						
Fewer than 500 students	50.8	81.9	72.0	90.6		
500 to 1,199 students	43.5	81.6	68.9	89.4		
1,200 or more students	45.1	76.7	61.8	81.4		
Student's school percentage of students who received free or reduced-price lunch (2012) <sup>7</sup> Lowest fifth (0–18 percent of students) Middle three-fifths (19–67 percent of students)	67.5 42.7	88.8 76.3	78.1 70.5	91.2 81.9		
Highest fifth (68–100 percent of students)	36.5	68.3	44.0	86.5		
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) <sup>8</sup> Lowest fifth (0–7 percent of students)  Middle three-fifths (8–64 percent of students)  Highest fifth (65–100 percent of students)		83.2 79.9 74.2	78.7 63.3 69.1	89.0 81.9 87.5		
Student's school percentage of English language learners (2012)						
0 percent	53.2	88.6	65.8	89.4		
1 to 5 percent	44.3	79.1	75.5	85.6		
More than 5 percent	42.8	73.4	59.4	80.2		
High school from which student received diploma (2013)						
Ninth-grade school	47.7	79.2	69.2	85.4		
Another high school	31.0	68.8	44.0	77.1		

#### Table 13

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by type of high school credits earned and selected student and parent characteristics: 2013—Continued

- ! Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.
- ‡ Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.
- <sup>1</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. These estimates include college-entrance exam scores of students who did not earn any credits in AP courses, IB courses, and dual-enrollment courses that were offered through a program, or dual-enrollment courses taken independently.
- <sup>2</sup> These estimates include enrollment of students who earned credits in dual-enrollment courses that were offered through a program or taken independently but who did not earn any credits in AP or IB courses. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>3</sup> These estimates include enrollment of students who earned credits in AP or IB courses and credits in dual-enrollment courses that were offered through a program or taken independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs.
- <sup>4</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.
- <sup>5</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.
- <sup>6</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.
- <sup>7</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.
- <sup>8</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.

NOTE: AP = Advanced Placement; IB = International Baccalaureate. Estimates are based on fall 2009 ninth-graders who had received a high school diploma from any high school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' high school credits earned were collected from the high school transcripts and reflect Carnegie units. The Carnegie unit is a standard of measurement that represents one credit for 120 hours of classroom time over the course of a year at the secondary-school level in the United States, equivalent to the completion of a 1-year academic course taken one period a day, 5 days a week. Students' associate's and bachelor's degree program enrollment status was collected in the 2013 Update. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

Standard errors for table 13: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree

program in fall of 2013, by type of high school credits earned and selected student and parent

characteristics: 2013

	Percent enrolled in associate's or bachelor's degree progran					
Selected student and parent characteristics	Earned no AP, IB, or dual- enrollment credits	Earned AP or IB credits only	Earned dual- enrollment credits only	Earned both AP or IB and dual-enrollment credits		
Total	1.16	1.18	4.09	2.23		
Student's sex (2009)						
Female	1.45	1.41	5.33	3.46		
Male	1.62	1.60	4.85	1.99		
Student's race/ethnicity (2009)						
Asian	4.63	2.84	†	2.71		
Black/African American	3.27	5.47	12.20	20.57		
Hispanic/Latino	2.69	3.72	11.05	6.08		
Other	2.75	3.19	12.94	10.17		
White	1.38	1.27	3.59	2.10		
Student's native language (2009)						
English	1.08	1.25	3.52	2.59		
English and a non-English language	5.34	4.33	†	3.70		
Non-English	4.43	4.56	14.67	4.62		
Parents' socioeconomic status (2009)						
Lowest fifth	2.51	6.18	13.30	12.95		
Middle three-fifths	1.33	1.37	4.33	3.36		
Highest fifth	1.90	1.21	4.60	2.04		
Parents' highest level of education (2009)						
High school credential or less	1.65	2.90	6.41	6.52		
Undergraduate degree	1.85	1.50	5.11	3.27		
Graduate degree	2.42	1.43	5.01	1.29		
Student's educational expectations (2009)						
High school credential	2.32	9.45	13.42	†		
Undergraduate degree	2.32	2.22	5.31	5.71		
Graduate degree	1.82	1.46	3.38	2.07		
Don't know	2.36	3.15	9.09	7.11		
Student's mathematics achievement (2009)						
Lowest fifth	2.81	5.65	8.41	†		
Middle three-fifths	1.50	1.53	4.65	3.18		
Highest fifth	3.10	1.44	4.10	2.20		
Student's school sector (2012)						
Public	1.18	1.16	4.49	2.45		
Regular	1.25	1.24	4.64	2.51		
Charter or special-program school	4.43	4.99	†	†		
Career/technical/vocational or						
alternative school	11.65	†	†	†		
Private	3.34	2.94	7.26	2.43		

Table S13

Standard errors for table 13: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by type of high school credits earned and selected student and parent characteristics: 2013—Continued

	Percent enrolled in associate's or bachelor's degree program					
Selected student and parent characteristics	Earned no AP, IB, or dual- enrollment credits	Earned AP or IB credits only	Earned dual- enrollment credits only	Earned both AP or IB and dual-enrollment credits		
Student's school region (2012)						
Northeast	2.88	2.79	9.77	3.52		
Midwest	1.74	1.93	5.65	2.65		
South	1.73	1.95	5.86	2.76		
West	3.11	2.66	14.74	9.07		
Student's school locale (2012)						
City	2.83	2.50	10.89	4.65		
Suburb	2.01	1.59	6.77	2.92		
Town	3.53	4.82	5.92	4.88		
Rural	1.51	2.29	6.41	4.47		
Student's school size (2012)						
Fewer than 500 students	2.56	3.00	6.42	2.72		
500 to 1,199 students	1.85	2.56	5.17	2.80		
1,200 or more students	1.64	1.42	8.63	3.51		
Student's school percentage of students who received free or reduced-price lunch (2012) Lowest fifth (0–18 percent of students) Middle three-fifths (19–67 percent of students) Highest fifth (68–100 percent of students)	2.44 1.43 2.54	1.38 1.39 4.26	6.03 4.61 13.30	2.02 3.22 5.93		
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)  Lowest fifth (0–7 percent of students)  Middle three-fifths (8–64 percent of students)  Highest fifth (65–100 percent of students)	2.07 1.81 3.72	2.29 1.49 4.17	3.66 6.86 11.32	2.47 3.99 4.58		
Student's school percentage of English language learners (2012)						
0 percent	2.34	2.03	8.04	3.25		
1 to 5 percent	1.56	1.55	4.11	2.66		
More than 5 percent	2.12	2.26	9.69	5.96		
High school from which student received diploma (2013)						
Ninth-grade school	1.24	1.14	4.11	2.40		
Another high school	2.96	4.64	12.53	7.78		

<sup>†</sup> Not applicable.

Table 14.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by location of dual-enrollment courses and selected student and parent characteristics: 2013

	Percent enrolled in associate's or bachelor's degree progr					
	Earned no	Earned any dual-enrollment credits on college	Earned dual-enrollment credits off college			
Selected student and parent characteristics	credits <sup>1</sup>	campus <sup>2</sup>	campus only <sup>3</sup>			
Total	58.1	75.2	77.8			
Student's sex (2009)						
Female	61.2	77.9	75.7			
Male	55.0	71.6	80.3			
Student's race/ethnicity (2009) <sup>4</sup>						
Asian	75.6	‡	85.2			
Black/African American	53.0	‡	50.9			
Hispanic/Latino	48.8	73.2	74.6			
Other	53.9	‡	67.5			
White	62.6	78.9	81.0			
Student's native language (2009)						
English	59.7	73.8	79.2			
English and a non-English language	53.3	‡	82.2			
Non-English	52.3	‡	61.7			
Parents' socioeconomic status (2009) <sup>5</sup>		·				
Lowest fifth	38.3	‡	52.1			
Middle three-fifths	55.0	69.0	75.1			
Highest fifth	83.3	92.2	89.2			
Parents' highest level of education (2009)						
High school credential or less	44.3	62.3	64.8			
Undergraduate degree	69.9	74.6	81.6			
Graduate degree	82.8	93.8	94.5			
-	02.0	00.0	01.0			
Student's educational expectations (2009) High school credential	34.9	+	56.2			
Undergraduate degree	57.4	‡ 80.4	81.4			
Graduate degree	70.5	84.2	82.4			
Don't know	48.3	45.3 !	65.3			
	10.0	10.0 .	00.0			
Student's mathematics achievement (2009) <sup>6</sup>	00.4		40.7			
Lowest fifth	38.1	‡	43.7			
Middle three-fifths Highest fifth	56.1 79.3	72.2 92.8	74.0 88.1			
•	19.5	92.0	00.1			
Student's school sector (2012)	50.0	77.0	·			
Public	56.8	77.3	77.1			
Regular	56.7	76.5	77.6			
Charter or special-program school Career/technical/vocational or alternative	64.2	‡	‡			
school	37.9	+	‡			
Private	84.8	‡ ‡	** 88.2			

Table 14.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by location of dual-enrollment courses and selected student and parent characteristics: 2013—Continued

	Percent enrolled in associate's or bachelor's degree program				
_		Earned any	Earned		
	Earned no	dual-enrollment	dual-enrollment		
	dual-enrollment	credits on college	credits off college		
Selected student and parent characteristics	credits <sup>1</sup>	campus <sup>2</sup>	campus only <sup>3</sup>		
Student's school region (2012)					
Northeast	65.4	‡	87.9		
Midwest	61.5	71.0	78.7		
South	54.1	76.8	76.1		
West	56.1	65.1	70.9		
Student's school locale (2012)					
City	59.2	62.4	73.2		
Suburb	63.5	91.2	81.6		
Town	51.9	‡	78.0		
Rural	54.7	73.5	78.4		
Student's school size (2012)					
Fewer than 500 students	59.1	71.6	81.9		
500 to 1,199 students	57.2	71.0 77.0	79.9		
1,200 or more students	59.8	78.8	75.2		
•	00.0	70.0	70.2		
Student's school percentage of students who					
received free or reduced-price lunch (2012)	70.0	75.0	07.0		
Lowest fifth (0–18 percent of students)	79.2	75.3	87.2		
Middle three-fifths (19–67 percent of students)	55.2	77.1	77.2		
Highest fifth (68–100 percent of students)	46.5	75.7	57.5		
Student's school percentage of students who					
were non-Hispanic Black or African American,					
non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of					
any race (2009) <sup>8</sup>					
Lowest fifth (0–7 percent of students)	62.8	+	84.0		
Middle three-fifths (8–64 percent of students)	62.2	‡ 74.2	75.2		
Highest fifth (65–100 percent of students)	51.9	85.9	78.9		
,	31.9	00.9	70.9		
Student's school percentage of English language					
learners (2012)					
0 percent	66.3	63.0	79.8		
1 to 5 percent	58.2	78.3	82.5		
More than 5 percent	55.6	84.9	67.1		
High school from which student received diploma (2013)					
Ninth-grade school	60.6	76.7	79.2		
Another high school	42.8	59.3!	63.4		

#### Table 14.

Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by location of dual-enrollment courses and selected student and parent characteristics: 2013—Continued

- ! Interpret data with caution. Estimate is unstable because the standard error is between 30 and 50 percent of the estimate.
- ‡ Reporting standards not met either because the standard error is greater than 50 percent of the estimate or because there were too few cases for a reliable estimate.
- <sup>1</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. These estimates include college-entrance exam scores of students who did not earn any credits in dual-enrollment courses that were offered through a program or taken independently.
- <sup>2</sup> These estimates include enrollment of students who earned dual-enrollment credits in a course taken on a college campus. This includes dual-enrollment courses that were offered through a program and dual-enrollment courses taken independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs. Courses taken at community colleges and 4-year colleges and universities are included. Courses taken at high schools, career or vocational centers, and online are excluded.
- <sup>3</sup> These estimates include enrollment of students who only earned dual-enrollment credits in a course taken off of a college campus. This includes dual-enrollment courses that were offered through a program and dual-enrollment courses taken independently. See footnote 1 for a definition of dual enrollment and dual-enrollment programs. Courses taken at high schools, career or vocational centers, and online are included. Courses taken at community colleges and 4-year colleges and universities are excluded.
- <sup>4</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.
- <sup>5</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.
- <sup>6</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.
- <sup>7</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.
- <sup>8</sup> Students in these racial/ethnic groups tend to be AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.

NOTE: AP = Advanced Placement; IB = International Baccalaureate. Estimates are based on fall 2009 ninth-graders who had received a high school diploma from any high school before September 2013, when the high school transcript data collection began. Students in this group whose exact graduation date is unknown are included. Students who had not received a diploma, received a diploma in the fall of 2013 or later, or for whom transcript data were incomplete are excluded. Students' high school credits earned were collected from the high school transcripts and reflect Carnegie units. The Carnegie unit is a standard of measurement that represents one credit for 120 hours of classroom time over the course of a year at the secondary-school level in the United States, equivalent to the completion of a 1-year academic course taken one period a day, 5 days a week. Students' associate's and bachelor's degree program enrollment status was collected in the 2013 Update. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update.

Table S14.

Standard errors for table 14: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by location of dual-enrollment courses and selected student and parent characteristics: 2013

	Percent enrolled in associate's or bachelor's degree program				
Selected student and parent characteristics	Earned no dual-enrollment credits	Earned any dual-enrollment credits on college campus	Earned dual-enrollment credits off college campus only		
Total	1.01	4.40	2.29		
Student's sex (2009)					
Female	1.10	5.88	3.42		
Male	1.44	5.83	2.57		
Student's race/ethnicity (2009)					
Asian	2.80	†	4.80		
Black/African American	3.18	†	14.87		
Hispanic/Latino	2.29	11.70	7.00		
Other	2.13	†	8.59		
White	1.05	4.24	2.01		
Student's native language (2009)					
English	0.98	4.82	2.16		
English and a non-English language	4.46	†	6.70		
Non-English	3.61	†	8.29		
Parents' socioeconomic status (2009)					
Lowest fifth	2.53	t	9.64		
Middle three-fifths	1.07	6.20	2.87		
Highest fifth	1.02	3.66	2.19		
Parents' highest level of education (2009)					
High school credential or less	1.57	7.56	5.04		
Undergraduate degree	1.19	8.65	2.64		
Graduate degree	1.31	4.51	1.63		
Student's educational expectations (2009)					
High school credential	2.92	t	13.31		
Undergraduate degree	1.92	7.00	4.50		
Graduate degree	1.20	4.14	2.13		
Don't know	1.81	15.41	6.02		
Student's mathematics achievement (2009)					
Lowest fifth	2.64	†	9.24		
Middle three-fifths	1.15	6.35	2.92		
Highest fifth	1.36	3.89	2.24		
Student's school sector (2012)					
Public	1.07	4.66	2.48		
Regular	1.13	4.89	2.54		
Charter or special-program school	4.06	†	†		
Career/technical/vocational or alternative		•	·		
school	8.80	†	†		
Private	2.52	<u>†</u>	2.73		

Table S14

Standard errors for table 14: Among fall 2009 ninth-graders who received a high school diploma by the fall of 2013, percentage of students who enrolled in an associate's or bachelor's degree program in fall of 2013, by location of dual-enrollment courses and selected student and parent characteristics: 2013—Continued

	Percent enrolled in associate's or bachelor's degree program				
Selected student and parent characteristics	Earned no dual-enrollment credits	Earned any dual-enrollment credits on college campus	Earned dual-enrollment credits off college campus only		
Student's school region (2012)					
Northeast	2.53	†	3.81		
Midwest	1.51	10.66	4.35		
South	1.55	5.51	2.78		
West	3.00	15.48	8.64		
Student's school locale (2012)					
City	2.29	10.48	5.19		
Suburb	1.59	3.37	3.43		
Town	2.97	†	3.73		
Rural	1.66	7.02	3.97		
Student's school size (2012)					
Fewer than 500 students	2.15	9.27	3.82		
500 to 1,199 students	1.81	7.52	3.70		
1,200 or more students	1.36	6.43	3.82		
Student's school percentage of students who received free or reduced-price lunch (2012)					
Lowest fifth (0–18 percent of students)	1.44	12.14	2.54		
Middle three-fifths (19-67 percent of students)	1.20	6.32	2.95		
Highest fifth (68–100 percent of students)	2.69	9.54	12.84		
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009)					
Lowest fifth (0-7 percent of students)	1.79	†	2.16		
Middle three-fifths (8-64 percent of students)	1.55	7.18	4.14		
Highest fifth (65–100 percent of students)	3.54	5.48	6.70		
Student's school percentage of English language learners (2012)					
0 percent	2.04	9.05	4.35		
1 to 5 percent	1.34	4.48	2.38		
More than 5 percent	1.96	9.78	6.10		
High school from which student received diploma (2013)					
Ninth-grade school	1.08	4.49	2.41		
Another high school	2.31	18.80	8.20		

<sup>†</sup> Not applicable.

Table 15.

Percentage distribution of selected student and parent characteristics, by student population: 2013

	Student populations				
Selected student and parent characteristics	All fall 2009 ninth- graders	Fall 2009 ninth- graders who received a high school diploma by the fall of 2013	Fall 2009 ninth- graders who received a high school diploma by the fall of 2013 and had a complete transcript (tables 5–14)	Fall 2009 ninth-graders who received a high school diploma by the fall of 2013 from the schools they attended in the fall of 2009 and had a complete transcript (tables 1–4)	
Weighted number of students	4,191,570	3,445,833	3,291,294	2,864,178	
Total	100.0	100.0	100.0	100.0	
Student's sex (2009) Female Male	49.7 50.3	50.6 49.4	51.0 49.0	50.8 49.2	
Student's race/ethnicity (2009) <sup>1</sup> Asian Black/African American Hispanic/Latino Other White	3.6	3.8	3.8	4.0	
	13.7	12.5	12.2	11.2	
	22.0	21.0	21.1	20.1	
	9.1	8.7	8.6	8.5	
	51.7	54.0	54.4	56.2	
Student's native language (2009) English English and a non-English language Non-English	82.6	82.9	82.9	83.3	
	6.0	5.9	5.9	5.6	
	11.4	11.3	11.3	11.1	
Parents' socioeconomic status (2009) <sup>2</sup> Lowest fifth Middle three-fifths Highest fifth	19.6	16.9	16.8	15.9	
	59.9	60.4	60.5	60.3	
	20.4	22.7	22.7	23.8	
Parents' highest level of education (2009) High school credential or less Undergraduate degree Graduate degree	46.7	43.7	43.4	42.4	
	38.4	40.2	40.4	40.7	
	14.9	16.1	16.2	16.9	
Student's educational expectations (2009) High school credential Undergraduate degree Graduate degree Don't know	14.0	11.3	10.9	9.9	
	23.5	24.4	24.4	24.6	
	41.3	43.7	44.1	44.8	
	21.2	20.6	20.6	20.7	
Student's mathematics achievement (2009) <sup>3</sup> Lowest fifth Middle three-fifths Highest fifth	17.9	14.9	14.5	13.8	
	60.6	61.3	61.4	61.2	
	21.4	23.8	24.0	25.0	
Student's school sector (2012) Public Regular Charter or special-program school	92.9	92.7	92.6	92.8	
	83.4	84.5	84.4	85.5	
	6.1	5.9	6.1	5.6	
Career/technical/vocational or alternative school Private	3.3 7.1	2.3 7.3	2.2 7.4	1.7 7.2	

Table 15.

Percentage distribution of selected student and parent characteristics, by student population: 2013—Continued

	Student populations				
		Fall 2009 ninth- graders who	Fall 2009 ninth- graders who received a high school diploma by	Fall 2009 ninth-graders who received a high school diploma by the fall of 2013 from the	
	All	received a	the fall of 2013 and	schools they attended in	
Salastad student and parent	fall 2009	high school	had a complete	the fall of 2009 and had a complete transcript	
Selected student and parent characteristics	ninth- graders	diploma by the fall of 2013	transcript (tables 5–14)	(tables 1–4)	
Student's school region (2012)			,	<u> </u>	
Northeast	17.7	18.3	18.5	19.2	
Midwest	21.9	22.0	22.0	22.6	
South	37.7	38.3	38.3	38.0	
West	22.6	21.5	21.2	20.3	
Student's school locale (2012)					
City	30.8	29.9	29.9	28.6	
Suburb	28.5	28.8	28.9	29.1	
Town	12.1	12.4	12.4	12.8	
Rural	28.7	28.9	28.8	29.6	
Student's school size (2012)					
Fewer than 500 students	18.7	17.1	16.7	15.9	
500 to 1,199 students	29.4	30.3	30.7	30.8	
1,200 or more students	51.9	52.7	52.6	53.2	
Student's school percentage of students who received free or reduced-price lunch (2012) <sup>4</sup> Lowest fifth (0–18 percent of students) Middle three-fifths (19–67 percent of students)	20.2 59.9 19.9	22.1 59.9 18.1	22.0 59.9 18.1	22.2 60.3 17.5	
Highest fifth (68–100 percent of students)  Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) <sup>5</sup>	19.3	10.1	10.1	17.3	
Lowest fifth (0-7 percent of students)	24.4	24.5	24.1	24.1	
Middle three-fifths (8–64 percent of students)	58.8	58.8	59.2	59.2	
Highest fifth (65–100 percent of students)  Student's school percentage of English language learners (2012)  0 percent  1 to 5 percent  More than 5 percent	16.8 18.2 48.9 32.9	16.7 17.9 50.1 32.0	16.7 17.7 50.9 31.4	16.7 17.6 51.4 31.0	
	02.0	32.0	01.4	31.0	
Student's school offerings (2012) <sup>6</sup> Offered AP and/or IB course only Offered dual-enrollment program only <sup>7</sup> Offered AP or IB course and dual-enrollment program <sup>8</sup>	_ _ _	_ _ _		11.0 8.0 81.0	
High school from which student received diploma (2013)					
Ninth-grade school	86.5	86.8	87.2	100.0	
Another high school	13.5	13.2	12.8	0.0	

#### Table 15.

# Percentage distribution of selected student and parent characteristics, by student population: 2013—Continued

NOTE: AP = Advanced Placement; IB = International Baccalaureate. The lowest fifth, middle three-fifths, and highest fifth categories are based on the distribution of fall-term ninth-grade students. Data were weighted using the weight W3W1W2STUTR. This weight accounts for (1) base-year school nonresponse; (2) high school transcript nonresponse; and (3) student nonresponse in the base year, first follow-up, and 2013 Update. Detail may not sum to totals because of rounding.

Not available.

<sup>&</sup>lt;sup>1</sup> All race categories exclude Hispanic or Latino origin unless specified. "Other" includes American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and individuals who indicated Two or more races or Other.

<sup>&</sup>lt;sup>2</sup> Parents' socioeconomic status was calculated using parents' education, occupation, and family income.

<sup>&</sup>lt;sup>3</sup> Student's mathematics achievement was measured by a two-stage adaptive assessment in algebraic reasoning developed for HSLS:09.

<sup>&</sup>lt;sup>4</sup> To be eligible for free lunch under the National School Lunch Program (NSLP), a federally assisted meal program, a student must be from a household with an income at or below 130 percent of the poverty threshold. To be eligible for reduced-price lunch, a student must be from a household with an income between 130 percent and 185 percent of the poverty threshold. Therefore, the percentage of students receiving free or reduced-price lunch (FRPL) under the NSLP provides a proxy measure for the concentration of low-income students within a school. However, this percentage cannot be used as a strict measure of the percentage of children at or below 185 percent of the poverty threshold because some students are eligible for FRPL based on criteria other than income, and some schools and districts provide FRPL to all students regardless of income.

<sup>&</sup>lt;sup>5</sup> Students in these racial/ethnic groups tend to be underrepresented in AP, IB, and dual-enrollment courses. These data were only collected from students' ninth-grade schools in the base year of the study; data were not collected for any schools students had transferred to as of the first follow-up data collection. Therefore, estimates are based on 2009 data for students who received their high school diploma from their ninth-grade school.

<sup>&</sup>lt;sup>6</sup> These data were only collected from students' ninth-grade schools; data were not collected from any schools students had transferred to as of the first follow-up data collection. Estimates are based on 2012 data for students who received their high school diploma from their ninth-grade school.

<sup>&</sup>lt;sup>7</sup> Dual enrollment refers to taking postsecondary courses while also enrolled in high school. Students may take dual-enrollment courses through a program offered by their high school or independently. A high school dual-enrollment program is an organized system with special guidelines that might have to do with, for example, entrance or eligibility requirements, funding, and limits on coursetaking. Students and credits earned by students whose ninth-grade schools offered a dual-enrollment program but did not offer AP or IB courses are included in these estimates. Students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently.

<sup>&</sup>lt;sup>8</sup> Students whose ninth-grade schools offered AP or IB courses and a dual-enrollment program are included in these estimates. Students whose schools did not offer a dual-enrollment program are excluded even if they took dual-enrollment courses independently. See footnote 7 for a definition of dual enrollment and dual-enrollment programs.

Table S15.
Standard errors for table 15: Percentage distribution of selected student and parent characteristics, by student population: 2013

Weighted number of students         †         *         *         *         *         *         *         *         *         *         *         *         *         *         *         *         *         *         *<	-graders
Total         †         †         †           Student's sex (2009)	ed a high na by the from the ended in and had
Student's sex (2009)       Female       0.73       0.79       0.81         Male       0.73       0.79       0.81         Student's race/ethnicity (2009)       3.36       0.40       0.41         Asian       0.36       0.40       0.87         Hispanic/Latino       1.04       1.02       1.03         Other       0.43       0.47       0.48         White       1.12       1.24       1.28         Student's native language (2009)       1.12       1.24       1.28         Student's native language (2009)       0.93       0.88       0.90         English and a non-English language       0.37       0.41       0.41         Non-English       0.87       0.89       0.90         Parents' socioeconomic status (2009)       2.88       0.90         Lowest fifth       0.80       0.85       0.87         Middle three-fifths       0.66       0.75       0.78         High school credential or less       1.09       1.15       1.12         Undergraduate degree       0.84       0.93       0.91         Graduate degree       0.55       0.58       0.59         Student's educational expectations (2009)       1.15	t
Female Male         0.73         0.79         0.81           Male         0.73         0.79         0.81           Student's race/ethnicity (2009)	t
Asian       0.36       0.40       0.41         Black/African American       0.90       0.87       0.87         Hispanic/Latino       1.04       1.02       1.03         Other       0.43       0.47       0.48         White       1.12       1.24       1.28         Student's native language (2009)       2.24       1.28         English       0.93       0.88       0.90         English and a non-English language       0.37       0.41       0.41         Non-English       0.87       0.89       0.90         Parents' socioeconomic status (2009)       2.85       0.85       0.87         Middle three-fifths       0.66       0.75       0.78         Highest fifth       0.70       0.77       0.79         Parents' highest level of education (2009)       1.15       1.12         High school credential or less       1.09       1.15       1.12         Undergraduate degree       0.84       0.93       0.91         Graduate degree       0.55       0.58       0.59         Student's educational expectations (2009)       1.15       0.60       0.57	0.94 0.94
English and a non-English language       0.93       0.88       0.90         English and a non-English language       0.37       0.41       0.41         Non-English       0.87       0.89       0.90         Parents' socioeconomic status (2009)	0.47 0.87 1.13 0.53 1.29
Lowest fifth       0.80       0.85       0.87         Middle three-fifths       0.66       0.75       0.78         Highest fifth       0.70       0.77       0.79         Parents' highest level of education (2009)	0.98 0.43 0.95
High school credential or less       1.09       1.15       1.12         Undergraduate degree       0.84       0.93       0.91         Graduate degree       0.55       0.58       0.59         Student's educational expectations (2009)       0.61       0.60       0.57	0.79 0.82 0.81
High school credential 0.61 0.60 0.57	1.15 0.92 0.63
Undergraduate degree       0.61       0.66       0.68         Graduate degree       0.76       0.76       0.76         Don't know       0.56       0.58       0.59	0.55 0.69 0.83 0.61
Student's mathematics achievement (2009)         Lowest fifth       0.92       0.93       0.94         Middle three-fifths       0.79       0.91       0.93         Highest fifth       0.76       0.85       0.86	1.00 1.04 0.92
Student's school sector (2012)         Public       0.24       0.39       0.41         Regular       1.44       1.59       1.63         Charter or special-program school       1.29       1.46       1.52         Career/technical/vocational or       1.04       1.00       1.04	0.46 1.63 1.51
alternative school       1.04       1.00       1.04         Private       0.24       0.39       0.41	1.15 0.46

Standard errors for table 15: Percentage distribution of selected student and parent characteristics, by student population: 2013—Continued

	Student populations			
Selected student and parent characteristics	All fall 2009 ninth- graders	Fall 2009 ninth- graders who received a high school diploma by the fall of 2013	Fall 2009 ninth- graders who received a high school diploma by the fall of 2013 and had a complete transcript (tables 5–14)	Fall 2009 ninth-graders who received a high school diploma by the fall of 2013 from the schools they attended in the fall of 2009 and had a complete transcript (tables 1–4)
Student's school region (2012)				
Northeast Midwest South West	0.07 0.19 0.18 0.18	0.60 0.51 0.54 0.60	0.71 0.62 0.61 0.78	0.76 0.71 0.75 0.98
Student's school locale (2012)				
City Suburb Town Rural	0.84 1.25 1.09 1.17	1.14 1.37 1.19 1.36	1.25 1.38 1.21 1.45	1.20 1.44 1.36 1.57
Student's school size (2012)				
Fewer than 500 students	1.45	1.49	1.50	1.63
500 to 1,199 students 1,200 or more students	1.93 1.99	2.06 2.15	2.10 2.20	2.21 2.29
Student's school percentage of students who received free or reduced-price lunch (2012) Lowest fifth (0–18 percent of students) Middle three-fifths (19–67 percent of students) Highest fifth (68–100 percent of students)	1.50 2.06 1.84	1.64 2.14 1.83	1.64 2.14 1.85	1.76 2.31 2.00
Student's school percentage of students who were non-Hispanic Black or African American, non-Hispanic American Indian or Alaska Native, and Hispanic or Latino students of any race (2009) Lowest fifth (0–7 percent of students) Middle three-fifths (8–64 percent of students) Highest fifth (65–100 percent of students)	1.78 2.74 2.34	1.78 2.74 2.35	1.83 2.84 2.42	1.83 2.84 2.42
Student's school percentage of English language learners (2012) 0 percent	1.33	1.41	1.42	1.58
1 to 5 percent More than 5 percent	2.05 1.81	2.17 1.95	2.22 1.99	2.46 2.20
Student's school offerings (2012)	1.01	1.55	1.00	2.20
Offers AP and/or IB course only Offers dual-enrollment program only Offers AP or IB courses and dual-enrollment program	† †	† †	† †	1.61 1.27 2.05
High school from which student received diploma (2013)				
Ninth-grade school	0.79	0.79	0.80	†
Another high school	0.79	0.79	0.80	

<sup>†</sup> Not applicable. SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09) 2013 Update and High School Transcripts Restricted-use Data File.