RACE AND ETHNICITY IN HIGHER EDUCATION

2020 Supplement

American Council on Education®

Race and Ethnicity in Higher Education

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Race and Ethnicity in Higher Education: 2020 Supplement follows ACE's 2019 release of *Race and Ethnicity in Higher Education: A Status Report*. These reports and their accompanying microsite provide a data-informed foundation for those working to close persistent equity gaps by providing a glimpse into the educational pathways of today's college students and the educators who serve them. For more information, including downloadable figures and detailed data tables behind the figures presented in this report, please visit **www.equityinhighered.org**.

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ABOUT THE AMERICAN COUNCIL ON EDUCATION

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EXECUTIVE SUMMARY

Higher education in the United States is more diverse now than at any time in its history. Over the last 20 years alone, the share of undergraduate students who identify as a race other than White has increased from approximately 30 percent to about 45 percent (Espinosa et al. 2019). Despite the growth in access to higher education, the opportunities and experiences of students, faculty, and staff in higher education continue to vary along racial and ethnic lines. Understanding these variations is vital to ensuring that higher education fulfills its role in promoting social and economic mobility.

In 2019, the American Council on Education (ACE), with the generous support of The Andrew W. Mellon Foundation and in partnership with Research Triangle Institute International, launched the Race and Ethnicity in Higher Education project. The project aims to provide a data-informed foundation from which the higher education community and its many stakeholders can examine racial disparities in educational opportunities and outcomes, draw insights, raise new questions, and make the case for why we must talk about racial equity gaps present in American higher education. The 2019 report, *Race and Ethnicity in Higher Education: A Status Report*, examined over 200 indicators, looking at who gains access to a host of educational environments and experiences, and how students' trajectories differ by race and ethnicity.

The data presented in this supplement delve deeper into specific topic areas based on feedback from key stakeholders about the areas that deserve more attention. Such analysis includes new indicators on the different experiences of students prior to arriving on college campuses, graduate and professional education, student loan debt and repayment, and postsecondary faculty and staff. It also seeks to address the dearth of data available for Native populations by highlighting the role that Tribal Colleges and Universities play in serving Native students and communities.

These data could not be timelier, given our country's renewed reckoning with its racist past and with a growing acknowledgment of the systemic racism and other forms of discrimination that persist today. The data in this supplement, like the 2019 report, shine a light on the stark differences in outcomes between White students and students of color,[1] particularly Black or African American[2] students. The extent of the inequalities documented here indicates that higher education has a critical role to play in diminishing inequities and providing meaningful opportunities for students from all backgrounds.

Weaving together the data presented in this report, we offer four key findings:

Our K–12 and postsecondary educational institutions disproportionately fail Black or African American students. Inequities in K–12 education restrict postsecondary opportunities for many Black students and often create an uneven playing field for those who do matriculate.

Enrollment in high schools with lower financial resources and limited access to a rigorous K–12 education impede the progress of many Black students, generating unequal outcomes across racial lines. By the end of high school, Black students were less prepared than White students for college-level work. Once in postsecondary education, Black students in career and technical education were less likely to complete their credentials in potentially higher-paying fields. Finally, the representation of Black students enrolled in graduate education remained well below their total share among undergraduate students.

All of the educational indicators presented in this report—from high school to graduate school—reflect pervasive systemic barriers the Black community faces in our country, indicating that race remains a prevailing factor in many educational outcomes.

1 The term students of color includes American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, and Native Hawaiian or other Pacific Islander students, as well as students of more than one race.
2 The terms Black or African American and Black are used interchangeably.

- Among the fall 2009 high school cohort, roughly one in three students overall took a college-level Advanced Placement (AP) course while in high school, compared with about one in five Black students. Similarly, about one-third of all students took a college course for credit in high school, compared with a little over one-quarter of Black students. This is critical, as both AP courses and dual enrollment can provide students with an opportunity to earn college credit while in high school.
- In 2015, 64.2 percent of all Black 12th graders were in the lowest achievement level for math and 47.6 percent were in the lowest achievement level for reading. This pattern remained even when considering income and parental education levels.
- Over half (53 percent) of all Black students who took the SAT in 2019 met none of the college and career readiness benchmarks, compared with 30 percent of all test takers. Only 6 percent of all Black students who took the ACT in 2019 met all four college and career readiness benchmarks, compared with 26 percent of all test takers.
- Despite facing these barriers, nearly half of all Black high school students reported they were very sure they would pursue a bachelor's degree (45.5 percent). Among those in the lowest income quintile, Black students were among the most likely to report they were very sure they would pursue a bachelor's degree (35.7 percent).
- In 2016, 21.1 percent of all adults had a work certification[3] or license.[4] Black adults were the second most likely group to report having a work certification or license (20.0 percent), behind White adults (23.8 percent). However, Black adults (17.7 percent) were less likely than adults of more than one race (27.4 percent), Asian adults (24.2 percent), and White adults (23.8 percent), to have completed a work experience program, such as internships and apprenticeships.
- Black students represented just 10.4 percent of master's degree recipients and 7.0 percent of all doctoral and professional degree recipients between 2015 and 2017. Black students also represented just a small proportion of all students enrolled in dental (5.3 percent), medical (7.3 percent), and law (8.1 percent) school.

Black or African American, Native,[5] and Hispanic or Latino students were much more likely than their Asian and White peers to enroll in and complete degrees at for-profit institutions. This is particularly problematic, as students who enrolled in these institutions tended to have higher borrowing rates and faced larger debt burdens than students enrolled in other sectors.

Students of all races and ethnicities borrowed more at for-profit institutions when compared with other institution types. Even then, Black students borrowed considerably more. This is an urgent finding given the lack of wealth in the Black community, making a heavy loan burden an almost certain impediment to much-needed intergenerational mobility.

- Among associate degree completers in 2015–16, 20.4 percent of Black or African American, 15.9 percent of Native Hawaiian or other Pacific Islander, 14.0 percent of American Indian or Alaska Native, and 10.9 percent of Hispanic or Latino students completed their degrees at a for-profit institution, compared with 9.3 percent of White students and 8.2 percent of Asian students.
- Of those that went to graduate school between 2015 and 2017, 28.4 percent of Native Hawaiian or other Pacific Islander and 23.2 percent of Black students completed their master's degrees at a for-profit institution, compared with 8.9 percent of master's degree recipients overall. Among doctoral and professional degree recipients, 14.4 percent of Black and Native Hawaiian or other Pacific Islander students each completed their degrees at for-profit institutions, compared with just 4.5 percent of all graduates.

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3 Work certifications include any occupational credential awarded by a certification body based on an individual demonstrating through an examination process the acquisition of specialized knowledge, skills, and abilities to perform a specific job (e.g., project management certificate, Cisco certified network associate).

4 A license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job (e.g., medical license, electrician's license).

5 Native students include those who are American Indian or Alaska Native and Native Hawaiian or other Pacific Islander.

- Overall, 86.1 percent of bachelor's degree recipients at for-profit institutions borrowed an average of $40,583 to complete their degrees, compared with 68.7 percent of students at private nonprofit four-year institutions who borrowed an average of $31,435 and 66.6 percent students at public four-year institutions who borrowed an average of $27,079. More than nine in 10 Black and Native Hawaiian or other Pacific Islander students at for-profit institutions borrowed to complete their degrees. Across all degree levels, Black students were much more likely to borrow and borrowed more, on average, than any other group.
- One-third of students who completed their bachelor's degrees at for-profit institutions were in an income-driven repayment (IDR) plan, a much higher share than students who graduated from private nonprofit four-year (22.4 percent) and public four-year (18.0 percent) institutions.
- The average monthly federal loan payment was higher among bachelor's degree recipients at for-profit institutions than students from any other sector. This was true for all students, but especially true for Black students, whose average monthly payments at for-profit institutions were $277 per month, compared with $200 per month among Black students at public four-year institutions and $230 per month among Black students at private nonprofit four-year institutions.
- One in five students from the fall 2012 cohort who completed an associate degree at a for-profit institution defaulted within six years of first enrolling, compared with just 6.2 percent of students who completed their associate degrees at public two-year institutions. One-quarter of Hispanic or Latino and one-fifth of both Black and White students at for-profit institutions defaulted.
- Students from the 2012 fall cohort who completed a bachelor's or associate degree at a for-profit institution were much more likely than students in any other sector to have a forbearance or delinquency within six years of enrolling. For instance, nearly three-quarters of Black students (74.0 percent) who completed a bachelor's degree at for-profit institutions had a forbearance within six years, as did 58.7 percent of Hispanic or Latino students and 49.4 percent of White students. This was much higher than the share of students at public and private nonprofit four-year institutions. A similar pattern emerged for delinquencies.

The majority of undergraduate students took out loans to help pay for college. However, borrowing patterns, amount borrowed, and experiences with loan repayment differ significantly by race and ethnicity. In particular, Native and Black or African American students were more likely to borrow and more likely to face difficulty repaying their loans than other groups, potentially hindering intergenerational upward mobility even for those who complete a college credential.

In 2015–16, nearly seven in 10 bachelor's degree recipients (68.9 percent) borrowed to complete their degrees, as did 48.0 percent of associate degree recipients. Across all degree types and sectors, Black students were more likely to borrow and borrowed more on average than nearly every other group, while Asian and Hispanic or Latino students were the least likely to borrow.

- More than eight in 10 Native Hawaiian or other Pacific Islander (89.6 percent) and Black (86.4 percent) bachelor's degree recipients borrowed. In contrast, 67.3 percent of Hispanic or Latino and 58.7 percent of Asian graduates borrowed, the lowest shares across all groups. A similar pattern emerged among associate degree recipients, with 67.2 percent of Black graduates borrowing, compared with 36.3 percent of Hispanic or Latino and 29.6 percent of Asian graduates.
- Black students borrowed more, on average, than any other group across all degree levels. Among bachelor's degree recipients, Black students borrowed roughly $4,300 more than all bachelor's degree recipients ($34,010 and $29,669, respectively). Among associate degree recipients, Black students borrowed, on average, $22,303, compared with an average of $18,501 among all associate degree recipients, a difference of roughly $3,800.
- Across nearly every racial and ethnic group, bachelor's degree recipients were more likely than associate degree recipients to be enrolled in an income-driven repayment (IDR) plan. Black students were more likely than any

other group to participate in an IDR plan; one-third of all Black bachelor's degree recipients and 26.6 percent of all Black associate degree recipients were enrolled in an IDR plan.

- Among the cohort of students who first enrolled in postsecondary education in 2011–12, well over half of all American Indian or Alaska Native (70.7 percent), Black (63.7 percent), and Hispanic or Latino (59.6 percent) students who completed a college credential had a forbearance by 2017. The picture is more extreme for those who did not complete a college credential. By 2017, 94.1 percent of American Indian or Alaska Native, 96.3 percent of Black, and 94.0 percent of Hispanic or Latino students who did not complete a college credential had a forbearance. A similar pattern emerged among students facing delinquency on a loan.
- Among the cohort who first enrolled in postsecondary education in 2003–04, associate degree recipients were almost three times more likely than bachelor's degree recipients to default on a loan within 12 years of enrolling (21.9 percent and 7.9 percent, respectively). Nearly one-third of all Black (33.2 percent) and Asian (32.1 percent) associate degree recipients defaulted. Among bachelor's degree recipients, Black students (22.6 percent) were nearly twice as likely as any other group to have defaulted on a loan. Default was much higher among those who did not complete a credential. Black students (63.5 percent) and students of more than one race (55.2 percent) were much more likely than Hispanic or Latino (45.4 percent), White (37.3 percent), and Asian (28.5 percent) noncompleters to have defaulted on a loan.
- Across nearly all racial and ethnic groups, the majority of associate and bachelor's degree recipients who started college in 2003–04 had paid back less than half of their loans 12 years after first enrolling. Asian students were the only group who had paid back more than half of what they first borrowed. The most disturbing picture of repayment emerges for Black students, the only group who, across each degree level, owed more than what they originally borrowed, with bachelor's degree recipients owing 105.5 percent and associate degree recipients owing 117.3 percent of their total undergraduate debt.

Across all positions and seniority levels, faculty, staff, and administrators remain less diverse than the student body. What's more, the most diverse positions tend to be those outside of the classroom and leadership, meaning students of color are more likely to see people from similar backgrounds in clerical, technical, and service staff positions.

Our 2019 report found that students of color make up a larger share of postsecondary education than ever before. Between 1996 and 2016, the non-White share of undergraduates grew from 29.6 percent to 45.2 percent, while the non-White share of graduate students grew from 20.8 percent to 32.0 percent. However, the racial and ethnic backgrounds of college faculty, staff, and administrators remain much less diverse than that of the student body.

- In fall 2017, people of color held roughly one-fifth of all full-time (21.5 percent) and part-time (20.2 percent) faculty positions. On an encouraging note, the racial and ethnic diversity of full-time faculty new hires was greater than that of the current faculty body. In 2017, 24.5 percent of all full-time faculty new hires were people of color.
- Among full-time faculty, American Indian or Alaska Native, Black, Hispanic or Latino, and Native Hawaiian or other Pacific Islander faculty, as well as individuals of more than one race, were less likely than Asian or White faculty to hold full professorships.
- In 2018–19, only 15.2 percent of all academic department heads identified as a race or ethnicity other than White. Almost half (49.1 percent) of all academic department heads in area, ethnic, cultural, gender, and group studies identified as people of color; in nine disciplines, less than 10 percent of all academic department heads identified as people of color.
- The most diverse position among senior administrators in 2018–19 was chief student affairs and student life officers, among whom 26.4 percent identified as non-White. The least diverse positions were chief athletics administrators, chief development and advancement officers, and chief facilities officers, of whom more than nine in 10 identified as White.

- The most diverse positions among mid-level professionals in 2018–19 were research positions, among whom 31.2 percent identified as non-White, followed by student affairs (27.0 percent) and institutional affairs (26.8 percent). The least diverse mid-level professional positions were athletic affairs, external affairs, and facilities, among whom more than eight in 10 identified as White.
- Students of color were much more likely to encounter people from similar backgrounds in clerical, technical, and service staff positions than among faculty, department head, administrative, or mid-level professional positions. In 2018–19, 41.3 percent of all service and maintenance staff, 26.4 percent of all technical and paraprofessional staff, 25.8 percent of all office and clerical staff, and 17.1 percent of all skilled craft staff identified as people of color.

CHAPTER 1

Pre-college Academic Experiences

INTRODUCTION

As the findings from *Race and Ethnicity in Higher Education: A Status Report* (2019) show, college access and completion differ substantially across racial and ethnic groups. The report illuminated the need for urgent attention to the educational inequities that exist in our nation's Black or African American and Indigenous communities, in particular, and shed important light on inequities for students of color[1] broadly. Among students who complete college, many students of color face higher debt burdens, higher levels of unemployment, and lower median annual earnings than White students with the same type of degree. These and other disparities stem from decades of systemic barriers to high-quality education that divide along racial and ethnic lines.

In the report *Harming Our Common Future: America's Segregated Schools 65 Years After* Brown (Frankenberg et al. 2019), researchers illustrate a K–12 system that has a majority of students of color, but is resegregating by race and class. Moreover, these modes of segregation often overlap, with Black or African American and Hispanic or Latino students on average more likely to attend high-poverty schools. Such trends play a leading role in determining the educational offerings and environments available to students of color, such as course offerings, access to rigorous curriculum, class sizes, and the availability of guidance counselors (Johnson 2019).

As the data in this chapter show, American Indian or Alaska Native, Black or African American, Hispanic or Latino, and Native Hawaiian or other Pacific Islander students have very different experiences in our K–12 system than White students. For example, these groups tend to be less likely to meet national math and reading proficiency standards and were less likely to take rigorous coursework or courses for college credit while in high school than White students. Despite these odds, Black or African American and Hispanic or Latino students in particular report similar expectations of pursuing a bachelor's degree as White students.

The data presented in this chapter should not be interpreted as indicative of differences in the students themselves, but as the results of long-standing, entrenched inequalities in our country, including schooling, housing, and employment, to name a few. The differences shown here by race and ethnicity that emerge in our K–12 system illustrate that some groups remain more likely than others to have access to schools with more resources, rigorous coursework, and test preparation that help increase college readiness and the likelihood of postsecondary enrollment and completion.

KEY FINDINGS

- American Indian or Alaska Native, Black or African American, and Hispanic or Latino 12th-grade students were less likely to reach the proficient and advanced achievement levels on the National Assessment of Educational Progress (NAEP) in math and reading than White students in 2015. Asian students were the most likely of any group to meet the advanced achievement level in both subjects. Overall, Black or African American students had the lowest levels of achievement in math and reading.
- Overall, a higher proportion of students met the proficient and advanced achievement levels on the NAEP exam in reading than in math. This pattern occurred across all racial and ethnic groups; however, the largest gap in the share of students who met proficiency or higher was among American Indian or Alaska Native students (18.5 percentage points). The smallest gap was among Asian students (1.7 percentage points).
- Of the fall 2009 high school cohort, American Indian or Alaska Native, Black or African American, and Hispanic or Latino students tended to have lower grade point averages (GPAs) than other groups.

1 The term students of color includes American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, and Native Hawaiian or other Pacific Islander students, as well as students of more than one race.

- Women[2] had higher overall high school GPAs than men across nearly all racial and ethnic groups. American Indians or Alaska Natives were the only exception, among whom men had a slightly higher overall GPA than women.
- Approximately one-third of all students in the fall 2009 ninth-grade cohort had taken an AP course by 2013. Around two-thirds of all Asian students had taken an AP course, compared with roughly one in five Black or African American students.
- When asked about their college expectations and plans during their 11th-grade year, American Indian or Alaska Native and Hispanic or Latino students were much less likely than other groups to report that they were very sure they would pursue a bachelor's degree. Nearly one in five students in both of these groups reported they probably wouldn't pursue a bachelor's degree.
- Among all students who took the ACT in 2019, 26 percent met the college and career readiness benchmarks in all four subjects of the exam. Half of all Asians met all four benchmarks—the only group for which this was the case. In contrast, less than 10 percent of all American Indian or Alaska Native and Black or African American students met all four benchmarks.
- Among all students who took the SAT in 2019, 45 percent met the college readiness benchmark for evidence-based reading and writing and math. Three-quarters of Asian students met both benchmarks, as did more than half of all White students and students of more than one race. In contrast, more than half of all American Indian or Alaska Native and Black or African American students did not meet either benchmark, as did slightly less than half of all Native Hawaiian or other Pacific Islander and Hispanic or Latino students.
- American Indian or Alaska Native, Black or African American, Hispanic or Latino, and Native Hawaiian or other Pacific Islander students were more likely than White students to have taken a developmental course[3] since leaving high school.

2 This chapter uses the terms "women" and "men" to refer to students' gender, regardless of their age.
3 Developmental or remedial courses are designed to strengthen students' skills in key subjects such as reading, writing, and math so they can be successful in college-level courses.

ACHIEVEMENT LEVELS OF 12TH GRADERS

The National Assessment of Educational Progress (NAEP), a representative sample of students across the United States, has measured what fourth-, eighth-, and 12th-grade students know in various subjects since 1969 (NAEP 2018). This section utilizes NAEP data to examine student achievement and proficiency of 12th graders in math and reading in 2015,[4] two areas critical to college readiness. NAEP uses a four-level achievement scale to categorize student progress, which includes the following categories: below basic, basic, proficient, and advanced. Students meeting the NAEP achievement level "proficient" "demonstrate solid academic performance and competency over challenging subject matter" (NAEP 2020). It is important to note that the NAEP achievement level "proficient" is not equal to grade-level proficiency in a subject, which is often measured through other assessments, such as state assessments.

Math Achievement Levels for 12th Graders, as Defined by NAEP (2006)[5]

Basic	Proficient	Advanced
Twelfth-grade students performing at the Basic level should be able to solve mathematical problems that require the direct application of concepts and procedures in familiar situations.	Twelfth-grade students performing at the Proficient level should be able to select strategies to solve problems and integrate concepts and procedures.	Twelfth-grade students performing at the Advanced level should demonstrate in-depth knowledge of the mathematical concepts and procedures represented in the framework.

Reading Achievement Levels for 12th Graders, as Defined by NAEP (2011)[6]

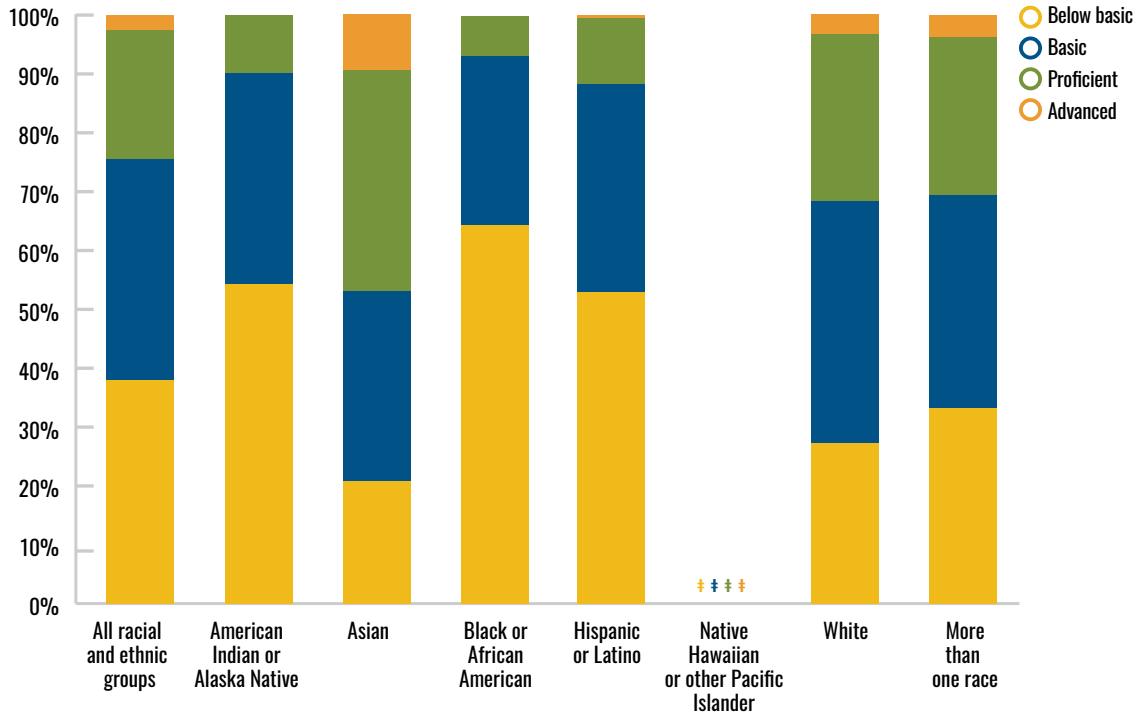
Basic	Proficient	Advanced
Twelfth-grade students performing at the Basic level should be able to demonstrate an overall understanding and make some interpretations of the text.	Twelfth-grade students performing at the Proficient level should be able to show an overall understanding of the text which includes inferential as well as literal information.	Twelfth-grade students performing at the Advanced level should be able to describe more abstract themes and ideas in the overall text.

4 Achievement levels in 2015 math and reading were the latest publicly available data for 12th graders at the time of analysis.
5 For more information on how the National Assessment of Educational Progress (NAEP) defines math achievement levels, please visit https://nces.ed.gov/nationsreportcard/mathematics/achieveall.aspx#grade12.
6 For more information on how NAEP defines reading achievement levels, please visit https://nces.ed.gov/nationsreportcard/reading/achieve.aspx#grade12.

Achievement Levels in Math

In 2015, about one-quarter of all 12th graders met the proficient achievement level (21.8 percent) or advanced achievement level (2.7 percent) in math. More than one-third of students were at the basic (37.4 percent) or below basic (38.0 percent) achievement levels. American Indian or Alaska Native, Black or African American, and Hispanic or Latino students were about twice as likely to be concentrated in the below basic achievement level as White students. Asian students were the least likely of all groups to be at the basic and below basic achievement levels and the most likely to meet the proficient and advanced achievement levels.

Figure 1.1: Math Achievement Levels of 12th Graders, by Race and Ethnicity: 2015



Source: U.S. Department of Education, National Assessment of Educational Progress (NAEP), 2015 Mathematics Assessment
Note: ‡ Estimate suppressed. Reporting standards not met.

- The range of students who were in the basic or below basic achievement levels for math in 2015 was 53.0 percent of Asian students to 92.9 percent of Black or African American students.
- In 2015, over half of all Black or African American (64.2 percent), American Indian or Alaska Native (54.2 percent), and Hispanic or Latino (52.8 percent) 12th-grade students fell in the below basic achievement level for math; 27.2 percent of White and 20.8 percent of Asian students were in the below basic achievement level.
- Nearly half of Asian 12th graders met the proficient or advanced achievement level in math (47.0 percent), as did 31.7 percent of White students and 30.6 percent of students of more than one race. Only 9.8 percent of American Indian or Alaska Native and 6.8 percent of Black or African American 12th graders met the proficient achievement level, and the proportion of these groups that met the advanced achievement level rounded to zero percent.
- Asian 12th graders were much more likely than any other racial or ethnic group to meet the advanced achievement level for math (9.5 percent).

Men were more likely than women to meet the proficient or advanced achievement levels in math in 2015 (26.2 percent and 22.7 percent, respectively). Women were slightly more likely than men to fall into the below basic or basic achievement levels than men (77.3 percent and 73.8 percent, respectively). Similar patterns emerged by race and ethnicity across most groups. Black or African American women and women of more than one race were slightly more likely to meet proficient or advanced achievement levels in math than men.

Table 1.1: Math Achievement Levels of 12th Graders, by Gender and Race and Ethnicity: 2015

		Below Basic	Basic	Proficient	Advanced
Women	All racial and ethnic groups	39.1%	38.2%	20.8%	1.9%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	21.8%	32.6%	37.4%	8.2%
	Black or African American	62.9%	29.9%	6.9%	#
	Hispanic or Latina	55.6%	34.8%	9.2%	#
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	27.5%	42.8%	27.4%	2.2%
	More than one race	33.6%	34.5%	27.9%	3.9%
Men	All racial and ethnic groups	37.1%	36.7%	22.7%	3.5%
	American Indian or Alaska Native	47.7%	42.0%	10.1%	#
	Asian	19.6%	31.8%	37.6%	10.9%
	Black or African American	65.6%	27.5%	6.8%	#
	Hispanic or Latino	50.1%	35.8%	13.2%	1.0%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	26.9%	39.6%	28.9%	4.6%
	More than one race	32.8%	37.7%	25.7%	3.7%

Source: U.S. Department of Education, National Assessment of Educational Progress (NAEP), 2015 Mathematics Assessment
Notes: # Rounds to zero. | ‡ Estimate suppressed. Reporting standards not met.

- Among women, the share of students who were in the basic or below basic achievement levels for math ranged from 54.4 percent of Asian students to 92.8 percent of Black or African American students. Among men, the range was 51.4 percent of Asian students to 93.1 percent of Black or African American students.
- The share of 12th-grade women who were in the below basic achievement level for math ranged from 21.8 percent of Asian students to 55.6 percent of Hispanic or Latina students and 62.9 percent of Black or African American students. Among men, the share of 12th graders in this achievement level ranged from 19.6 percent of Asian students to 65.6 percent of Black or African American students.
- Nearly half of Asian men and Asian women met the proficient or advanced achievement levels in math (48.5 percent and 45.6 percent, respectively)—the highest shares of any group. Almost 11 percent of Asian men met the advanced achievement level in math—more than double that of Whites (4.6 percent) and men of more than one race (3.7 percent), and 10 percentage points more than that of Hispanics or Latinos (1.0 percent).
- The proportion of Black or African American women, Hispanic or Latina women, American Indian or Alaska Native men, and Black or African American men that met the advanced achievement level rounded to zero percent.
- The largest gender gap occurred among Hispanics or Latinos, among whom a higher share of women were in the below basic achievement level than men (a 5.5 percentage point difference). The share of Hispanic or Latino men who met the proficient or advanced achievement level for math was 5.0 percentage points higher than the share of women.

Math achievement levels were much lower for students eligible for the national school lunch program than among other students, but even among those whose family incomes qualified them for this program, there were large differences across racial and ethnic groups. Overall, 12th graders who were not eligible for the national school lunch program were much more likely to meet the proficient or advanced achievement levels than students who were eligible for the national school lunch program. Students who were eligible for the national school lunch program were nearly twice as likely as those who were not eligible to be at the below basic achievement level in math (54.3 percent and 28.0 percent, respectively).

Table 1.2: Math Achievement Levels of 12th Graders, by National School Lunch Program Eligibility and Race and Ethnicity: 2015

		Below Basic	Basic	Proficient	Advanced
Eligible	All racial and ethnic groups	54.3%	34.7%	10.4%	0.6%
	American Indian or Alaska Native	62.3%	33.2%	4.5%	#
	Asian	30.2%	36.3%	29.3%	4.3%
	Black or African American	70.9%	24.8%	4.2%	#
	Hispanic or Latino	56.6%	34.5%	8.6%	#
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	43.5%	41.7%	14.0%	0.8%
	More than one race	48.0%	35.7%	15.3%	0.9%
Not Eligible	All racial and ethnic groups	28.0%	39.7%	28.5%	3.8%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	16.2%	29.1%	42.5%	12.2%
	Black or African American	51.6%	36.0%	11.6%	0.7%
	Hispanic or Latino	46.1%	37.0%	15.7%	1.2%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	22.9%	41.7%	31.5%	3.9%
	More than one race	24.7%	34.8%	35.4%	5.0%

Source: U.S. Department of Education, National Assessment of Educational Progress (NAEP), 2015 Mathematics Assessment
Notes: # Rounds to zero. | ‡ Estimate suppressed. Reporting standards not met.

- Among students who were eligible for the national school lunch program, over 90 percent of Black or African American (95.7 percent), American Indian or Alaska Native (95.5 percent), and Hispanic or Latino (91.1 percent) students were in the basic or below basic achievement levels in math—much greater shares than those of other groups.
- Regardless of eligibility for the national school lunch program, more than half of Black or African American 12th graders were in the below basic achievement level for math—the only group for which this was the case. Among Black or African American students who were eligible for the program, 70.9 percent were in the below basic achievement level; among those who were not eligible for the program, 51.6 percent were in the below basic achievement level for math.
- Roughly one-third of Asian students who were eligible for the national school lunch program met the proficient or advanced achievement level for math (33.6 percent), compared with fewer than 10 percent of Hispanic or Latino (8.6 percent), American Indian or Alaska Native (4.5 percent), and Black or African American (4.2 percent) students.
- Asian students were the most likely to meet the advanced achievement level in math, regardless of eligibility for the national school lunch program. However, Asian students who were not eligible for the national school lunch program were nearly three times as likely as Asian students who were eligible for the program to have met the advanced achievement level (12.2 percent and 4.3 percent, respectively).

Overall, 36.8 percent of students whose parents had graduated from college met the proficient or advanced achievement levels in math. This was nearly three times that of students whose parents had only a high school credential (12.4 percent) and five times that of students whose parents did not finish high school (6.7 percent). Students whose parents had attained only a high school credential (87.6 percent) or did not complete high school (92.9 percent) were also much more likely than students whose parents had graduated from college (63.2 percent) to be in the basic or below basic achievement levels. Lower shares of Black or African American and Hispanic or Latino students met proficiency standards across all levels of parental education.

Table 1.3: Math Achievement Levels of 12th Graders, by Parental Education Level and Race and Ethnicity: 2015

		Below Basic	Basic	Proficient	Advanced
Did Not Finish High School	All racial and ethnic groups	59.3%	33.6%	6.7%	#
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	42.6%	27.8%	27.0%	2.7%
	Black or African American	78.0%	20.6%	1.4%	#
	Hispanic or Latino	59.5%	34.3%	6.1%	#
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	54.0%	39.4%	6.1%	#
	More than one race	‡	‡	‡	‡
Graduated High School	All racial and ethnic groups	53.7%	33.9%	11.7%	0.7%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	24.5%	37.3%	33.0%	5.1%
	Black or African American	77.4%	20.2%	2.4%	#
	Hispanic or Latino	57.5%	32.6%	9.6%	#
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	45.1%	39.7%	14.3%	0.9%
	More than one race	‡	‡	‡	‡
Some Education After High School	All racial and ethnic groups	39.1%	42.9%	17.1%	0.9%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	21.9%	38.5%	32.9%	6.7%
	Black or African American	61.6%	32.8%	5.6%	#
	Hispanic or Latino	44.6%	41.4%	13.5%	0.5%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	30.1%	47.5%	21.4%	1.1%
	More than one race	46.7%	36.2%	16.8%	#
Graduated College	All racial and ethnic groups	25.4%	37.8%	31.8%	5.0%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	15.4%	29.8%	42.4%	12.5%
	Black or African American	52.6%	35.3%	11.5%	0.6%
	Hispanic or Latino	41.5%	38.0%	18.8%	1.8%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	18.7%	39.2%	36.6%	5.5%
	More than one race	20.9%	35.6%	36.4%	7.1%

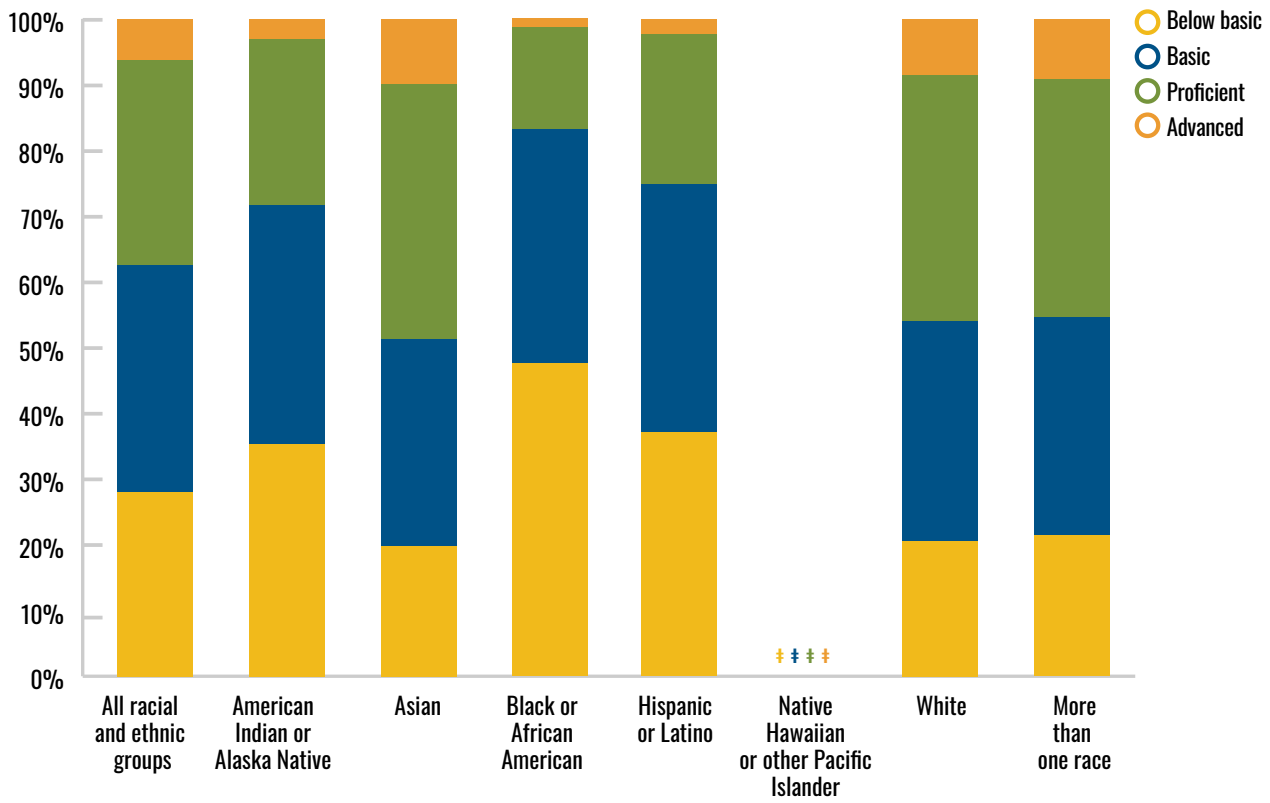
Source: U.S. Department of Education, National Assessment of Educational Progress (NAEP), 2015 Mathematics Assessment
Notes: # Rounds to zero. | ‡ Estimate suppressed. Reporting standards not met.

- More than half of all Black or African American 12th graders fell in the below basic achievement level across all levels of parental education, the only group for which this was the case.
- Among students whose parents had completed college, Black or African American students were almost three times as likely as White students to be in the below basic achievement level (52.6 percent and 18.7 percent, respectively). Hispanic or Latino (41.5 percent) 12th graders were more than twice as likely as White (18.7 percent) and Asian (15.4 percent) 12th graders to be in the below basic achievement level.
- Among those whose parents completed college, the range of students who met the proficient or advanced achievement levels in math was 12.1 percent of Black or African American students to 54.9 percent of Asian students.
- The largest gap between the proportion of students whose parents completed college and those whose parents only completed high school who met the proficient or advanced achievement levels was among White students—26.9 percentage points.

Achievement Levels in Reading

In 2015, 37.5 percent of all 12th graders met the proficient achievement level (31.2 percent) or advanced achievement level (6.3 percent) in reading; 34.5 percent met basic and 28.0 percent were at below basic achievement levels. Asian students had higher achievement levels than any other group.

Figure 1.2: Reading Achievement Levels of 12th Graders, by Race and Ethnicity: 2015



Source: U.S. Department of Education, National Assessment of Educational Progress (NAEP), 2015 Reading Assessment
Note: ‡ Estimate suppressed. Reporting standards not met.

- The range of students who were in the basic or below basic achievement levels for reading in 2015 was 51.3 percent of Asian students to 83.2 percent of Black or African American students.

- Nearly half of all Black or African American 12th graders (47.6 percent) and over one-third of Hispanic or Latino (37.1 percent) and American Indian or Alaska Native (35.3 percent) 12th graders fell in the below basic achievement level for reading. In contrast, 20.6 percent of White and 19.8 percent of Asian students were in the below basic achievement level.
- Asian students (48.7 percent), White students (46.0 percent), and students of more than one race (45.3 percent) were more than twice as likely as Black or African American students (16.9 percent) to meet the proficient or advanced achievement levels in reading.
- Asian students (10.0 percent), students of more than one race (9.2 percent), and White students (8.5 percent) were more likely to meet the advanced achievement level in reading than American Indian or Alaska Native (3.0 percent), Hispanic or Latino (2.4 percent), and Black or African American (1.4 percent) students.

Women were more likely than men to meet the proficient or advanced achievement levels in reading (41.9 percent and 32.9 percent, respectively). Over two-thirds of men were in the basic or below basic achievement levels (67.2 percent), as were 58.0 percent of women. The largest gender gaps between men and women meeting proficiency or higher were among Asian students, White students, and students of more than one race. Regardless of gender, Black or African American, American Indian or Alaska Native, and Hispanic or Latino students were much more likely than other groups to be in the basic and below basic achievement levels.

Table 1.4: Reading Achievement Levels of 12th Graders, by Gender and Race and Ethnicity: 2015

		Below Basic	Basic	Proficient	Advanced
Women	All racial and ethnic groups	23.7%	34.3%	34.4%	7.5%
	American Indian or Alaska Native	33.5%	37.1%	26.9%	2.5%
	Asian	14.6%	29.8%	43.6%	12.0%
	Black or African American	41.9%	37.4%	18.7%	2.1%
	Hispanic or Latina	33.8%	38.4%	24.9%	2.8%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	16.2%	32.5%	41.1%	10.2%
	More than one race	15.7%	32.1%	40.4%	11.7%
Men	All racial and ethnic groups	32.4%	34.8%	27.9%	5.0%
	American Indian or Alaska Native	37.6%	35.6%	23.2%	3.6%
	Asian	24.6%	33.1%	34.1%	8.1%
	Black or African American	53.6%	33.7%	12.1%	0.6%
	Hispanic or Latino	40.5%	37.1%	20.4%	2.0%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	24.9%	34.3%	34.0%	6.9%
	More than one race	27.8%	34.6%	31.3%	6.3%

Source: U.S. Department of Education, National Assessment of Educational Progress (NAEP), 2015 Reading Assessment
Note: ‡ Estimate suppressed. Reporting standards not met.

- Black or African American women and Black or African American men were the least likely of all groups to meet the proficient or advanced achievement levels in reading in 2015. Among Black or African American students, women were 8.1 percentage points more likely than men to meet proficiency or higher (20.8 percent and 12.7 percent, respectively).
- The gender gap between the share of women and men who were in the below basic achievement level in reading was greatest among Asian students, Black or African American students, and individuals of more than one race. Within these groups, men were more than 10 percentage points more likely to be in the below basic achievement level than women.

- Over half of Asian women (55.6 percent), women of more than one race (52.1 percent), and White women (51.3 percent) met the proficient achievement level or higher. Among men, these groups were also much more likely to meet proficiency or higher than other groups. However, the shares of Asian men (42.2 percent), White men (40.9 percent), and men of more than one race (37.6 percent) who met proficiency or higher were much lower than those of women.
- Among women, 12.0 percent of Asian women, 11.7 percent of women of more than one race, and 10.2 percent of White women met the advanced achievement level, compared with only 2.8 percent of Hispanic or Latina, 2.5 percent of American Indian or Alaska Native, and 2.1 percent of Black or African American women.

Overall, 12th graders who were not eligible for the national school lunch program were much more likely to meet the proficient or advanced achievement levels in reading (45.3 percent) than students who were eligible for the national school lunch program (22.7 percent). Students who were eligible for the national school lunch program were almost twice as likely as those who were not eligible to be at the below basic achievement level in reading (40.1 percent and 21.3 percent, respectively). Much larger shares of American Indian or Alaska Native, Black or African American, and Hispanic or Latino students were in the basic or below basic achievement levels.

Table 1.5: Reading Achievement Levels of 12th Graders, by National School Lunch Program Eligibility and Race and Ethnicity: 2015

		Below Basic	Basic	Proficient	Advanced
Eligible	All racial and ethnic groups	40.1%	37.2%	20.6%	2.1%
	American Indian or Alaska Native	45.2%	36.6%	17.1%	1.2%
	Asian	29.8%	33.9%	30.8%	5.4%
	Black or African American	53.6%	34.0%	11.6%	0.7%
	Hispanic or Latino	41.0%	38.0%	19.5%	1.6%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	30.8%	39.3%	26.7%	3.2%
	More than one race	36.8%	35.0%	25.3%	2.9%
Not Eligible	All racial and ethnic groups	21.3%	33.4%	37.0%	8.3%
	American Indian or Alaska Native	21.6%	37.3%	35.3%	5.8%
	Asian	13.6%	30.0%	43.6%	12.7%
	Black or African American	38.1%	37.8%	21.7%	2.4%
	Hispanic or Latino	30.2%	37.3%	28.5%	4.0%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	18.7%	32.4%	39.6%	9.3%
	More than one race	14.2%	32.5%	40.4%	12.9%

Source: U.S. Department of Education, National Assessment of Educational Progress (NAEP), 2015 Reading Assessment
Note: ‡ Estimate suppressed. Reporting standards not met.

- Among students who were eligible for the national school lunch program, a larger share of Black or African American (87.6 percent), American Indian or Alaska Native (81.8 percent), and Hispanic or Latino (79.0 percent) students were in the basic or below basic achievement levels for reading. Among students who were not eligible for the program, Black or African American (75.9 percent) and Hispanic or Latino (67.5 percent) students were much more likely than other groups to be in the basic or below basic achievement levels.
- The majority of Black or African American 12th graders who were eligible for the national school lunch program were in the below basic achievement level for reading (53.6 percent), compared with 29.8 percent of Asian students, the highest and lowest shares across all groups.
- Among 12th graders who were eligible for the national school lunch program, more than one-quarter of all Asians (36.2 percent), Whites (29.9 percent), and individuals of more than one race (28.2 percent) met the proficient achievement level in reading or higher, compared with 21.1 percent of Hispanic or Latino, 18.3 percent of American Indian or Alaska Native, and 12.3 percent of Black or African American students.
- Among 12th graders not eligible for the national school lunch program, only 24.1 percent of Black or African American and 32.5 percent of Hispanic or Latino students met proficiency or higher, the lowest shares across all groups.
- Between students eligible and not eligible for the national lunch program, the largest gap in the share of students meeting the proficient or advanced achievement levels in reading occurred among individuals of more than one race (25.1 percentage points), American Indians or Alaska Natives (22.8 percentage points), and Asians (20.1 percentage points).

Achievement in reading among 12th graders increased as level of parental educational attainment increased. Overall, students whose parents had completed college (48.9 percent) or had some postsecondary experience (35.7 percent) were much more likely to meet proficiency or higher than those whose parents had only completed high school (24.0 percent) or did not complete high school (18.5 percent). First-generation students were much more likely to be in the basic or below basic achievement levels. Lower shares of Black or African American and Hispanic or Latino students met proficiency or higher across all levels of parental education.

Table 1.6: Reading Achievement Levels of 12th Graders, by Parental Education Level and Race and Ethnicity: 2015

		Below Basic	Basic	Proficient	Advanced
Did Not Finish High School	All racial and ethnic groups	44.6%	37.0%	17.4%	1.1%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	32.3%	28.9%	34.0%	4.9%
	Black or African American	58.5%	31.4%	9.8%	#
	Hispanic or Latino	42.8%	39.0%	17.2%	1.0%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	44.3%	36.0%	18.6%	1.0%
	More than one race	‡	‡	‡	‡
Graduated High School	All racial and ethnic groups	39.3%	36.6%	21.9%	2.1%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	21.2%	44.7%	31.3%	2.8%
	Black or African American	59.7%	30.9%	8.8%	0.6%
	Hispanic or Latino	41.7%	36.3%	20.4%	1.6%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	32.3%	38.2%	26.6%	3.0%
	More than one race	‡	‡	‡	‡

		Below Basic	Basic	Proficient	Advanced
Some Education After High School	All racial and ethnic groups	25.8%	38.6%	31.3%	4.4%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	20.1%	32.7%	39.4%	7.8%
	Black or African American	43.3%	39.8%	15.7%	1.1%
	Hispanic or Latino	29.3%	39.3%	27.8%	3.5%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	19.6%	38.2%	36.7%	5.5%
	More than one race	15.6%	40.1%	38.8%	5.5%
Graduated College	All racial and ethnic groups	19.2%	31.9%	38.8%	10.1%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	14.0%	28.7%	43.9%	13.4%
	Black or African American	39.4%	37.7%	20.8%	2.2%
	Hispanic or Latino	26.4%	37.8%	31.2%	4.6%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	14.8%	30.2%	42.9%	12.1%
	More than one race	16.6%	31.0%	39.0%	13.5%

Source: U.S. Department of Education, National Assessment of Educational Progress (NAEP), 2015 Reading Assessment
Notes: # Rounds to zero. | ‡ Estimate suppressed. Reporting standards not met.

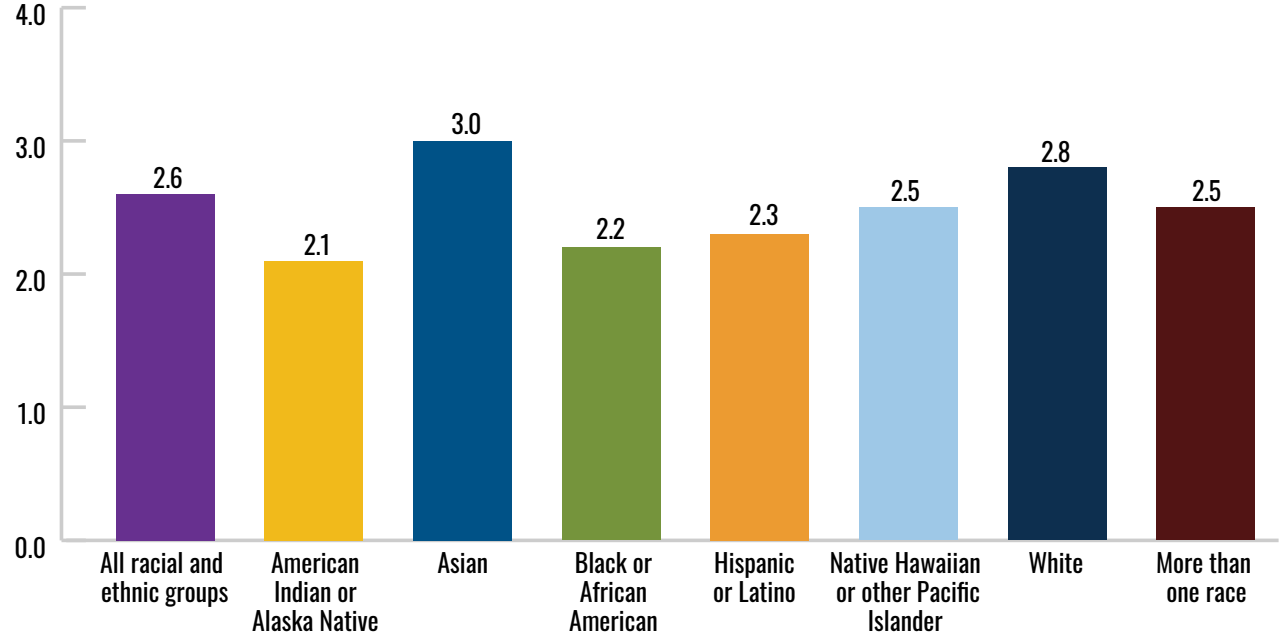
- The majority of Black or African American and Hispanic or Latino students were in the basic or below basic achievement levels in reading across all levels of parental educational attainment, the only groups for which this was the case.
- Among 12th graders whose parents had completed college, Black or African American (39.4 percent) and Hispanic or Latino (26.4 percent) students were much more likely than students of more than one race (16.6 percent), White students (14.8 percent), and Asian students (14.0 percent) to be at the below basic achievement level.
- Overall, 48.9 percent of students whose parents completed college met the proficient achievement level or higher in reading, compared with 24.0 percent of those whose parents had only attained a high school credential. The largest percentage point gap between these two groups occurred for White students, among whom the gap was 25.4 percentage points.
- Among those whose parents completed college, students of more than one race (13.5 percent), Asians (13.4 percent), and Whites (12.1 percent) were much more likely than Hispanic or Latino (4.6 percent) and Black or African American (2.2 percent) students to meet the advanced achievement level in reading.

HIGH SCHOOL GRADE POINT AVERAGE

Many of the remaining tables and figures in this chapter present data from the High School Longitudinal Study of 2009 (HSLS) to examine high school grade point average (GPA), courses students take during high school, and postsecondary expectations and plans. HSLS is a nationally representative, longitudinal study of over 23,000 students who began the ninth grade in 2009. The data presented in this chapter reflect information collected in 2011–12, when most students were in their junior year, as well as from high school transcripts in 2013.

The average high school GPA earned by the fall 2009 high school cohort by 2013 was 2.6. Asian and White students had the highest overall GPAs (3.0 and 2.8, respectively) of all groups.

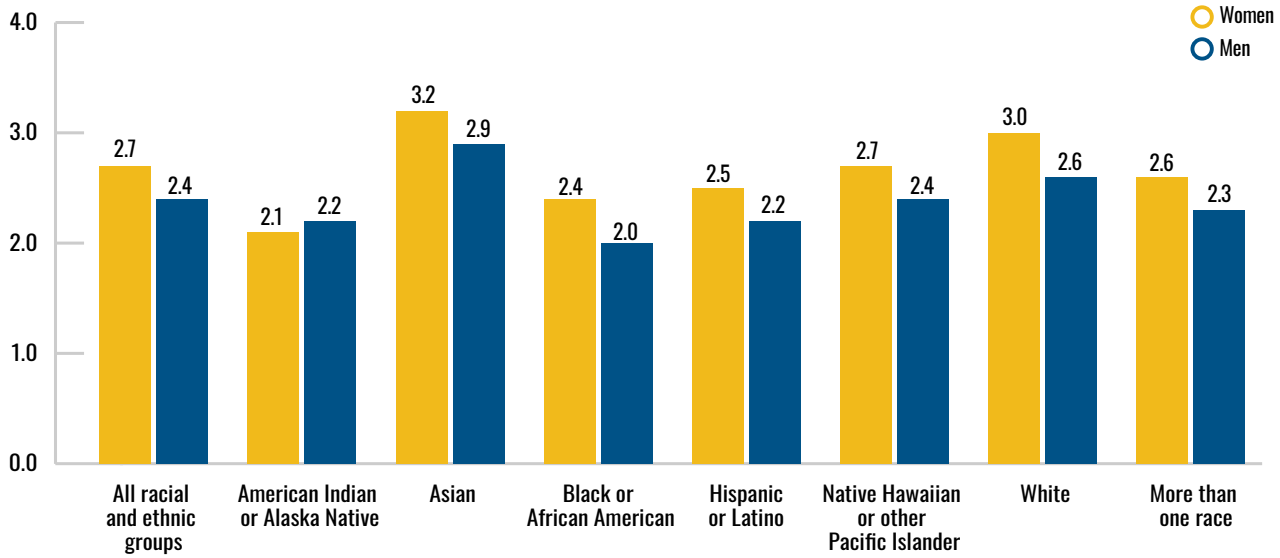
Figure 1.3: Overall GPA Earned by the 2009 High School Cohort by 2013, by Race and Ethnicity



Source: U.S. Department of Education, High School Longitudinal Study of 2009

Women had higher overall high school GPAs than men (2.7 and 2.4, respectively). This pattern was the same in all racial and ethnic groups, with the exception of American Indians or Alaska Natives.

Figure 1.4: Overall GPA Earned by the Fall 2009 High School Cohort by 2013, by Gender and Race and Ethnicity



Source: U.S. Department of Education, High School Longitudinal Study of 2009

- Among women, overall high school GPAs ranged from 2.1 among American Indian or Alaska Native students to 3.2 among Asian students.
- Among men, overall high school GPAs ranged from 2.0 among Black or African American students to 2.9 among Asian students.
- American Indians or Alaska Natives were the only group in which men had a higher overall high school GPA than women, although this difference was very small (2.2 for men and 2.1 for women).

Students from higher-income backgrounds had higher overall GPAs than students from lower-income backgrounds.[7] This pattern occurred across all racial and ethnic groups.

Table 1.7: Overall GPA Earned by the Fall 2009 High School Cohort by 2013, by Income and Race and Ethnicity

SES Quintile 1 (Lowest)	All racial and ethnic groups	2.3
	American Indian or Alaska Native	1.9
	Asian	2.9
	Black or African American	2.1
	Hispanic or Latino	2.2
	Native Hawaiian or other Pacific Islander	‡
	White	2.4
	More than one race	2.3
SES Quintile 2	All racial and ethnic groups	2.5
	American Indian or Alaska Native	‡
	Asian	2.8
	Black or African American	2.2
	Hispanic or Latino	2.4
	Native Hawaiian or other Pacific Islander	‡
	White	2.6
	More than one race	2.4
SES Quintile 3	All racial and ethnic groups	2.6
	American Indian or Alaska Native	2.4
	Asian	3.1
	Black or African American	2.3
	Hispanic or Latino	2.3
	Native Hawaiian or other Pacific Islander	‡
	White	2.7
	More than one race	2.5
SES Quintile 4	All racial and ethnic groups	2.8
	American Indian or Alaska Native	‡
	Asian	3.1
	Black or African American	2.3
	Hispanic or Latino	2.6
	Native Hawaiian or other Pacific Islander	‡
	White	2.9
	More than one race	2.6

7 A student's income reflects the High School Longitudinal Study of 2009 composite variable for socioeconomic status, which is calculated using parental education, parental occupation, and family income.

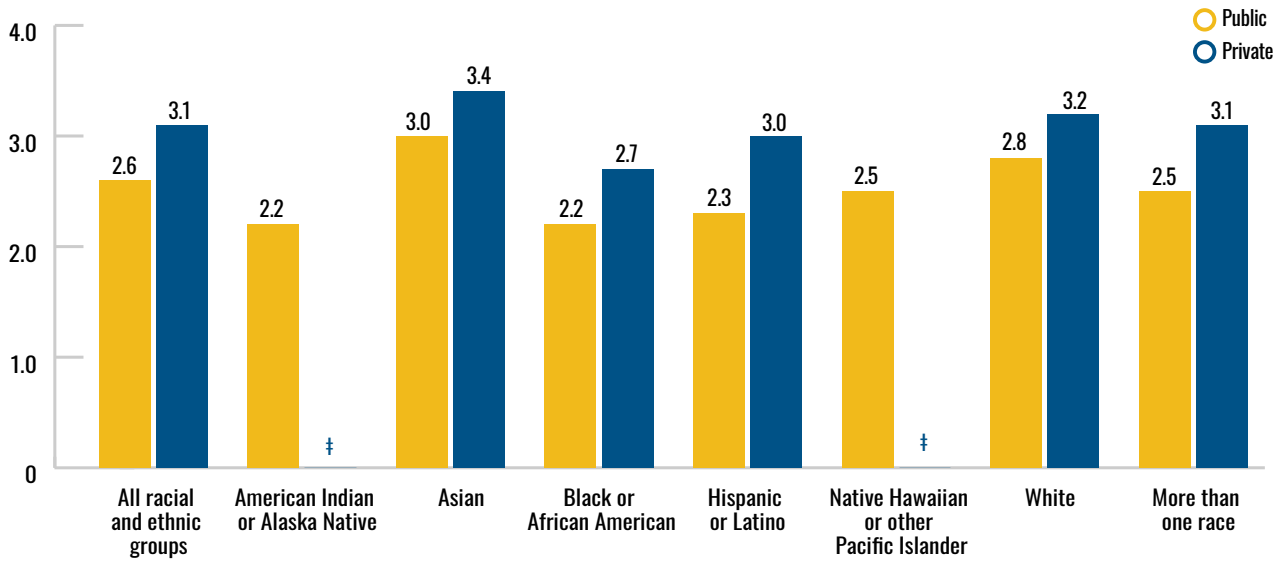
SES Quintile 5 (Highest)	All racial and ethnic groups	3.1
	American Indian or Alaska Native	‡
	Asian	3.3
	Black or African American	2.6
	Hispanic or Latino	2.9
	Native Hawaiian or other Pacific Islander	‡
	White	3.2
	More than one race	2.9

Source: U.S. Department of Education, High School Longitudinal Study of 2009
Notes: Income reflects the High School Longitudinal Study of 2009 composite variable for socioeconomic status, which is calculated using parental education, parental occupation, and family income. | ‡ Estimate suppressed. Reporting standards not met.

- Overall, students in the lowest income quintile had an average high school GPA of 2.3, much lower than that of students in the highest income quintile (3.1).
- Among students in the highest income quintile, Asian and White students were the only racial and ethnic groups who had average GPAs above a 3.0 (3.3 and 3.2, respectively).
- The largest gap between the lowest and highest income quintiles occurred among White students. The overall GPA among White students in the lowest income quintile was 2.4, compared with 3.2 among White students from the highest income quintile. The gap between the lowest and highest income quintiles was similar across all other racial and ethnic groups.

Overall, students who attended private high schools had a higher average GPA (3.1) than students who attended public high schools (2.6). American Indian or Alaska Native, Black or African American, and Hispanic or Latino students tended to have lower GPAs than other groups, and Asian students had the highest average GPAs.

Figure 1.5: Overall GPA Earned by the Fall 2009 High School Cohort by 2013, by High School Control and Race and Ethnicity



Source: U.S. Department of Education, High School Longitudinal Study of 2009
Note: ‡ Estimate suppressed. Reporting standards not met.

- Among public high school students, Asian and White students had higher average GPAs (3.0 and 2.8, respectively) than Hispanic or Latino (2.3), American Indian or Alaska Native (2.2), and Black or African American (2.2) students.
- Among private high school students, Black or African American students were the only group whose average GPA was below a 3.0.
- Hispanic or Latino students had the largest gap in average GPA when between public high school students (2.3) and private high school students (3.0).

ADVANCED PLACEMENT AND INTERNATIONAL BACCALAUREATE

The Advanced Placement (AP) Program, created by the College Board, allows students to take college-level courses while enrolled in high school. AP courses are modeled to reflect the rigor and curriculum of an introductory college course. High schools create course syllabi, which then go through an audit process to receive the AP designation (College Board, n.d.a). In 2017–18, more than 22,600 schools offered at least one AP course (College Board 2018). Currently, there are 38 AP courses in the following seven subjects: arts, English, history and social sciences, interdisciplinary, math and computer science, sciences, and world languages and cultures (College Board, n.d.b).

The International Baccalaureate (IB) offers four programs for students ages three to 19 that focus on critical and independent thinking, while also encouraging students to become caring, lifelong learners (International Baccalaureate Organization, n.d.a). In September 2019, more than 3,400 schools in 157 countries worldwide offered the IB Diploma Programme (IB DP) for students ages 16 to 19 (International Baccalaureate Organization, n.d.c). The IB DP includes three core elements, which are theory of knowledge, an extended essay, and a project incorporating creativity, activity, and service. These core elements are threaded across six subject groups: language and literature, language acquisition, individuals and societies, science, mathematics, and the arts (International Baccalaureate Organization, n.d.b).

AP and IB courses are rigorous in nature and provide students who successfully complete them—and in the case of AP, completion of annual course examinations—potential to receive college credit. Access to AP and IB courses has increased over time. According to the High School Longitudinal Study of 2009 data, approximately 90 percent of ninth graders who started in fall 2009 attended a high school that offered at least one AP course. However, research reveals that disparities remain in where these courses are offered, with schools with greater financial resources more likely to offer AP and IB. Many schools in rural settings, as well as schools with high concentrations of low-income students, Black or African American students, and Hispanic or Latino students, historically have had little to no AP offerings among their courses. What's more, as many states funneled additional funding into expanding access to AP in the 1990s, participation in these courses remained low among historically marginalized students, further highlighting the structural and systemic barriers to rigorous coursework that many students of color face (Klugman 2013; Klopfenstein 2004).

This section measures credits earned in AP and IB courses using a standardized measure, Carnegie Units. A Carnegie Unit is equivalent to a one-year academic course taken one period a day, five days a week (Carnegie Foundation for the Advancement of Teaching 2014).

Overall, more than one-third of all ninth graders who started high school in fall 2009 had taken an AP course by 2013 (36.2 percent) and 2.1 percent had taken an IB course. Overall, the average number of Carnegie Units earned through AP and IB courses was 3.2, and the average grade point average (GPA) for these courses was 2.8.

Table 1.8: Percentage of the Fall 2009 High School Cohort That Took AP or IB Courses and Average Number of Carnegie Units Earned by 2013, by Race and Ethnicity

	% Have Taken an AP Course	% Have Taken an IB Course	Avg. Carnegie Units Earned from AP/IB Courses	Avg. GPA in AP/IB Courses
All racial and ethnic groups	36.2%	2.1%	3.2	2.8
American Indian or Alaska Native	15.8%!	‡	‡	‡
Asian	67.0%	4.1%!	4.6	2.8
Black or African American	22.5%	1.9%	2.7	2.4
Hispanic or Latino	32.6%	2.2%	3.1	2.5
Native Hawaiian or other Pacific Islander	34.7%!	‡	3.0!	2.6
White	39.4%	1.9%	3.1	2.9
More than one race	34.5%	2.5%	3.2	2.6

Source: U.S. Department of Education, High School Longitudinal Study of 2009
Notes: ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Overall, a higher share of Asian students had taken an AP course by 2013 (67.0 percent) than any other racial or ethnic group. Asian students also earned more Carnegie Units on average in AP and IB courses.
- Roughly one in five Black or African American students had taken an AP course by 2013 (22.5 percent), a much lower share than other groups.
- Black or African American students had lower average GPAs in AP and IB courses (2.4) than all other groups.

Women were more likely to have taken an AP (40.4 percent) or IB (2.3 percent) course than men, of whom 32.1 percent had taken an AP course and 2.0 percent an IB course.

Table 1.9: Percentage of the Fall 2009 High School Cohort That Took AP or IB Courses and Average Number of Carnegie Units Earned by 2013, by Gender and Race and Ethnicity

		% Have Taken an AP Course	% Have Taken an IB Course	Avg. Carnegie Units Earned from AP/IB Courses	Avg. GPA in AP/IB Courses
Women	All racial and ethnic groups	40.4%	2.3%	3.2	2.8
	American Indian or Alaska Native	8.4%!!	‡	‡	‡
	Asian	73.4%	3.5%!	4.5	2.9
	Black or African American	26.4%	1.4%!	3.0	2.5
	Hispanic or Latina	35.8%	2.5%!	3.0	2.6
	Native Hawaiian or other Pacific Islander	48.8%!	‡	‡	‡
	White	44.4%	2.2%	3.1	3.0
	More than one race	38.8%	3.2%	3.1	2.7
Men	All racial and ethnic groups	32.1%	2.0%	3.2	2.7
	American Indian or Alaska Native	22.4%!	‡	‡	‡
	Asian	60.5%	4.8%!	4.6	2.7
	Black or African American	17.9%	2.4%!	2.2	2.3
	Hispanic or Latino	29.3%	1.9%	3.3	2.5
	Native Hawaiian or other Pacific Islander	23.5%!!	‡	‡	‡
	White	34.8%	1.7%	3.1	2.8
	More than one race	30.5%	1.7%!	3.4	2.6

Source: U.S. Department of Education, High School Longitudinal Study of 2009
Notes: ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- Among Black or African American students, 26.4 percent of women had taken an AP course by 2013, 14.0 percentage points lower than the share of all women. Among men, only 17.9 percent of Black or African American men had taken an AP course, 14.2 percentage points lower than the share of all men.
- Asian students had the largest gap between the shares of women and men who had taken an AP course by 2013. Of the fall 2009 cohort, 73.4 percent of Asian women had taken an AP course by 2013, compared with 60.5 percent of Asian men (a 12.9 percentage point difference).

Among the fall 2009 cohort of ninth graders, those from higher-income families were much more likely than those from lower-income families to participate in AP and IB. Overall, 61.4 percent of students in the highest income quintile had taken an AP course, compared with 22.8 percent of students in the lowest income quintile. Students from higher-income backgrounds also earned more AP or IB Carnegie Units and had higher average GPAs in these courses than did their peers from lower-income backgrounds.

Table 1.10: Percentage of the Fall 2009 High School Cohort That Took AP or IB Courses and Average Number of Carnegie Units Earned by 2013, by Income and Race and Ethnicity

		% Have Taken an AP Course	% Have Taken an IB Course	Avg. Carnegie Units Earned from AP/IB Courses	Avg. GPA in AP/IB Courses
SES Quintile 1 (Lowest)	All racial and ethnic groups	22.8%	1.1%!	2.5	2.5
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	55.9%	‡	3.5	2.7
	Black or African American	14.8%	‡	1.3	2.5
	Hispanic or Latino	27.4%	1.3%!	2.9	2.4
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	19.2%	1.1%!	2.3	2.7
	More than one race	17.6%	‡	2.3	2.2
SES Quintile 2	All racial and ethnic groups	26.6%	1.9%	2.8	2.6
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	49.2%	4.0%!!	4.2	2.7
	Black or African American	16.5%	2.1%!	2.6	2.5
	Hispanic or Latino	30.7%	3.4%!!	2.9	2.5
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	25.6%	1.0%!	2.8	2.7
	More than one race	34.1%	1.4%!!	2.4	2.6
SES Quintile 3	All racial and ethnic groups	30.2%	1.5%	2.7	2.6
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	70.7%	5.4%!	4.4	2.8
	Black or African American	21.7%	1.9%!!	2.8	2.4
	Hispanic or Latino	29.7%	1.2%!	2.3	2.4
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	31.1%	1.3%	2.7	2.7
	More than one race	29.1%	2.4%!!	2.8	2.5
SES Quintile 4	All racial and ethnic groups	42.3%	2.8%	3.3	2.8
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	65.0%	3.3%!	4.4	2.6
	Black or African American	32.0%	4.7%!	3.3	2.4
	Hispanic or Latino	41.6%	3.0%!	3.7	2.6
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	43.1%	2.3%	3.0	2.9
	More than one race	41.0%	4.4%!	3.4	2.6

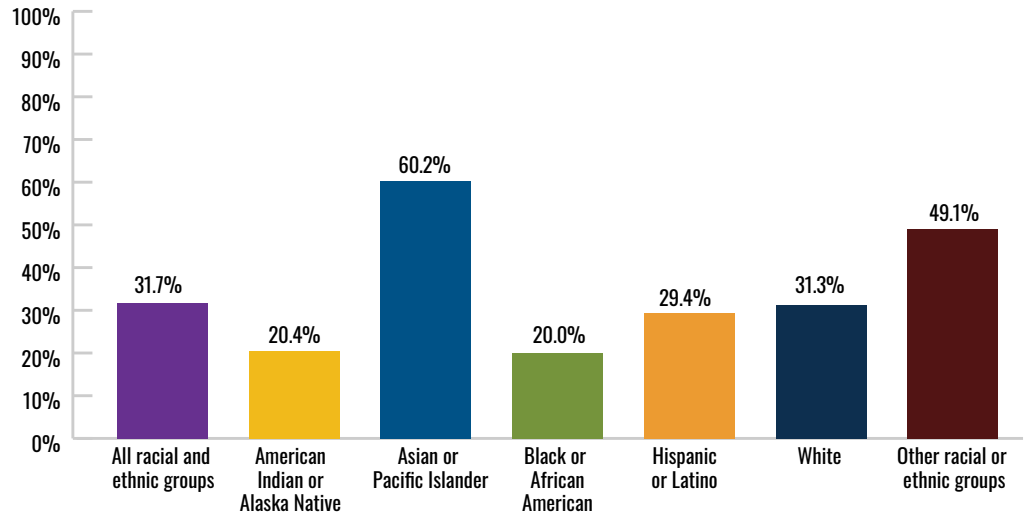
		% Have Taken an AP Course	% Have Taken an IB Course	Avg. Carnegie Units Earned from AP/IB Courses	Avg. GPA in AP/IB Courses
SES Quintile 5 (Highest)	All racial and ethnic groups	61.4%	3.4%	3.7	3.0
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	81.1%	4.9%!	5.1	2.9
	Black or African American	51.1%	1.8%!!	3.4	2.5
	Hispanic or Latino	62.5%	4.9%!!	4.2	2.9
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	61.4%	3.2%	3.5	3.1
	More than one race	53.2%	3.3%!	4.1	2.9

Source: U.S. Department of Education, High School Longitudinal Study of 2009
Notes: Income reflects the High School Longitudinal Study of 2009 composite variable for socioeconomic status, which is calculated using parental education, parental occupation, and family income. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- Across all income quintiles, Asian students were more likely than all other groups to have taken an AP course, while Black or African American students were the least likely of all groups to have taken an AP course.
- Over half of all Asian students from the lowest income quintile had taken an AP course (55.9 percent)—the highest percentage of any racial or ethnic group. Only 27.4 percent of Hispanic or Latino, 19.2 percent of White, and 14.8 percent of Black or African American students from the lowest income quintile had taken an AP course by 2013.
- Among students in the lowest two income quintiles, Hispanic or Latino students were more likely than White students to have taken an AP course. The participation of Hispanic or Latino students in the upper three income quintiles was similar to that of White students.

Among the over 3 million public high school graduates in 2013, 31.7 percent had taken an AP exam. Asian or Pacific Islander graduates were much more likely to have taken an AP exam (60.2 percent) than other racial or ethnic groups. Nearly one-third of all White graduates had taken an AP exam (31.3 percent), as did 29.4 percent of Hispanic or Latino, 20.4 percent of American Indian or Alaska Native, and 20.0 percent of Black or African American graduates. Roughly half of all students in other racial or ethnic groups had taken an AP exam (49.1 percent).

Figure 1.6: Percentage of All Public High School Class of 2013 Graduates Who Have Taken an AP Exam

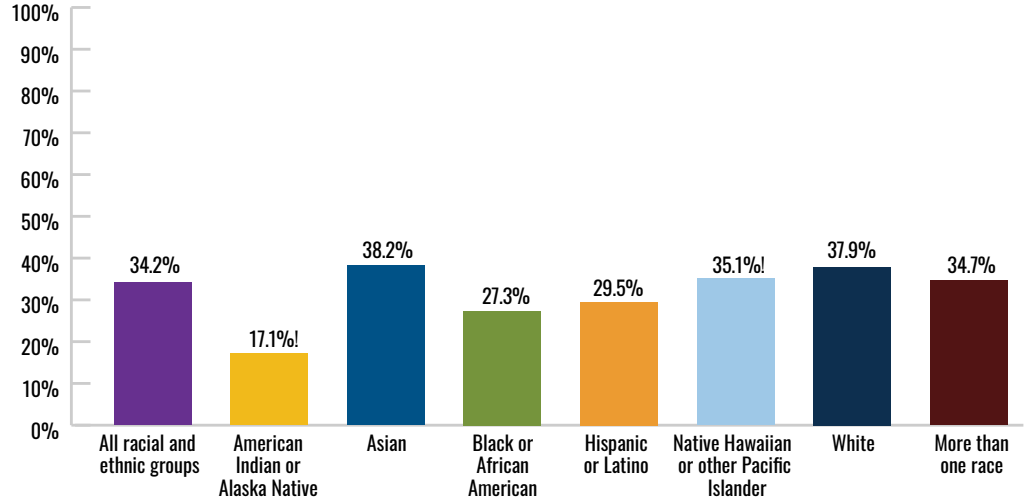


Sources: College Board, *The 9th Annual AP Report to the Nation* (2013), Appendix C | U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 2019*, Table 219.30

Enrollment for College Credit During High School

Overall, 34.2 percent of the fall 2009 high school cohort took a course for college credit while enrolled in high school.[8] Over one-third of Asian students (38.2 percent), White students (37.9 percent), and students of more than one race (34.7 percent) had taken a course for college credit, compared with 29.5 percent of Hispanic or Latino and 27.3 percent of Black or African American students.

Figure 1.7: Percentage of the Fall 2009 High School Cohort That Took a Course for College Credit While in High School, by Race and Ethnicity

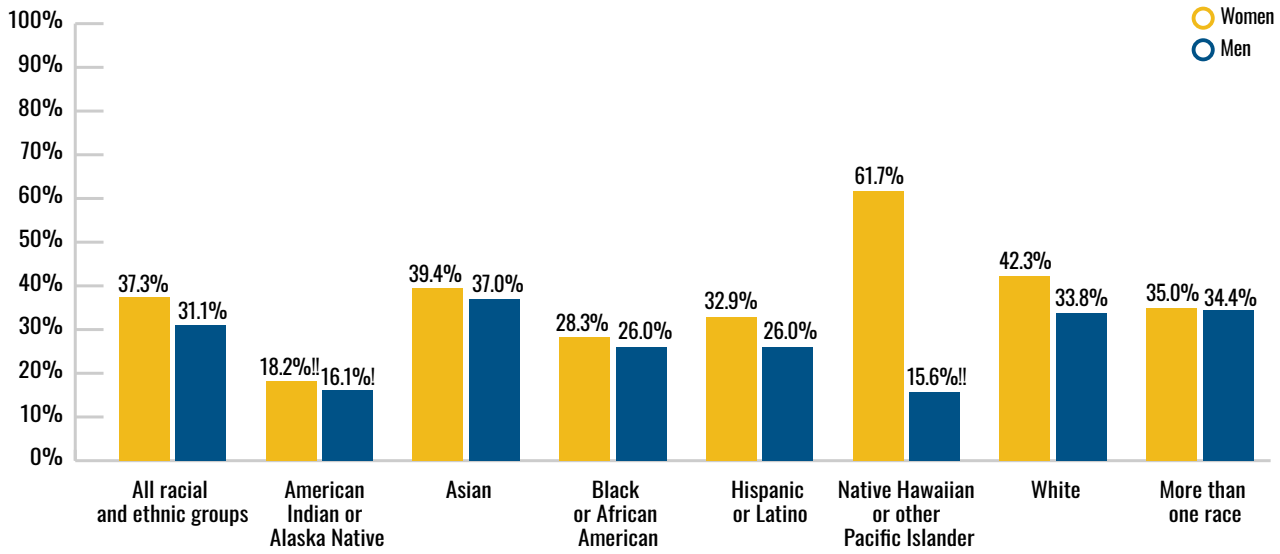


Source: U.S. Department of Education, High School Longitudinal Study of 2009
Notes: Courses for college credit exclude AP and IB courses. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

8 Courses for college credit exclude AP and IB courses.

Women were more likely to have enrolled in a course for college credit while in high school than men (37.3 percent and 31.1 percent, respectively). This pattern was similar across all racial and ethnic groups.

Figure 1.8: Percentage of the Fall 2009 High School Cohort That Took a Course for College Credit While in High School, by Gender and Race and Ethnicity



Source: U.S. Department of Education, High School Longitudinal Study of 2009
Notes: Courses for college credit exclude AP and IB courses. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- The smallest gender gap was among individuals of more than one race, of whom 35.0 percent of women and 34.4 percent of men had taken a course for college credit, a difference of 0.6 percentage points.
- The largest gender gap was among Native Hawaiian or other Pacific Islander students, among whom 61.7 percent of women and 15.6 percent of men had taken a course for college credit, a 46.1 percentage point gap.
- The second largest gender gap was among White students, of whom 42.3 percent of women and 33.8 percent of men had taken a course for college credit, an 8.5 percentage point gap.

The share of the 2009 cohort who took a course for college credit while enrolled in high school was higher for students from higher-income families than students from lower-income families. Overall, 44.0 percent of students in the highest income quintile took a course for college credit, while 41.4 percent of the fourth income quintile, 35.2 percent of students in the middle income quintile, 31.0 percent of students in the second income quintile, and 33.3 percent of students in the lowest income quintile took a course for college credit.

Table 1.11: Percentage of the Fall 2009 High School Cohort That Took a Course for College Credit While in High School, by Income and Race and Ethnicity

SES Quintile 1 (Lowest)	All racial and ethnic groups	33.3%
	American Indian or Alaska Native	‡
	Asian	40.8%
	Black or African American	35.2%
	Hispanic or Latino	33.1%
	Native Hawaiian or other Pacific Islander	‡
	White	31.4%
	More than one race	34.2%
SES Quintile 2	All racial and ethnic groups	31.0%
	American Indian or Alaska Native	‡
	Asian	36.3%
	Black or African American	29.7%
	Hispanic or Latino	25.7%
	Native Hawaiian or other Pacific Islander	‡
	White	33.7%
	More than one race	35.9%
SES Quintile 3	All racial and ethnic groups	35.2%
	American Indian or Alaska Native	‡
	Asian	40.0%
	Black or African American	27.0%
	Hispanic or Latino	32.0%
	Native Hawaiian or other Pacific Islander	‡
	White	39.5%
	More than one race	32.5%
SES Quintile 4	All racial and ethnic groups	41.4%
	American Indian or Alaska Native	‡
	Asian	53.1%
	Black or African American	36.9%
	Hispanic or Latino	37.5%
	Native Hawaiian or other Pacific Islander	‡
	White	43.5%
	More than one race	35.9%

SES Quintile 5 (Highest)	All racial and ethnic groups	44.0%
	American Indian or Alaska Native	‡
	Asian	38.6%
	Black or African American	41.9%
	Hispanic or Latino	46.4%
	Native Hawaiian or other Pacific Islander	‡
	White	44.6%
	More than one race	43.2%

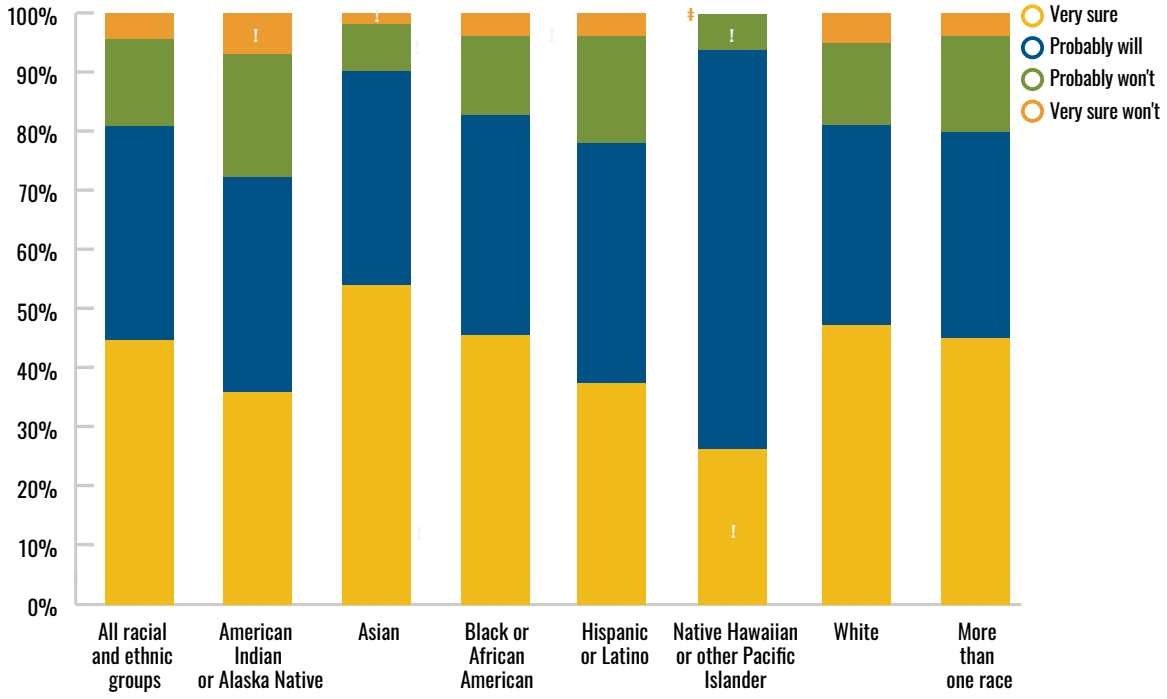
Source: U.S. Department of Education, High School Longitudinal Study of 2009
Notes: Income reflects the High School Longitudinal Study of 2009 composite variable for socioeconomic status, which is calculated using parental education, parental occupation, and family income. | ‡ Estimate suppressed. Reporting standards not met.

- Among students in the lowest income quintile, more than one-third of nearly all racial and ethnic groups had taken a course for college credit while enrolled in high school. The lowest share was among White students (31.4 percent).
- Among students from the highest income quintile, 46.4 percent of Hispanic or Latino students took a course for college credit, compared with 38.6 percent of Asian students, the highest and lowest percentages across all racial and ethnic groups.

POSTSECONDARY PLANS

When asked about their college expectations and plans during their 11th-grade year, nearly 45 percent of students in the 2009 high school cohort were very sure they would pursue a bachelor's degree. More than one-third of students reported they probably would pursue a bachelor's degree (36.1 percent), while 14.8 percent reported they probably wouldn't and 4.4 percent were very sure they would not pursue a bachelor's degree.

Figure 1.9: Percentage of the Fall 2009 High School Cohort by Level of Certainty They Will Pursue a Bachelor's Degree, by Race and Ethnicity



Source: U.S. Department of Education, High School Longitudinal Study of 2009
Notes: Depicts level of certainty students in the fall 2009 high school cohort indicated they would pursue a bachelor's degree when asked during 2011-12. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Asian students were the most likely to report they were very sure they would pursue a bachelor's degree (54.0 percent), followed by White students (47.2 percent), Black or African American students (45.5 percent), students of more than one race (45.1 percent), Hispanic or Latino students (37.4 percent), and American Indian or Alaska Native students (35.9 percent).
- Native Hawaiians or other Pacific Islanders were least likely (26.3 percent) to say they would definitely pursue a bachelor's degree. However, the majority said they would probably pursue a bachelor's degree (67.3 percent), making them more likely than any other group to give a positive rather than a negative response to this question.
- More than one-quarter of American Indian or Alaska Native (27.7 percent) and 22.0 percent of Hispanic or Latino students reported they probably or surely would not pursue a bachelor's degree, the highest percentages among all groups.

Women were much more likely than men to report they were very sure they would pursue a bachelor's degree. Overall, 48.8 percent of women reported they were very sure they would pursue a bachelor's degree, compared with 40.6 percent of men. This pattern occurred across all racial and ethnic groups.

Table 1.12: Percentage of the Fall 2009 High School Cohort by Level of Certainty They Will Pursue a Bachelor's Degree, by Gender and Race and Ethnicity

		Very Sure	Probably Will	Probably Won't	Very Sure Won't
Women	All racial and ethnic groups	48.8%	37.0%	11.7%	2.4%
	American Indian or Alaska Native	40.4%	40.4%	13.7%!	5.6%!!
	Asian	56.4%	37.3%	5.1%	1.2%!!
	Black or African American	49.6%	38.2%	9.7%	2.5%!
	Hispanic or Latina	39.8%	43.3%	14.6%	2.3%!
	Native Hawaiian or other Pacific Islander	33.7%	56.2%	10.1%!!	‡
	White	52.5%	34.1%	10.9%	2.5%
	More than one race	47.1%	34.6%	15.8%	2.6%!
Men	All racial and ethnic groups	40.6%	35.2%	17.8%	6.4%
	American Indian or Alaska Native	32.2%!	32.9%	26.9%!	8.0%!
	Asian	51.6%	35.1%	10.8%	2.6%!!
	Black or African American	40.8%	36.0%	17.7%	5.5%
	Hispanic or Latino	35.1%	37.9%	21.5%	5.5%
	Native Hawaiian or other Pacific Islander	20.6%!!	75.8%	3.0%!!	‡
	White	42.2%	33.5%	16.8%	7.5%
	More than one race	43.0%	34.9%	16.9%	5.2%

Source: U.S. Department of Education, High School Longitudinal Study of 2009
Notes: Depicts level of certainty students in the fall 2009 high school cohort indicated they would pursue a bachelor's degree when asked during 2011–12. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- Among women, more than half of Asians (56.4 percent) and Whites (52.5 percent) reported they were very sure they would pursue a bachelor's degree. In contrast, 39.8 percent of Hispanics or Latinas and 33.7 percent of Native Hawaiians or other Pacific Islanders reported they were very sure they would pursue a bachelor's degree.
- Among men, Asians were the only racial or ethnic group where more than half reported they were very sure they would pursue a bachelor's degree (51.6 percent).
- The share of men who reported they probably or surely would not pursue a bachelor's degree was highest among American Indian or Alaska Native (34.9 percent) and Hispanic or Latino (27.0 percent) men. Among women, the highest shares of negative responses were among American Indian and Alaska Native students and those of more than one race.
- Over half of all White women reported they were very sure they would pursue a bachelor's degree (52.5 percent), compared with 42.2 percent of White men. This was the widest gender gap among all racial and ethnic groups (10.3 percentage points).

Overall, students in the highest income quintile were more than twice as likely as students in the lowest income quintile to report they were very sure they would pursue a bachelor's degree (64.9 percent and 30.2 percent, respectively). While less than 10 percent of students reported they were very sure they would not pursue a bachelor's degree, students from the lowest income quintile were nearly four times as likely as students from the highest income quintile to report this (6.4 percent and 1.7 percent, respectively). This pattern was consistent within all racial and ethnic groups.

Table 1.13: Percentage of the Fall 2009 High School Cohort by Level of Certainty They Will Pursue a Bachelor's Degree, by Income and Race and Ethnicity

		Very Sure	Probably Will	Probably Won't	Very Sure Won't
SES Quintile 1 (Lowest)	All racial and ethnic groups	30.2%	41.9%	21.4%	6.4%
	American Indian or Alaska Native	25.7%!!	38.8%!	35.5%!	‡
	Asian	36.4%	43.6%	9.9%!	10.1%!
	Black or African American	35.7%	44.4%	14.8%	5.1%!
	Hispanic or Latino	27.0%	43.5%	23.8%	5.7%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	28.9%	38.2%	24.1%	8.8%
	More than one race	40.0%	38.8%	15.8%	5.4%!
SES Quintile 2	All racial and ethnic groups	35.4%	40.3%	18.1%	6.2%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	41.4%	43.2%	13.6%!	‡
	Black or African American	44.0%	38.8%	11.3%	5.9%!
	Hispanic or Latino	32.5%	46.1%	18.5%	2.9%!
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	33.2%	37.4%	20.8%	8.6%
	More than one race	39.2%	38.9%	17.5%	4.4%!
SES Quintile 3	All racial and ethnic groups	40.5%	39.4%	15.3%	4.8%
	American Indian or Alaska Native	30.4%!	23.8%!!	26.0%!	19.9%!
	Asian	49.6%	44.1%	5.9%!	‡
	Black or African American	46.8%	37.0%	13.6%	2.7%!
	Hispanic or Latino	43.6%	43.6%	10.0%	2.9%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	38.1%	38.3%	17.2%	6.4%
	More than one race	37.1%	35.6%	23.0%	4.2%!

		Very Sure	Probably Will	Probably Won't	Very Sure Won't
SES Quintile 4	All racial and ethnic groups	52.1%	32.3%	12.6%	3.0%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	57.5%	34.8%	6.9%!	0.9%!!
	Black or African American	51.8%	30.7%	15.9%	1.6%!!
	Hispanic or Latino	50.7%	30.7%	16.6%	2.0%!
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	52.7%	32.6%	11.2%	3.6%
	More than one race	49.0%	33.0%	14.9%	3.1%!
SES Quintile 5 (Highest)	All racial and ethnic groups	64.9%	26.8%	6.6%	1.7%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	66.0%	27.9%	6.0%!	‡
	Black or African American	63.7%	24.3%	9.9%!	2.2%!!
	Hispanic or Latino	67.1%	19.9%	9.7%!	3.4%!!
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	65.2%	27.5%	5.7%	1.6%
	More than one race	60.0%	27.8%	9.7%!	2.5%!!

Source: U.S. Department of Education, High School Longitudinal Study of 2009
Notes: Depicts level of certainty students in the fall 2009 high school cohort indicated they would pursue a bachelor's degree when asked during 2011–12. | Income reflects the High School Longitudinal Study of 2009 composite variable for socioeconomic status, which is calculated using parental education, parental occupation, and family income. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- Among students from the lowest income quintile, a larger share of students of more than one race (40.0 percent), Asian students (36.4 percent), and Black or African American students (35.7 percent) reported they were very sure they would pursue a bachelor's degree than White (28.9 percent) and Hispanic or Latino (27.0 percent) students.
- Among students in the lowest income quintile, Hispanic or Latino students were the least likely of any group to say they were very sure they would pursue a bachelor's degree (27.0 percent). Among students in the highest income quintile, Hispanic or Latino students were the most likely of any group to say they were very sure they would pursue a bachelor's degree (67.1 percent). The gap in the total share of Hispanic or Latino students in the top and bottom income quintiles who reported they were very sure they would pursue a bachelor's degree was 40.1 percentage points, the largest gap across all groups.

COLLEGE ENTRANCE EXAMS

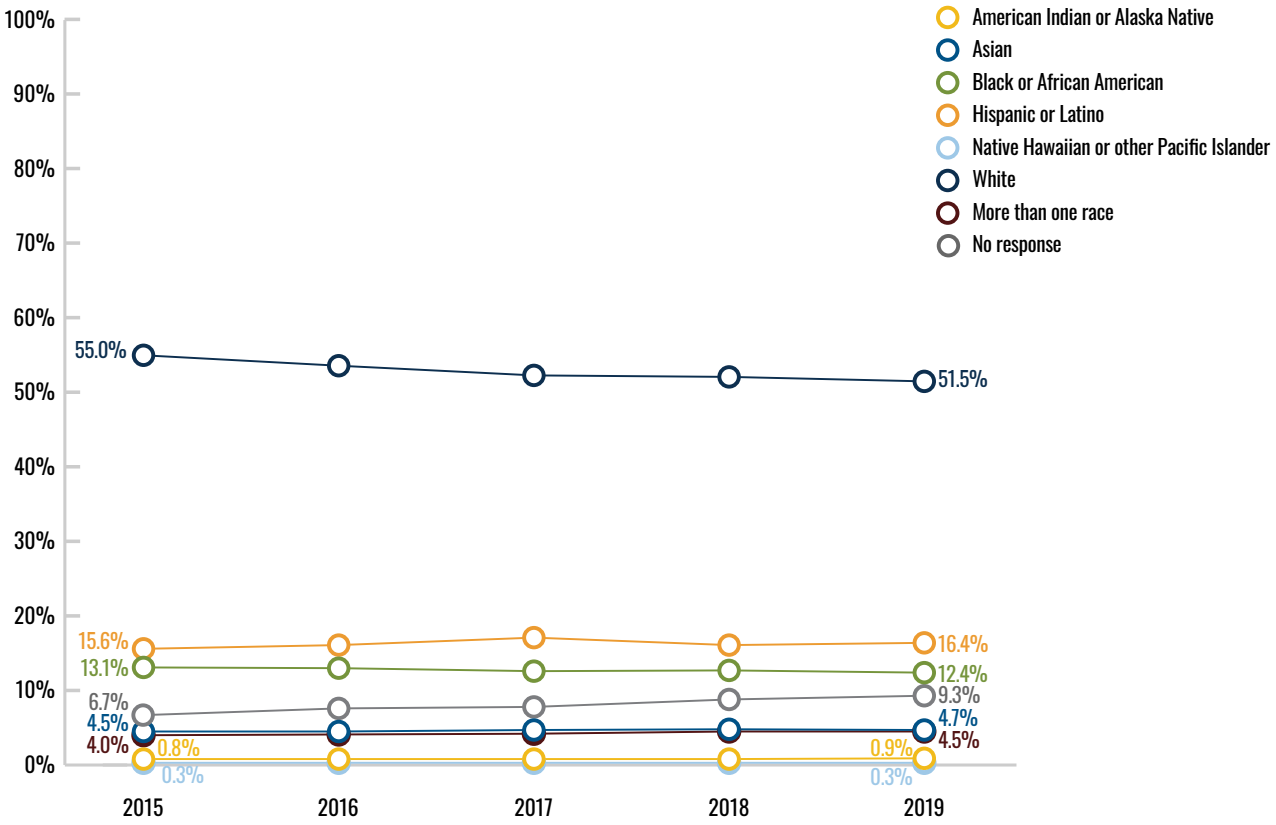
This section utilizes data from ACT and the College Board to examine the profile and performance of ACT and SAT test takers. Many institutions use scores from these assessments in the application process as one measure of how well a student may perform at the college level. It is also the case, however, that many colleges and universities are de-emphasizing or even eliminating the use of these scores as a strategy to increase more equitable access to higher education. Years of research has documented racial, gender, economic, and other biases inherent in standardized exams and their use in higher education. These biases are in large part due to uneven K–12 educational experiences, lack of access to test preparation, and other factors (Kurlaender and Howell 2012; National Association for College Admission Counseling 2008). Research conducted by ACE in fact documents selective college admissions offices making standardized test scores optional as one among many diversity strategies (Espinosa, Gaertner, and Orfield 2015).

The ACT, designed for 10th, 11th, and 12th graders, is designed to measure what students have learned in high school and the skills that are important for success in college. The ACT includes four components: English, reading, math, and science (ACT, n.d.). In 2019, the majority of graduates in 26 states took the ACT; in 17 states, nearly all graduates took the ACT as part of a state-funded assessment program. States with the highest ACT participation rates were predominantly located in the Midwest and Southern regions of the United States (ACT 2019).

Similarly, the SAT, administered by the College Board, is part of a suite of assessment tests that measure what students learn and what they need for success in postsecondary education. The SAT suite of assessments includes exams for students eighth grade through 12th grade, and can help identify readiness for AP courses, as well as college and career readiness (College Board 2019c). In 2019, the majority of graduates in 27 states and the District of Columbia took the SAT; in 11 states and DC, nearly all graduates took the SAT as part of a state-funded assessment program. States with the highest SAT participation rates were predominantly located in the Eastern and Western coastal regions of the United States (College Board 2019b).

The student body taking the ACT diversified slightly over time. While Whites remained the majority, the total share of ACT test takers who identified as White decreased from 55.0 percent in 2015 to 51.5 percent in 2019. Of the nearly 1.8 million ACT test takers in 2019, 39.2 percent identified as people of color, an increase from 38.3 percent in 2015.

Figure 1.10: ACT Test Takers, by Race and Ethnicity: 2015 to 2019

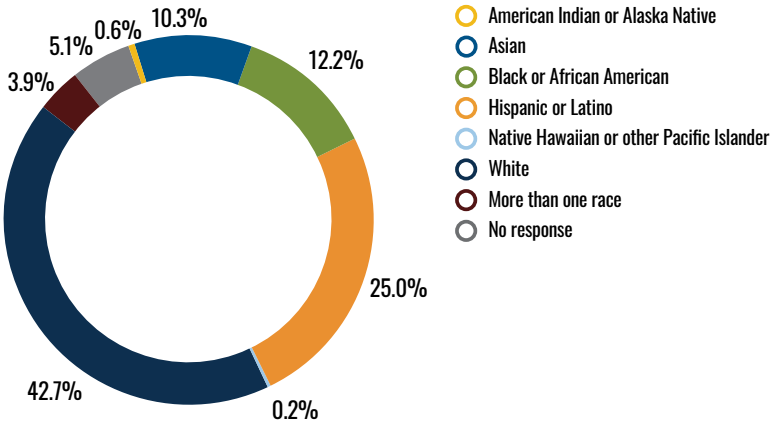


Source: ACT U.S. High School Graduating Class Data: 2019, https://www.act.org/content/act/en/research/services-and-resources/data-and-visualization/grad-class-database.html

- Between 2015 and 2019, the share of test takers who identified as American Indian or Alaska Native, Asian, Hispanic or Latino, and of more than one race increased. The largest percentage point increase was among students who did not report their racial or ethnic identity, an increase of 2.6 percentage points.
- Over the course of these five years, the largest percentage point decrease occurred among White students (3.5 percentage points), followed by Black or African American students (0.7 percentage points).
- The share of students who identified as Native Hawaiian or other Pacific Islander (0.3 percent) remained the same between 2015 and 2019.

Among the over 2.2 million SAT test takers in 2019, 42.7 percent identified as White, 25.0 percent as Hispanic or Latino, 12.2 percent as Black or African American, 10.3 percent as Asian, 3.9 percent as more than one race, 0.6 percent as American Indian or Alaska Native, and 0.2 percent as Native Hawaiian or other Pacific Islander. An additional 5.1 percent did not report their racial or ethnic identity.

Figure 1.11: SAT Test Takers, by Race and Ethnicity: 2019



Source: College Board, *2019 SAT Suite of Assessments Annual Report*

ACT sets benchmark scores for college readiness that coincide with the minimum score needed in a subject-area test to "indicate a 50 percent chance of obtaining a B or higher or about a 75 percent chance of obtaining a C or higher in the corresponding credit-bearing college courses" (ACT 2019).[9]

Similar to the ACT, the SAT has a set of college and career readiness benchmarks. These benchmarks coincide with a 75 percent chance of a C or better in a first-semester, credit-bearing corresponding college course (College Board 2019a).[10]

Overall, the share of ACT test takers who met college readiness benchmarks varied greatly by subject in 2019. The only subject in which the majority of test takers met the college readiness benchmark was English (59 percent). Less than half of all ACT test takers met the college readiness benchmark for reading (45 percent), math (39 percent), and science (36 percent). Only 26 percent of all ACT test takers met the college readiness benchmark for all four subjects. In all subject areas, Asian students had the highest rates of meeting benchmarks, and smaller shares of American Indian or Alaska Native and Black or African American students than of those from any other group met the benchmarks.

Table 1.14: Percentage of ACT and SAT Test Takers Meeting Respective College Readiness Benchmarks, by Subject and Race and Ethnicity: 2019

	ACT					SAT			
	English	Mathematics	Reading	Science	All Four Subjects	Evidence-Based Reading and Writing	Math	Both Benchmarks	Neither Benchmark
All racial and ethnic groups	59%	39%	45%	36%	26%	68%	48%	45%	30%
American Indian or Alaska Native	29%	14%	21%	13%	7%	39%	21%	18%	58%
Asian	77%	68%	62%	60%	50%	83%	80%	75%	11%
Black or African American	32%	12%	20%	11%	6%	46%	22%	20%	53%
Hispanic or Latino	44%	25%	32%	22%	14%	55%	31%	29%	43%
Native Hawaiian or other Pacific Islander	38%	23%	26%	19%	13%	51%	29%	27%	47%
White	70%	48%	54%	45%	33%	80%	59%	57%	18%
More than one race	61%	39%	48%	37%	26%	76%	53%	51%	22%
Prefer not to respond/no response	49%	32%	39%	31%	23%	44%	34%	28%	50%

Sources: ACT U.S. High School Graduating Class Data: 2019, https://www.act.org/content/act/en/research/services-and-resources/data-and-visualization/grad-class-database.html | College Board, *2019 SAT Suite of Assessments Annual Report*
Notes: For ACT, college readiness benchmarks indicate a 50 percent chance of obtaining a B or higher or about a 75 percent chance of obtaining a C or higher in the corresponding credit-bearing college courses. | For SAT, college and career readiness benchmarks coincide with a 75 percent chance of a C or better in a first-semester, credit-bearing corresponding college course. | SAT data reflect 2019 high school graduates who took the current SAT during high school.

9 The corresponding credit-bearing college courses for the ACT college readiness benchmarks include English composition, algebra, social science, biology, STEM, and English language arts (ACT 2019).
10 The corresponding credit-bearing college courses for the SAT college readiness benchmarks include algebra, statistics, precalculus or calculus for math, and history, literature, social science, and writing for evidence-based reading and writing (College Board 2019a).

- Across all subjects, American Indian or Alaska Native, Black or African American, Hispanic or Latino, and Native Hawaiian or other Pacific Islander students were much less likely to meet the ACT college readiness benchmark than Asians, Whites, or students of more than one race.
- Math had the widest range in the percentage of ACT test takers meeting the college readiness benchmark. In 2019, 68 percent of Asian test takers met the college readiness benchmark in math, compared with just 12 percent of Black or African American test takers, a difference of 56 percentage points.
- Across all racial and ethnic groups, Asians were the only group where the majority met the ACT college readiness benchmark in science (60 percent).
- In 2019, less than 10 percent of all American Indian or Alaska Native (7 percent) and Black or African American (6 percent) test takers met the ACT college readiness benchmark across all four subjects.

Overall, 68 percent of SAT test takers met the college readiness benchmark for evidence-based reading and writing, 48 percent met the benchmark for math, and 45 percent of students met the college readiness benchmark for both subjects. Of all SAT test takers, 30 percent did not meet any college readiness benchmarks.

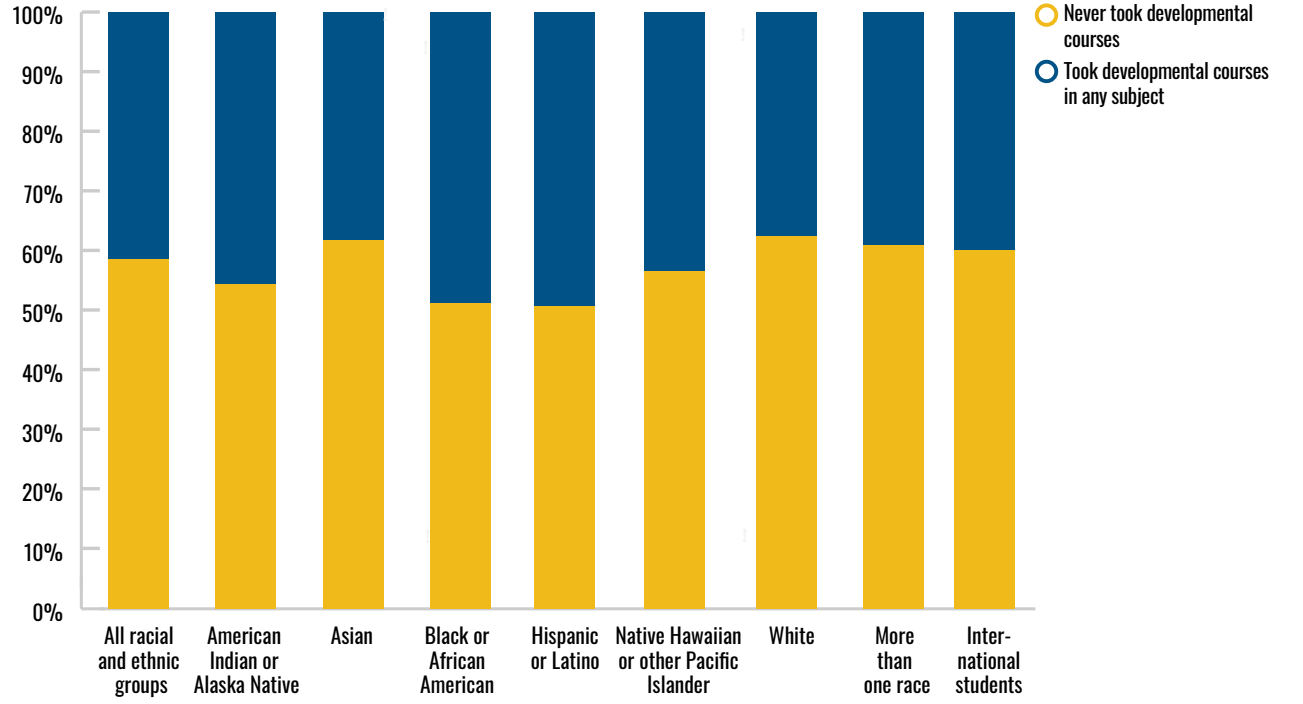
- About one in five American Indian or Alaska Native (18 percent) and Black or African American (20 percent) students met both SAT college readiness benchmarks. Over half of all Asians (75 percent), Whites (57 percent), and individuals of more than one race (51 percent) met both benchmarks.
- Eight out of 10 Asian test takers met the SAT college readiness benchmark for math, compared with just 21 percent of American Indian or Alaska Native and 22 percent of Black or African American test takers—the highest and lowest shares of all racial and ethnic groups.
- Over half of all American Indian or Alaska Native (58 percent) and Black or African American (53 percent) SAT test takers did not meet any college readiness benchmarks.

DEVELOPMENTAL EDUCATION

Developmental or remedial courses are designed to strengthen students' skills in key subjects such as reading, writing, and math so they can be successful in college-level courses. Data come from the U.S. Department of Education's Beginning Postsecondary Students (BPS) Longitudinal Study, which follows a cohort of students enrolled in their first year of higher education. The data here reflect the cohort of first-time, beginning students who first enrolled in 2011–12 and whether or not they had taken a developmental course in any subject by 2016–17.

Of the cohort of students who started postsecondary education in fall 2011, 41.5 percent had taken a developmental course by 2016–17. The shares of students taking these courses did not vary widely across racial and ethnic groups, ranging from 37.5 percent of White students to 49.3 percent of Hispanic or Latino students.

Figure 1.12: Enrollment in Developmental Courses Since High School Through 2016–17, by Race and Ethnicity



Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17
Note: Depicts whether students had enrolled in a remedial or developmental education course since leaving high school through 2016–17.

Overall, women were slightly more likely than men to have taken a developmental course by 2016–17 (43.2 percent and 39.3 percent, respectively). This pattern occurred across all groups, with the exception of American Indian or Alaska Native, Black or African American, and international students, among whom men were more likely to have taken a developmental course.

Table 1.15: Enrollment in Developmental Courses Since High School Through 2016–17, by Gender and Race and Ethnicity

		Never Took Developmental Courses	Took Developmental Courses in Any Subject
Women	All racial and ethnic groups	56.8%	43.2%
	American Indian or Alaska Native	60.3%	39.7%
	Asian	60.7%	39.3%
	Black or African American	51.8%	48.2%
	Hispanic or Latina	50.4%	49.6%
	Native Hawaiian or other Pacific Islander	59.0%	41.0%
	White	60.0%	40.0%
	More than one race	58.4%	41.6%
	International students	60.8%	39.2%
Men	All racial and ethnic groups	60.7%	39.3%
	American Indian or Alaska Native	46.3%	53.7%
	Asian	62.8%	37.2%
	Black or African American	50.4%	49.6%
	Hispanic or Latino	51.2%	48.8%
	Native Hawaiian or other Pacific Islander	52.1%!	47.9%!
	White	65.7%	34.3%
	More than one race	64.3%	35.7%
	International students	59.0%	41.0%

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17
Notes: Depicts whether students had enrolled in a remedial or developmental education course since leaving high school through 2016–17. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Among women, the range of students who had ever taken a developmental course ranged from 39.2 percent of international students and 39.3 percent of Asian students to 48.2 percent of Black or African American students and 49.6 percent of Hispanic or Latina students.
- Among men, over half of all American Indian or Alaska Native (53.7 percent) and nearly half of all Black or African American (49.6 percent) and Hispanic or Latino (48.8 percent) students had taken a developmental course, compared with 34.3 percent of White students.
- The largest gender gap occurred among American Indians or Alaska Natives, among whom there was a 14.0 percentage point gap between the share of men and women who had taken a developmental course.

Overall, students who came from families in the lowest income quartile were much more likely than students in the highest income quartile to have ever taken a developmental course (47.0 percent and 33.9 percent, respectively). White students had the lowest participation rates in the lower half of the income distribution; Asian students had the lowest participation rates in the upper half of the income distribution.

Table 1.16: Enrollment in Developmental Courses Since High School Through 2016–17, by Income and Race and Ethnicity

		Never Took Developmental Courses	Took Developmental Courses in Any Subject
Income Quartile 1 (Lowest)	All racial and ethnic groups	53.0%	47.0%
	American Indian or Alaska Native	54.0%	46.0%
	Asian	48.5%	51.5%
	Black or African American	50.5%	49.5%
	Hispanic or Latino	48.7%	51.3%
	Native Hawaiian or other Pacific Islander	‡	‡
	White	58.2%	41.8%
	More than one race	55.6%	44.4%
	International students	47.5%	52.5%
Income Quartile 2	All racial and ethnic groups	56.6%	43.4%
	American Indian or Alaska Native	55.6%!	44.4%!
	Asian	55.7%	44.3%
	Black or African American	48.5%	51.5%
	Hispanic or Latino	50.4%	49.6%
	Native Hawaiian or other Pacific Islander	‡	‡
	White	62.3%	37.7%
	More than one race	56.6%	43.4%
	International students	56.9%	43.1%
Income Quartile 3	All racial and ethnic groups	58.4%	41.6%
	American Indian or Alaska Native	59.6%	40.4%
	Asian	72.0%	28.0%
	Black or African American	55.9%	44.2%
	Hispanic or Latino	47.3%	52.7%
	Native Hawaiian or other Pacific Islander	‡	‡
	White	60.4%	39.6%
	More than one race	63.7%	36.3%
	International students	‡	‡

		Never Took Developmental Courses	Took Developmental Courses in Any Subject
Income Quartile 4 (Highest)	All racial and ethnic groups	66.1%	33.9%
	American Indian or Alaska Native	49.2%!	50.8%!
	Asian	76.2%	23.8%
	Black or African American	54.7%	45.3%
	Hispanic or Latino	61.0%	39.0%
	Native Hawaiian or other Pacific Islander	‡	‡
	White	66.9%	33.1%
	More than one race	69.3%	30.7%
	International students	80.5%	19.5%!

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17
Notes: Depicts whether students had enrolled in a remedial or developmental education course since leaving high school through 2016–17. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Over half of all international (52.5 percent), Asian (51.5 percent), and Hispanic or Latino (51.3 percent) students from the lowest income quartile had taken a developmental course.
- Slightly less than half of all Black or African American students from the highest income quartile had taken a developmental course (45.3 percent). The smallest gap between high- and low-income students was among Black or African American students—just 4.2 percentage points.
- The largest percentage point gap by income quartile occurred among Asian students. Over half of all Asian students from the lowest income quartile had ever taken a developmental course (51.5 percent), compared with 23.8 percent of Asian students from the highest income quartile—a difference of 27.7 percentage points.

More than half of all students at public two-year institutions had taken a developmental course by 2016–17 (58.7 percent), compared with 31.5 percent of students at public four-year, 31.1 percent of students at for-profit, and 22.0 percent of students at private nonprofit four-year institutions. In all sectors except the for-profit sector, Black or African American and Hispanic or Latino students were most likely to have taken developmental courses.

Table 1.17: Enrollment in Developmental Courses Since High School Through 2016–17, by Sector and Race and Ethnicity

		Never Took Developmental Courses	Took Developmental Courses in Any Subject
Public Four-Year	All racial and ethnic groups	68.5%	31.5%
	American Indian or Alaska Native	‡	‡
	Asian	71.3%	28.7%
	Black or African American	61.0%	39.0%
	Hispanic or Latino	59.3%	40.7%
	Native Hawaiian or other Pacific Islander	‡	‡
	White	72.1%	27.9%
	More than one race	68.1%	31.9%
	International students	‡	‡
Private Nonprofit Four-Year	All racial and ethnic groups	78.0%	22.0%
	American Indian or Alaska Native	‡	‡
	Asian	84.6%	15.4%
	Black or African American	71.3%	28.7%
	Hispanic or Latino	68.2%	31.8%
	Native Hawaiian or other Pacific Islander	‡	‡
	White	79.6%	20.4%
	More than one race	82.5%	17.5%
	International students	84.1%	15.9%!
Public Two-Year	All racial and ethnic groups	41.3%	58.7%
	American Indian or Alaska Native	39.4%	60.6%
	Asian	38.5%	61.5%
	Black or African American	32.9%	67.1%
	Hispanic or Latino	36.6%	63.4%
	Native Hawaiian or other Pacific Islander	‡	‡
	White	45.6%	54.4%
	More than one race	41.1%	58.9%
	International students	48.9%	51.1%

		Never Took Developmental Courses	Took Developmental Courses in Any Subject
For-Profit	All racial and ethnic groups	68.9%	31.1%
	American Indian or Alaska Native	78.9%	21.1%!!
	Asian	58.3%	41.7%
	Black or African American	66.6%	33.4%
	Hispanic or Latino	68.2%	31.8%
	Native Hawaiian or other Pacific Islander	68.0%	32.0%!
	White	70.3%	29.7%
	More than one race	72.4%	27.6%
	International students	‡	‡

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17
Notes: Depicts whether students had enrolled in a remedial or developmental education course since leaving high school through 2016–17. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- About four in 10 Hispanic or Latino (40.7 percent) and Black or African American (39.0 percent) students at public four-year institutions had taken a developmental course, compared with 31.9 percent of individuals of more than one race, 28.7 percent of Asians, and 27.9 percent of Whites.
- Among students at private nonprofit four-year institutions, the range of students who had ever taken a developmental course ranged from 15.4 percent of Asian students to 31.8 percent of Hispanic or Latino students.
- More than two-thirds of all Black or African American students at public two-year institutions had taken a developmental course (67.1 percent). This was the highest share of any group at public two-year institutions.
- Nearly 42 percent of all Asians at for-profit institutions had taken a developmental course—the highest share of any group within this sector.

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INVITED ESSAY

Segregation in Higher Education and Unequal Paths to College Completion: Implications for Policy and Research

Rucker C. Johnson

Segregation in Higher Education and Unequal Paths to College Completion: Implications for Policy and Research

Rucker C. Johnson, Chancellor's Professor of Public Policy, Goldman School of Public Policy, University of California, Berkeley, and Faculty Research Associate, National Bureau of Economic Research

Access to quality higher education is key to socioeconomic mobility. The other side of the coin is equally true: when such access is limited by financial constraints, information barriers, and lack of academic preparedness, socioeconomic mobility is also limited. While more students are going to college than ever before, only about half of those who begin college obtain a degree within six years. College dropout rates are particularly high among Black, Latinx, and first-generation students (Kirp 2019).

Boosting college graduation rates for students from lower-income backgrounds is often considered the most effective mechanism to narrow economic and racial disparities and spur wealth generation. But the converse relationship has received inadequate attention—the increasing and already-outsized role of parental wealth in educational attainment. Even with student loans readily available for those from lower-income backgrounds, skyrocketing college costs have put a spotlight on financial aid policy and student loan debt.

Moreover, financial aid alone is insufficient as a policy response. A refocusing on the pre-college years, tracing the unequal outcomes of college back to earlier fault lines of race and class, is needed. Many of the barriers impeding improvements in college graduation rates are rooted in the ways that parental wealth purchases access to high-quality schools during the K–12 years, influencing whether students successfully graduate from high school prepared for college-level coursework. Unfortunately, these patterns are not just economic; they are a byproduct of the resegregation of K–12 public schools over the past 25 years (Johnson 2019; Frankenberg et al. 2019).

The housing market (and related zoning) effectively rations access to high-performing public K–12 schools. School quality is factored into housing prices, thus perpetuating racial and socioeconomic divides. In many ways, housing prices represent the price of buying upward mobility for one's children as much as the number of bedrooms and square footage of the house itself. Housing and schools are inseparably linked due to the historical heavy reliance on the local property-tax base to fund public schools. Opportunity-rich communities where children thrive in well-funded, highly resourced schools are geographically close but socioeconomically worlds apart from the concentrated-poverty schools in the same metropolitan area.

These patterns begin early in children's lives, but our public policy response occurs very late:

- Only one-third of public high schools with high Black and Hispanic enrollment offer calculus, often considered a college gateway course to STEM majors and careers. Lack of calculus partially explains why less than 2 percent of Black freshmen in the U.S. enter college engineering programs, ultimately affecting the diversity of engineers and the overall number of STEM graduates to tackle public problems.
- Even among high-achieving Black and White third graders with the same test scores, Black children are one-third less likely to be placed in gifted and talented programs (Card and Giuliano 2016; Grissom and Redding 2016).
- Black and Hispanic students are disproportionately inappropriately referred to non-college preparatory tracks and special education due to structural forces that systematically underestimate their potential. Racialized tracking that begins in early elementary school results in segregated classrooms within what appear ostensibly as desegregated schools, where qualified minority students are underrepresented in Advanced Placement classes filled mostly with White and Asian students (Johnson 2019).

These factors cause many students to enter college unprepared for college-level coursework. For example, Kurlaender et al. (2018), using administrative student-level data from the full universe of California high schools, find that only 30 percent of students are ready, or conditionally ready, for college-level work in both mathematics and English language arts (based on 11th-grade achievement assessments). Given these statistics, however, it is important not to confuse the symptoms—vast gaps in college attendance, persistence, and completion rates by race and class—with the underlying disease: gaping educational opportunities along race and class lines that preceded them.

From Personal Choices to Policy Choices

The pathways to college are unequal and strongly influenced by the aforementioned patterns of socioeconomic and racial inequality. But policymakers' concerns about budget deficits, and a myopic focus on easy-to-measure short-term outcomes, often forfeit the returns to longer-term, sustained public investments that can alleviate growing deficits of opportunity. For example, one study found that the effectiveness of public K–12 spending doubled when preceded by access to quality pre-K programs (Johnson and Jackson 2019). Future research and policy attention should investigate such synergistic effects of quality K–12 programs and public higher education spending investments on postsecondary outcomes—even if the results take several terms in office to bear fruit.

Over three-quarters of college students attend public institutions (Espinosa et al. 2019), and public colleges and universities rely heavily upon state support for their operations budgets. But over the past decade, state legislators slashed an estimated $9 billion from higher education budgets, and additional steep cuts are likely as we navigate a new recession caused by the COVID-19 pandemic. As a result of these unprecedented cuts, many state university systems will continue to be under pressure to increase tuition and admit more out-of-state students with higher incomes.

If this trend of declining appropriations for higher education continues, public colleges and universities will enroll a smaller share of low-income students, along with potential reductions in institutional quality. These actions would further exacerbate the economic stratification of higher education. Furthermore, enrollment in for-profit colleges—which have low graduation rates and other unimpressive student outcomes—tends to increase when funding for public colleges declines (Cellini 2009).

Tuition spikes often occur during economic recessions when tax revenues plummet and states cut funding for higher education. But recessions are precisely when lower- and middle-income families can least afford tuition and also when millions desire to enroll in college. The response by parents has been a marked increase in refinancing their homes in the years immediately preceding their children reaching college age. Thus, housing wealth has become an increasingly important component of the college enrollment decision over the past 20 years. Unfortunately, one of the unique features of the Great Recession was that it involved a home-foreclosure crisis that disproportionately afflicted minority communities. African Americans, in particular, lost more wealth due to the real estate and foreclosure crisis than any single event in recent history. Without strategic policy intervention, when the COVID-19 pandemic subsides, there could be another sweep of foreclosures and a dramatic spike in housing insecurity fueled by a deep recession.

Housing wealth has become an increasingly important component of the college enrollment decision over the past 20 years.

Recent evidence indicates that the housing market downturn that accompanied the Great Recession led to a reduction in the likelihood of graduating from college, particularly for African American youth (Johnson 2020). The impact of negative house prices, lower parental wealth accumulation, and children's reduced higher education outcomes was particularly pronounced for children from lower-income families with high mortgage debt in the years immediately preceding college age. In general, educational outcomes of youth whose parents are homeowners with relatively low income, high household debt, and/or low levels of housing equity are especially vulnerable to the destabilizing effects of negative house price surprises, particularly when it occurs leading up to college age.

Information Barriers

The important role that information about the financial aid process plays has been well documented. Not possessing adequate information often causes students to overestimate the costs of college and/or underestimate the benefits and keeps many from applying to selective schools and for aid altogether (Perna 2007; Scott-Clayton 2012). Unfortunately, the students least likely to be able to afford college are also the ones with the least amount of accurate information about college costs (Horn, Chen, and Chapman 2003; Scott-Clayton 2012; Kurlaender, Reed, and Hurtt 2019). This reality is particularly true for low-income parents and first-generation college goers (Grodsky and Jones 2007; Horn, Chen, and Chapman 2003). In high-poverty, heavily minority districts, there are often more police officers than guidance counselors in schools (Whitaker et al. 2019), which particularly disadvantages prospective first-generation college goers.

One recent study by Susan Dynarski and colleagues illustrates the importance of information. It found that high school students considering applying to the University of Michigan who received a detailed, personalized mailing of information about free tuition, financial aid, and application assistance had a greater application rate: 67 percent applied to the university, while only 26 percent of the control group applied. Twenty-seven percent of the students in the treatment group currently attend the University of Michigan, compared with 12 percent of the students in the control group (Dynarski et al. 2018). Moreover, this low-cost information intervention significantly diversified the cohort of students entering the University of Michigan along both race and class lines.

This information gap is another way economically segregated school districts equate to ongoing inequality.

In many cases, the students who didn't attend the University of Michigan, but would have otherwise been admitted, ended up going to a community college, which may be an affordable option but is often a challenging path to a bachelor's degree given the low transfer rates. Furthermore, the proliferation of low-quality, for-profit colleges that more low-income students are attending is a concerning trend. These higher education institutions are publicly financed via federal financial aid programs, but they have abysmal graduation rates and often leave students with a significant debt burden. An additional concern is that the vast majority of students—particularly students of color—at for-profit institutions are low income (Taylor and Turk 2019).

Information is key to helping students make the best decision, but the availability and quality of information is often tied to the school district they live in. This information gap is another way economically segregated school districts equate to ongoing inequality.

Role of Admissions Policies

The increased challenges of attending college when coming from an underfunded school district are compounded by parental education level. Parents with postsecondary education not only have the experience to guide their children through the application process—they also can increase their likelihood of admission. For example, preferential treatment received by legacy applicants increases the likelihood of admission by roughly the equivalent of the impact of having an additional 170 points on the SAT (Hurwitz 2011). Furthermore, a recent study showed over 43 percent of White students admitted to Harvard University were either legacies, recruited athletes, children of faculty or staff, or had relatives that donated large contributions to the university. It was shown that roughly three-quarters of these White students would have been rejected had they not received preferential treatment (Arcidiacono, Kinsler, and Ransom 2019). Other elite universities have used similar admissions criteria.

And it is not just legacy or extracurricular advantages that work against some students. SAT scores of applicants from low-income families who had access to poorer-quality K–12 schools may provide a far less reliable signal of their academic potential than those from more advantaged backgrounds. In other words, the SAT does not predict success in college for students from low-income backgrounds as well as it does for those from affluent ones. California, in the midst of major debates over

the role of the SAT and ACT in admissions decisions, reached a unanimous vote from the University of California Board of Regents in the landmark decision to end the use of the SAT and ACT in admissions at the University of California. As more institutions understand the potential bias created by an over-reliance on such tests, many schools are moving toward a test-free admissions process.

University admissions policies make a difference in both equity and efficiency, best illustrated in two just-released studies. Bleemer (2020) provides new causal evidence showing the long-term impacts of elimination of race-based affirmative action in all California public colleges and universities via the 1998 enactment of Proposition 209. In particular, using student-level administrative longitudinally linked data of application records, student transcripts, and California earnings records, he finds ending affirmative action resulted in significant declines in college quality, college graduation rates, and STEM degree attainment for African Americans and Hispanics. Bleemer finds this also resulted in significant earnings declines for underrepresented minorities. Collectively, Bleemer's work demonstrates that limits on university affirmative action policies lead to greater socioeconomic inequities down the road.

A related study by Black, Denning, and Rothstein (2020) similarly shows that Texas's Top Ten Percent rule (wherein all students in the top decile of their high school class are guaranteed admission to Texas state schools) resulted in greater racial and socioeconomic diversity of the flagship university. The increased access to selective universities from this policy reform led to substantial increases in college graduation rates and earnings for Black and Hispanic students, as well as improvements overall for the entire system.

Teacher Diversity

While more recent focus has been placed on school segregation, the lack of faculty diversity at all levels across education systems is also a troubling pattern that warrants more attention. There is growing evidence of how faculty diversity positively affects Black students in ways that parallel how increases in female professors in STEM subjects influence female students' choice of major (Bristol and Martin-Fernandez 2019; Carrell, Page, and West 2010; Price 2010).[1] How teachers can affect student leadership qualities, motivation, socioemotional development, and career choice should not be overlooked.

Faculty diversity is often a missing ingredient in recipes to improve teacher quality in both K–12 and higher education. Having teacher diversity can be critical to create safe spaces that facilitate open dialogue of different perspectives. At the same time, troubling patterns of systematic racial bias in teachers' expectations and tendencies to underestimate the potential of minority students has been highlighted in both the K–12 and higher education contexts. For example, Nicholas Papageorge and co-authors (2020) analyzed longitudinal data and found that when a Black teacher and a White teacher evaluated the academic abilities of the same Black student, the White teacher was about 40 percent less likely to predict the student would finish high school and roughly 30 percent less likely to predict the student would complete a four-year college degree. Conversely, for White students, the ratings from both Black and White teachers tended to be the same (Papageorge, Gershenson, and Kang 2020).

A diverse teaching staff matters, as does access to rigorous curriculum.

The lower expectations of some White teachers for Black students' potential for academic success may lead to self-fulfilling prophecies, and may be related to not only differences in likelihood of placement in college-preparatory curriculum tracks, but also racial disparities in suspensions and expulsions, thus contributing to the school-to-prison pipeline. A diverse teaching staff matters, as does access to rigorous curriculum. Representation and access matter. Both phenomena are related to why, for example, less than 2 percent of Black freshmen in the U.S. enter college engineering programs. This must concern us, as it is influencing the rate of innovation to address many public problems, including those that most impact minority communities. Research has shown that intentional changes in policy and practice can dramatically change such trends.

1 Female students perform significantly better in introductory math and science courses if taught by female faculty, and they are more likely to pursue majors in science, technology, engineering, or math (Carrell, Page, and West 2010). And Black students are more likely to persist in a STEM major if they have a STEM course taught by a Black instructor (Price 2010).

Future Research Directions

Among the most promising directions for future research is the development of better and more integrated data systems to address policy silos. For example, rather than continuing the narrow K–12 focus on test scores, research should incorporate holistic assessments that account for the development of socioemotional competencies, leadership skills, and more. Tracking the right metrics of success with the right tools of evaluation is paramount. Data systems that remain disconnected—and siloed across the pre-K, K–12, and postsecondary sectors—cause gaps in student progression to go undiagnosed and untreated, exacerbate curricular misalignment among the sectors, and ultimately cause educational disparities to proliferate.

Integrated longitudinal data systems would allow researchers to track the progress of students throughout the states' public education systems and beyond, enable the detection of barriers to college entry and attainment, and help develop real-time interventions for current students. These integrated data systems would also enable researchers to document the social returns to public investments in education systems. An integrated data system would also promote accountability, monitoring and evaluating the effectiveness of education spending across the entire continuum from pre-K to career (and every step between).

Indeed, taking this holistic approach may be one of the most important (and unsung) investments to help more students earn a college degree, with disproportionate beneficial effects for those from less advantaged backgrounds who fall through the cracks of our current systems. The governor of California, Gavin Newsom, has proposed state investments in data infrastructure along these lines. If California—the most diverse state in the country, and home to the leading state university system with the highest upward mobility for students from low-income backgrounds (Chetty et al. 2017)—can be successful in these investments, perhaps it will set a new standard for other states to follow.

Conclusion

Students, their families, and taxpayers alike can no longer afford for the college-dropout epidemic to go unaddressed. The numbers show just how expensive, inefficient, and inequitable segregated systems are. Segregation levels across colleges are on par with the degree of residential segregation across neighborhoods in the average American city (Chetty et al. 2017). These patterns mirror and are a direct byproduct of the resegregation of K–12 public schools in this country that has become entrenched over the past 25 years due to the effects of housing and policy decisions. From kindergarten through college, education inequalities cripple the short- and long-term success of underprivileged students, which affects us all. America's youth deserve an urgent research and policy response that allows all students to realize their potential, no matter their address.

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CHAPTER 2

SPOTLIGHT
Tribal Colleges and Universities: Serving Native Students in Higher Education

INTRODUCTION

Tribal Colleges and Universities (TCUs), institutions created and chartered by Native American tribes or the federal government (AIHEC, n.d.a), play an important role in postsecondary access and success for Native students. In 2017–18, there were 37 TCUs spread across more than 75 main, branch, and satellite campuses located throughout the United States. TCUs can provide an example to all of higher education of how to serve Native students in culturally holistic ways. This chapter utilizes data from the American Indian Higher Education Consortium (AIHEC), the "collective spirit and unifying voice of" the nation's TCUs, to provide an overview of these institutions and how they serve Native students and communities in unique ways (AIHEC, n.d.b).

Race and Ethnicity in Higher Education: A Status Report (2019) sought to explore the educational journeys of today's students by race and ethnicity. Many of the indicators in the report relied on surveys that lacked sufficient sample sizes to generate accurate results for American Indian or Alaska Native[1] and Native Hawaiian or other Pacific Islander students. As a result, data were "unstable" or simply unavailable for these students, furthering the persistent gaps in data on the experiences of Native students in higher education. Our review of data provided by AIHEC is an attempt to fill a small portion of this gap, while at the same time shining a light on an important sector of higher education in the United States.

Like other under-resourced postsecondary institutions, TCUs have had challenges in building data capacities and collecting rigorous data on their campuses. In response to this need, 33 TCUs joined the Achieving the Dream Network in 2017, through which these institutions will work to build additional data capacity on their campuses and implement data-informed practices to serve their students (Achieving the Dream, n.d.). This partnership will help to further equip TCUs to tell their story and the story of their communities.

KEY FINDINGS

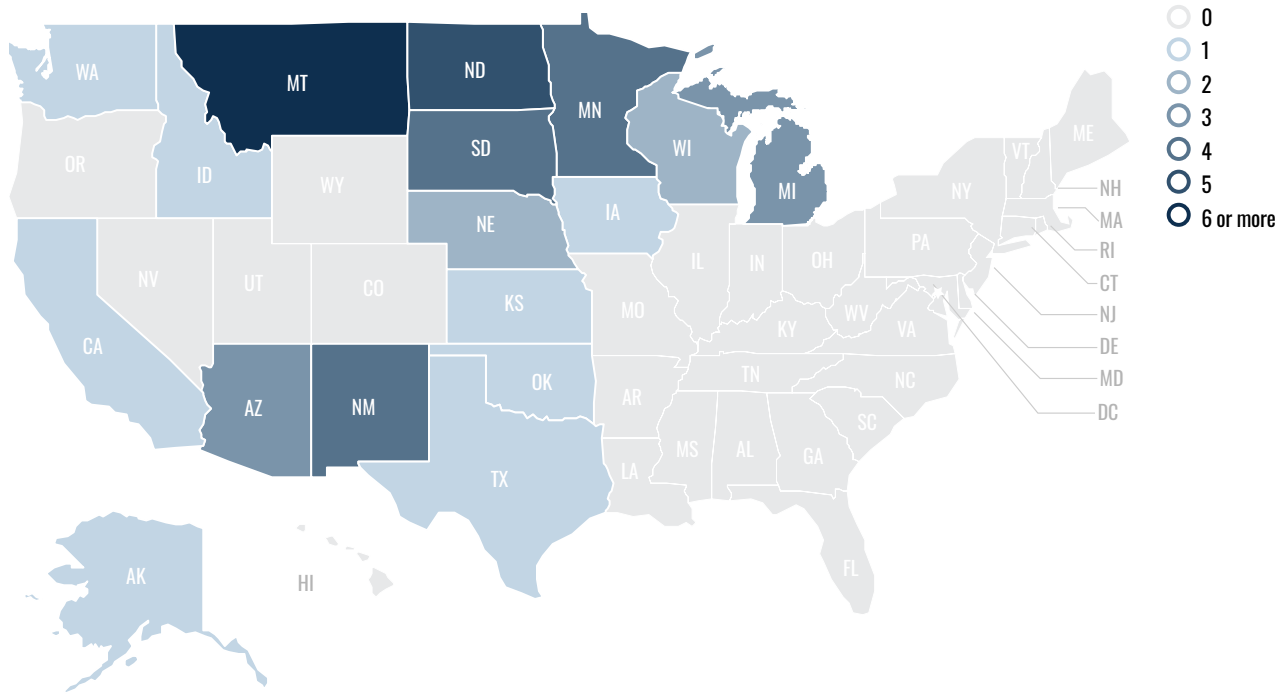
- Tribal Colleges and Universities were located in 16 states across the nation in 2017–18.
- Nearly 86 percent of all students enrolled at a TCU in 2017–18 were American Indian or Alaska Native.
- More than six in 10 students enrolled at TCUs identified as women.
- The most popular field of study among American Indian or Alaska Native students at TCUs was liberal arts, with roughly one in five students enrolling in this field.
- The majority of the 2,846 American Indians or Alaska Natives who earned a credential at a TCU in 2017–18 earned an associate degree, followed by certificates and bachelor's degrees.
- Master's degrees, diplomas,[2] and other credentials made up a small share of all credentials earned by Native students at TCUs.
- About 44 percent of faculty at TCUs were Native.
- More than 122,500 community members participated in community education programming offered through TCUs. Of those who participated in a community education program, nearly one-quarter participated in a health-related program.

1 The terms American Indian or Alaska Native, Indigenous, and Native are used interchangeably.
2 Diplomas awarded by TCUs are professional credentials, which prepare students for specific jobs.

Tribal Colleges and Universities (TCUs), like all minority serving institutions, play a critical role in the American higher education landscape. Chartered by their respective tribes, TCUs provide Native communities greater access to culturally relevant postsecondary education. These institutions were established out of the Tribal College movement of the 1960s, which sought to increase educational attainment within Native communities. The first TCU was established by the Navajo Nation in 1968 (AIHEC 2012). Currently, there are 37 TCUs throughout the United States, which provide an educational approach distinctively different from other postsecondary institutions. This approach incorporates Indigenous culture, language, and tradition into curricula, research, and educational offerings (National Academies of Sciences, Engineering, and Medicine 2018; AIHEC 2012). TCUs enroll a student body that is largely American Indian or Alaska Native, with White students being the second largest racial or ethnic group (Espinosa et al. 2019).

In addition, TCUs serve as an integral part of tribal communities and provide many services and community education programs, which connect and benefit many community members (Nelson and Frye 2016; AIHEC 2012). In 2017–18, more than 120,000 community members took part in the community-based services and education programs provided through TCUs.

Figure 2.1: Tribal Colleges and Universities, by Location: 2017–18



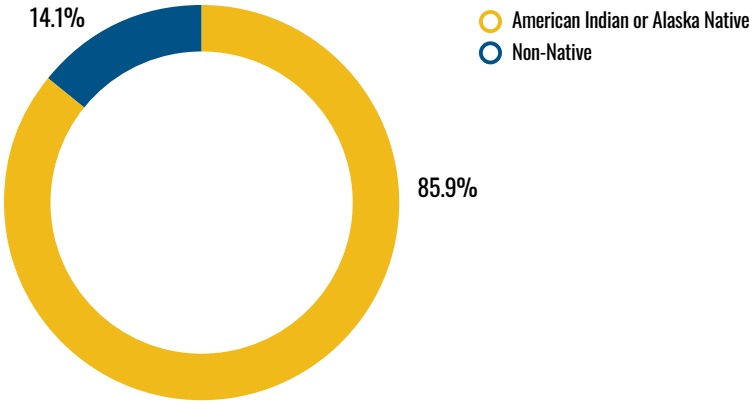
Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Note: In 2017-18, there were 37 Tribal Colleges and Universities (TCUs). Figure includes 41 total TCUs, as four institutions have branch campuses in other states.

ENROLLMENT AT TCUs

The AIHEC American Indian Measures of Success (AIMS) data used in this chapter categorize students and faculty at Tribal Colleges and Universities into two groups: American Indian or Alaska Native and non-Native. In categorizing individuals by race and ethnicity, TCUs do not count individuals as American Indian or Alaska Native through self-identification. Rather, to be counted in this category, the individual must be an enrolled member of a federally recognized tribe[3] or the biological child of an enrolled member of a federally recognized tribe. This definition, therefore, excludes all members of state-recognized tribes[4] and those who do not meet the requirements to be an enrolled member of a tribe. For example, an individual whose biological makeup is 100 percent American Indian or Alaska Native, but who does not meet the minimum blood quantum for any of their family's tribes would not be counted as American Indian or Alaska Native at TCUs. AIHEC's AIMS data report these students as non-Native, even though they are indeed Native. At the vast majority of other institutions, any person may self-identify as Native.

In fall 2017, TCUs enrolled 15,512 undergraduate and graduate students. Of these students, while the majority were enrolled full time (60.9 percent), nearly four in 10 were enrolled part time (39.1 percent). The majority of students enrolled at Tribal Colleges and Universities in 2017–18 were American Indian or Alaska Native (85.9 percent). The remaining 14.1 percent of students enrolled at TCUs were from other racial or ethnic backgrounds.

Figure 2.2: Total Enrollment of Native and Non-Native Students at TCUs: 2017–18

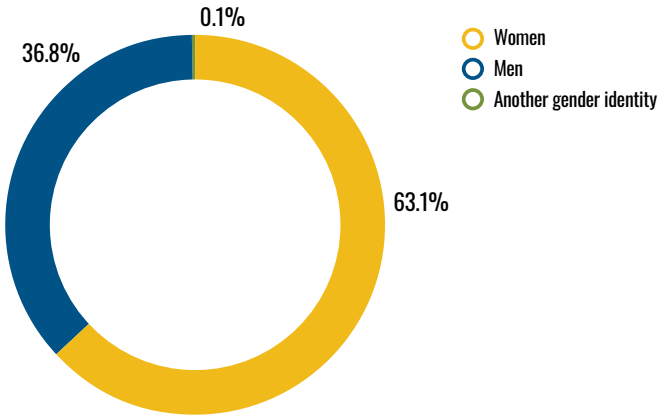


Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Note: Non-Native includes all students who are neither American Indian nor Alaska Native.

3 For more information on the tribal enrollment process, please see https://www.doi.gov/tribes/enrollment.
4 For more information on federal and state recognized tribes, please see https://www.ncsl.org/research/state-tribal-institute/list-of-federal-and-state-recognized-tribes.aspx.

More than six in 10 students at TCUs in 2017–18 identified as women (63.1 percent), followed by 36.8 percent who identified as men and 0.1 percent who had another gender identity.

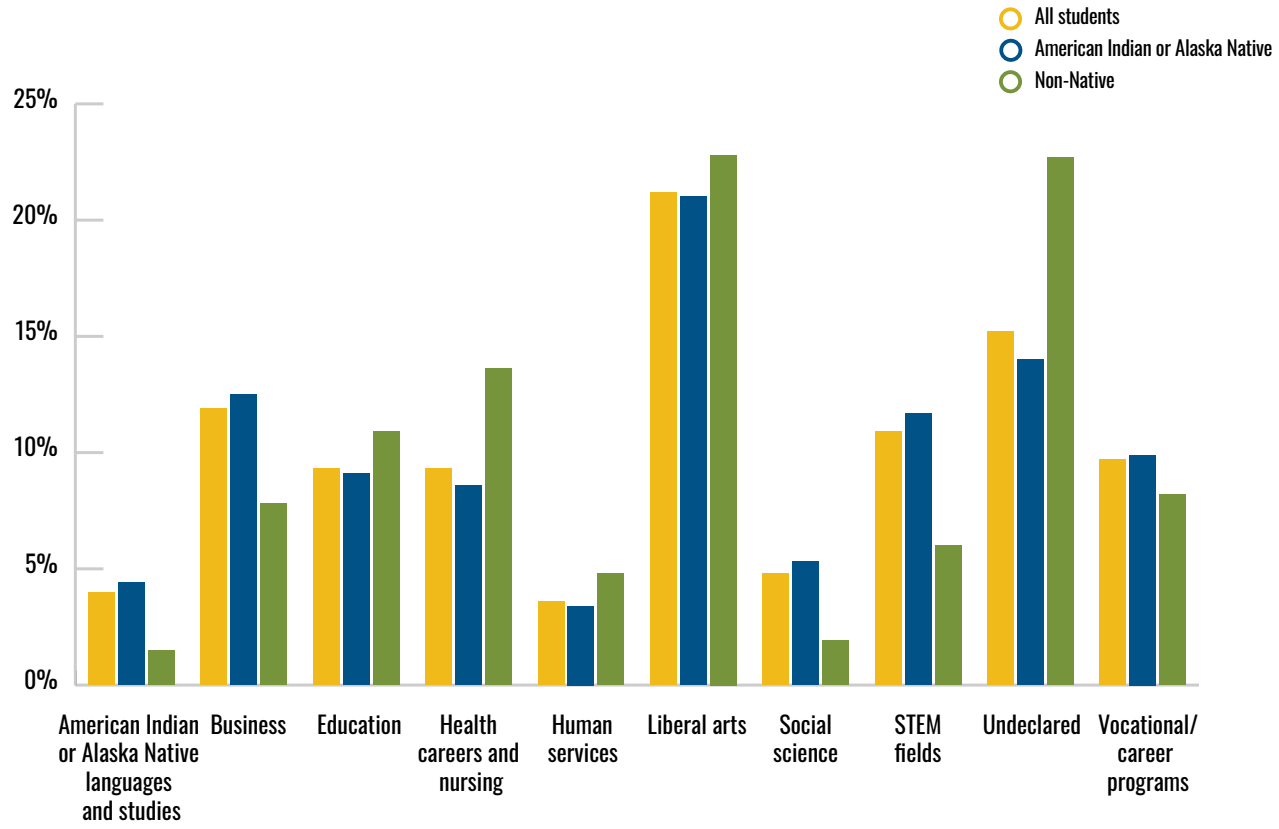
Figure 2.3: Total Enrollment at TCUs, by Gender: 2017–18



Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18

Liberal arts was the most popular field of study among students who were enrolled at TCUs in 2017–18, with roughly one in five students enrolling in this field (21.2 percent). The next most popular field of study was business (11.9 percent), followed by science, technology, engineering, and math (STEM) fields (10.9 percent).

Figure 2.4: Total Enrollment at TCUs of Native and Non-Native Students Across Majors: 2017–18



Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Note: Non-Native includes all students who are neither American Indian nor Alaska Native.

- Approximately one in five Native (21.0 percent) and non-Native (22.8 percent) students were enrolled in liberal arts majors.
- American Indian or Alaska Native students were nearly twice as likely as non-Native students at TCUs to be enrolled in STEM majors (11.7 percent and 6.0 percent, respectively).
- Non-Native students were much more likely than Native students to be enrolled in health careers and nursing majors (13.6 percent and 8.6 percent, respectively).

Women were much more likely to be enrolled in education (12.6 percent) and health careers and nursing (12.3 percent) majors than men, of whom only 3.7 percent were enrolled in education and 4.3 percent were enrolled in health careers and nursing majors. Men were much more likely to be enrolled in STEM fields (15.8 percent) and vocational/career programs (16.2 percent) than women.

Table 2.1: Total Enrollment at TCUs of Native and Non-Native Students Across Majors, by Gender: 2017–18

	American Indian or Alaska Native Languages and Studies	Business	Education	Health Careers and Nursing	Human Services	Liberal Arts	Social Science	STEM Fields	Undeclared	Vocational/ Career Programs
Women	3.8%	12.4%	12.6%	12.3%	4.4%	19.8%	5.7%	8.0%	15.0%	5.9%
American Indian or Alaska Native	4.2%	13.4%	12.2%	11.4%	4.2%	19.6%	6.2%	8.6%	13.9%	6.2%
Non-Native	1.3%	6.7%	15.3%	17.4%	5.7%	21.2%	2.0%	4.4%	22.0%	4.1%
Men	4.4%	10.9%	3.7%	4.3%	2.2%	23.7%	3.4%	15.8%	15.5%	16.2%
American Indian or Alaska Native	4.8%	11.1%	3.7%	3.8%	2.0%	23.4%	3.7%	17.0%	14.0%	16.5%
Non-Native	1.9%	9.6%	3.6%	7.4%	3.1%	25.4%	1.7%	8.6%	23.9%	14.8%

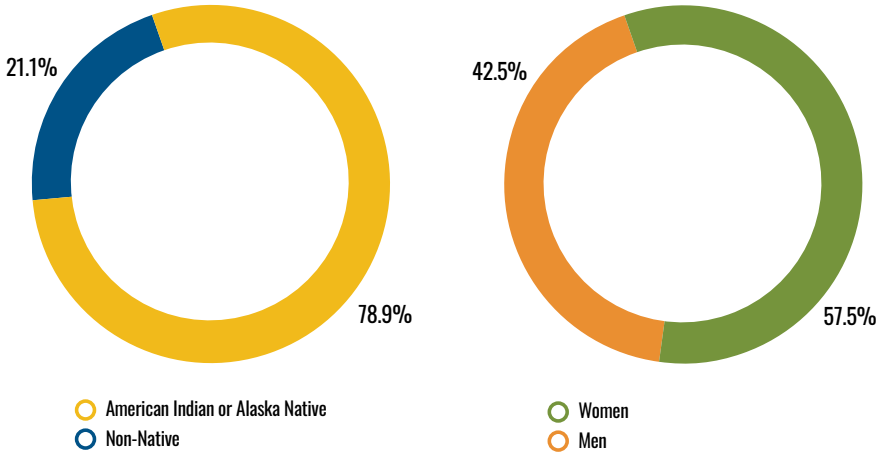
Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Note: Non-Native includes all students who are neither American Indian nor Alaska Native.

- American Indian or Alaska Native women were twice as likely to be enrolled in business majors as non-Native women (13.4 percent and 6.7 percent, respectively) at TCUs. Native women were also nearly twice as likely as non-Native women to be enrolled in STEM fields (8.6 percent and 4.4 percent, respectively).
- Among women, non-Natives (17.4 percent) were more likely than American Indians or Alaska Natives (11.4 percent) to be enrolled in health careers and nursing majors.
- Among men, American Indians or Alaska Natives (17.0 percent) were nearly twice as likely as non-Natives (8.6 percent) to be enrolled in STEM majors.

FIRST-TIME STUDENTS AT TCUs

In fall 2017, 26 percent of all students enrolled at TCUs were first-time students, meaning they had no prior enrollment in postsecondary education after high school.

Figure 2.5: Total Enrollment of First-Time Students at TCUs, by Student Characteristics: 2017–18

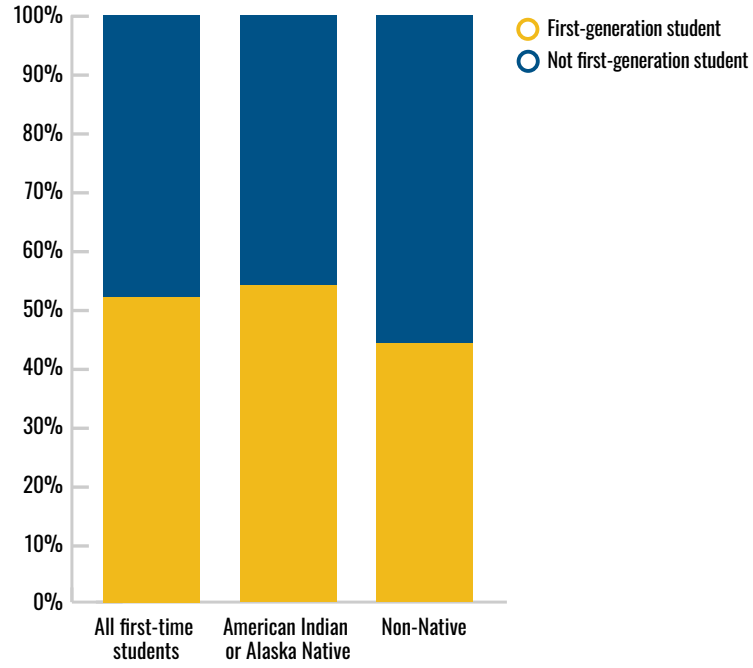


Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Note: Non-Native includes all students who are neither American Indian nor Alaska Native.

- Among first-time students at TCUs, 78.9 percent were American Indian or Alaska Native. The remaining 21.1 percent were from other racial and ethnic backgrounds.
- The majority of first-time students at TCUs in 2017–18 were women (57.5 percent), while 42.5 percent were men.

The slight majority of first-time TCU students were also first-generation students (52 percent), meaning that they were the first in their families to enroll in postsecondary education.

Figure 2.6: Total Enrollment of First-Time Native and Non-Native Students at TCUs, by First-Generation Status: 2017–18

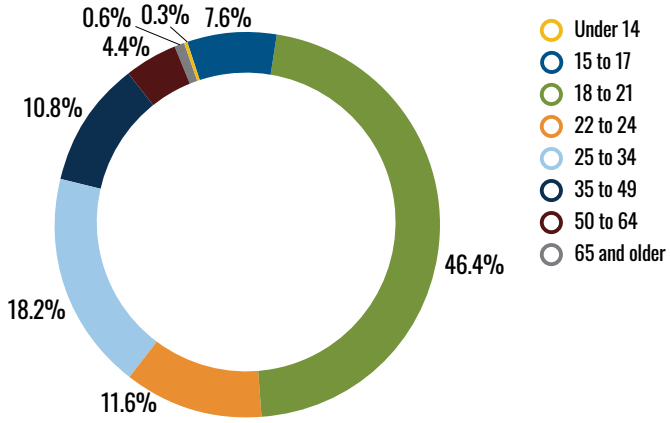


Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Note: Non-Native includes all students who are neither American Indian nor Alaska Native.

- Over half of all first-time American Indian or Alaska Native students were first generation (54 percent), while 46 percent of Native students had parents with at least some postsecondary enrollment.
- First-time non-Native students at TCUs were much less likely than Native students to be first generation. In 2017–18, 44 percent of first-time non-Native students were first-generation students.

Nearly 60 percent of first-time students were between the ages of 18 and 24 (58.0 percent). About one-third of first-time students were over the age of 25 (34.0 percent), and 7.9 percent were 17 years old or younger.

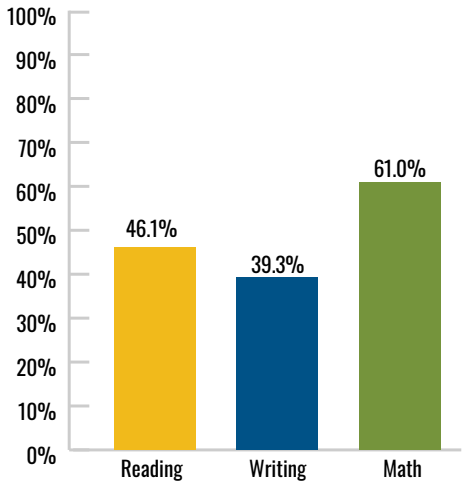
Figure 2.7: Total Enrollment of First-Time Students at TCUs, by Age of Entry: 2017–18



Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18

Enrollment in developmental education[5] varied greatly by course type. Over half of all first-time students who took placement tests were placed in developmental education for math (61.0 percent), compared with reading (46.1 percent) and writing (39.3 percent).

Figure 2.8: Total Share of First-Time Students Placed in Developmental Education at TCUs, by Course Topic: 2017–18



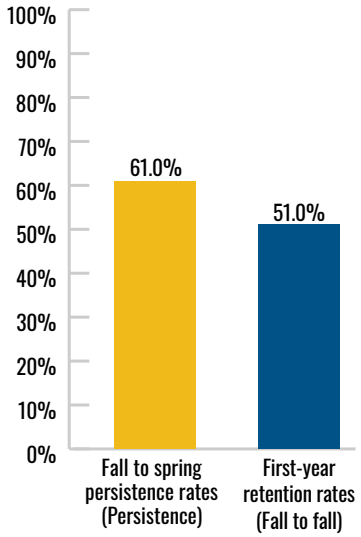
Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Note: Includes only those who took developmental education placement tests.

5 Developmental or remedial courses are designed to strengthen students' skills in key subjects such as reading, writing, and math so that they can be successful in college-level courses.

PERSISTENCE AND COMPLETION AT TCUs

Overall, 61 percent of students enrolled at TCUs persisted[6] from the fall semester to the spring semester in 2017–18. The overall first-year retention rate of students at TCUs was 51 percent, meaning just over half of students returned in the fall of their second year.

Figure 2.9: Persistence and First-Year Retention Rates of Students Enrolled at TCUs: 2017–18

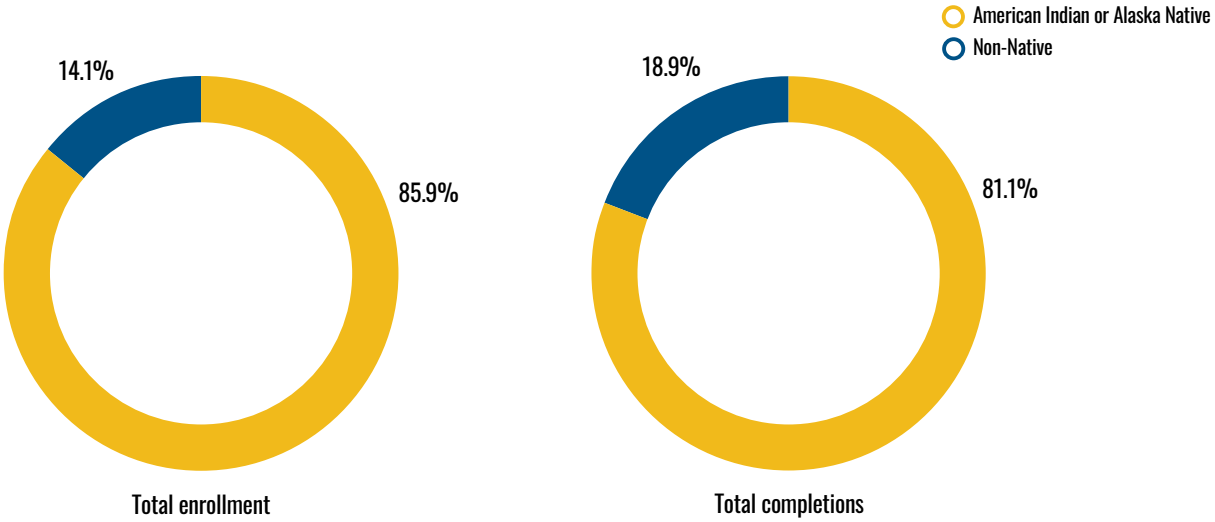


Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Note: Persistence and retention rates include full-time and part-time students.

6 Persistence and retention rates include full-time and part-time students.

The majority of all credentials earned by students at TCUs in 2017–18 were earned by American Indian or Alaska Native students (81.1 percent). The remaining 18.9 percent of credentials were earned by students of other racial or ethnic backgrounds.

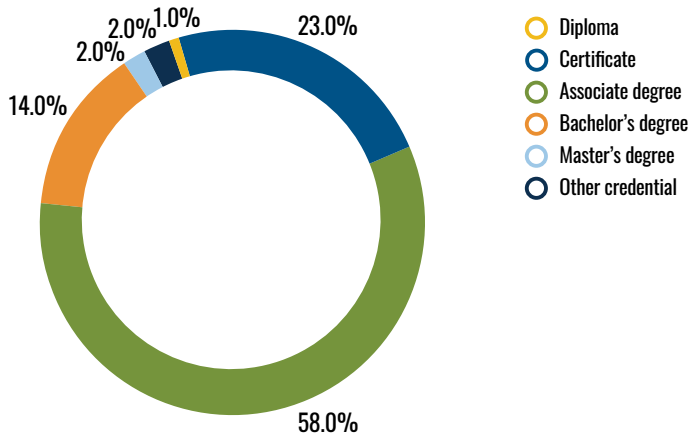
Figure 2.10: Total Enrollment and Completions of Native and Non-Native Students at TCUs: 2017–18



Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Note: Non-Native includes all students who are neither American Indian nor Alaska Native.

The majority of American Indians or Alaska Natives who earned a credential at a TCU in 2017–18 earned an associate degree (58.0 percent), followed by certificates (23.0 percent) and bachelor's degrees (14.0 percent). An additional 5 percent of Native students earned a master's degree (2.0 percent), diploma (1.0 percent), or other credential (2.0 percent).

Figure 2.11: Total Credentials Earned by American Indian or Alaska Native Students at TCUs, by Award Level: 2017–18

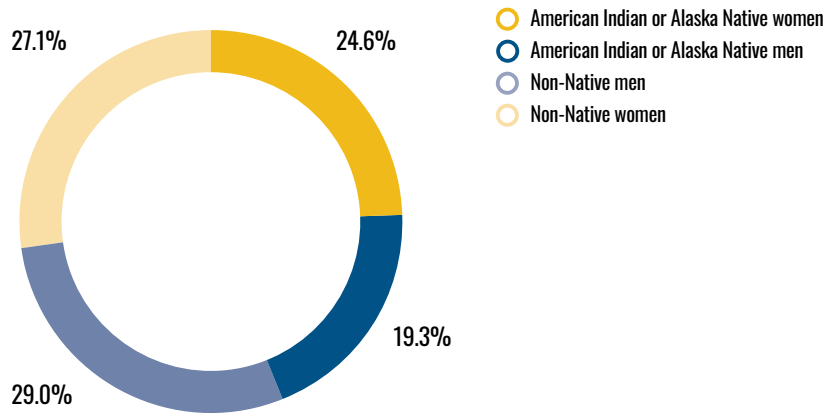


Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Notes: Diplomas awarded by TCUs are professional credentials, which prepare students for specific jobs. | Other credentials include endorsements and other credentials that are not a degree.

FACULTY AT TCUs

Though the racial and ethnic makeup of the faculty at TCUs does not fully match that of the student body, the representation of Native faculty at TCUs greatly surpasses their representation in higher education nationally; just 0.4 percent of full-time and 0.5 percent of part-time faculty nationwide were American Indian or Alaska Native.

Figure 2.12: TCU Faculty, by Gender: 2017–18

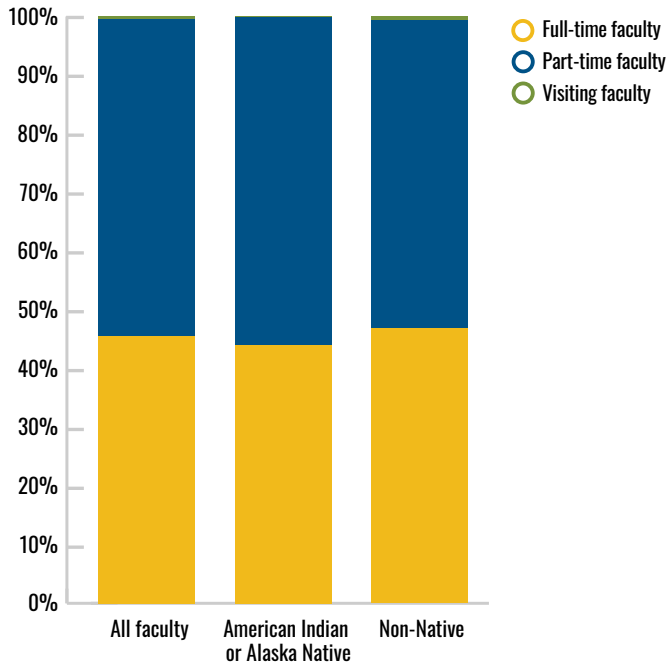


Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Note: Non-Native includes all faculty who are neither American Indian nor Alaska Native.

- Among the over 1,800 faculty at TCUs, 43.9 percent were Native, while 56.1 percent were non-Native.
- Slightly more than half of TCU faculty were women (51.7 percent).
- Over half of TCU faculty were non-Native men (29.0 percent) and non-Native women (27.1 percent), 24.6 percent were American Indian or Alaska Native women, and only 19.3 percent of TCU faculty were American Indian or Alaska Native men.

The majority of faculty at TCUs were part time (54.0 percent), followed by full-time faculty (45.6 percent) and visiting faculty (0.4 percent). This pattern was similar by racial and ethnic group.

Figure 2.13: Employment Status of Native and Non-Native TCU Faculty: 2017–18

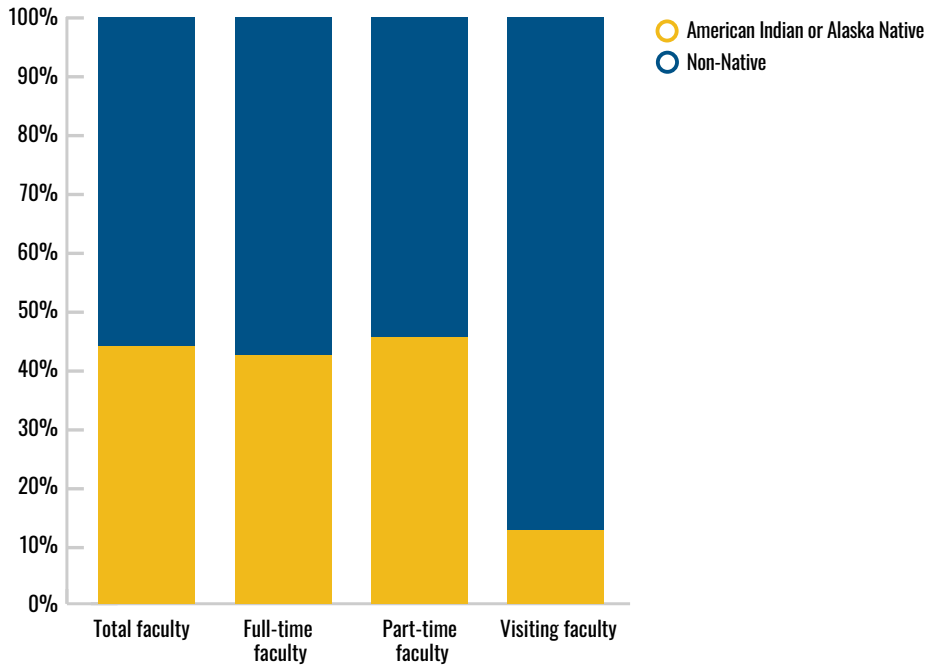


Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Notes: Non-Native includes all faculty who are neither American Indian nor Alaska Native. | Total faculty includes visiting faculty.

- Over half of all American Indian or Alaska Native (55.9 percent) and non-Native (52.5 percent) faculty were part time.
- American Indian or Alaska Native faculty (44.0 percent) were slightly less likely than non-Native faculty (46.8 percent) to be full time.
- Non-Native faculty were more likely than American Indians or Alaska Natives to be visiting faculty (0.7 percent and 0.1 percent, respectively).

Looking within employment status, in 2017–18 the majority of faculty across all groups were non-Native. Visiting faculty were much more likely than full-time and part-time faculty to be non-Native.

Figure 2.14: Native and Non-Native TCU Faculty, by Employment Status: 2017–18



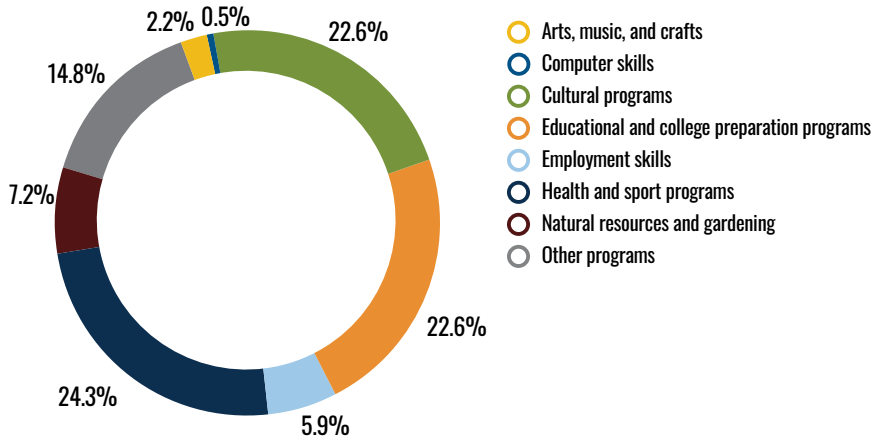
Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Notes: Non-Native includes all students who are neither American Indian nor Alaska Native. | Total faculty includes visiting faculty.

- In 2017–18, the total share of part-time faculty who were American Indian or Alaska Native (45.5 percent) was higher than the share of full-time faculty who were Native (42.4 percent).
- Nearly 90 percent of visiting faculty were non-Native (87.5 percent).

COMMUNITY EDUCATION

In addition to providing American Indian or Alaska Native students access to postsecondary education, TCUs play a critical role within their larger Native communities. These institutions often serve as the cultural center for their community and provide additional services including health programs (e.g., health screenings, flu clinics, and first aid and CPR training), educational and college preparation programs (e.g., math workshops, adult basic education, and financial literacy workshops), and employment skills development workshops (e.g., grant writing workshops, workshops on financing business, and career fairs). In 2017–18, 122,596 community members were reached through the community education programming offered by TCUs.

Figure 2.15: Participation in Community Programs Offered Through TCUs, by Program Type: 2017–18



Source: American Indian Higher Education Consortium, American Indian Measures of Success, 2017–18
Notes: Cultural programs include those focused on traditional tribal culture, art, and history. | Other programs include those related to parenting, holidays, movie nights, carnivals, and other programs not directly related to any other program type listed.

- Nearly one-quarter of all individuals who participated in a community program at a TCU in 2017–18 participated in a health-related program (24.3 percent).
- Nearly 23 percent of individuals who participated in community programs participated in traditional cultural programs or educational and college preparation programs (22.6 percent each).
- Nearly 15 percent of all individuals who participated in a community program participated in a program related to parenting skills, holiday celebrations, family movie nights, and other activities (14.8 percent).

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INVITED ESSAY

Bridging the Gap in Native American Attainment in Higher Education: The Role of Native American-Serving Nontribal Institutions

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Bridging the Gap in Native American Attainment in Higher Education: The Role of Native American-Serving Nontribal Institutions

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Introduction

Native American-Serving Nontribal Institutions (NASNTIs) play a crucial role in meeting the educational needs of American Indian/Alaska Native (AI/AN) students throughout the country. First designated as a type of minority serving institution (MSI) in the Higher Education Opportunity Act of 2008, they and other MSIs "contribute to the upward income mobility of the students they enroll, propelling their lowest income students up the income ladder at higher rates" (Espinosa, Taylor, and Kelchen 2018). Moreover, NASNTIs are concentrated in geographic areas that are characterized as rural, remote, or small cities—areas that have a paucity of educational resources. Many are located adjacent to Indian reservations, and they are the institutions of choice for Native students who wish to remain close to their home communities.

Like other MSIs, NASNTIs are eligible to receive funding from the U.S. Department of Education to plan, develop, and carry out activities to improve and expand capacity to serve their specific minority population and low-income individuals on their campuses. To be eligible for this designation, public and private nonprofit institutions of higher education must have an undergraduate enrollment of at least 10 percent AI/AN students and qualify for Title III funding under the U.S. Department of Education. In 2020, there were 37 institutions eligible for NASNTI designation; most are public, with a mix of two-year and four-year institutions.[1] Collectively, the 37 NASNTIs enrolled over 78,000 undergraduates in 2018, 19 percent of which were AI/AN students.[2]

This essay describes the current landscape of postsecondary attainment of AI/AN students, collective efforts of NASNTIs to expand the knowledge base of promising practices that advance AI/AN student success, and examples of efforts[3] at NASNTIs to increase educational attainment rates through the identification of best practices for Native student success.

> Culturally responsive programs recognize and integrate understanding of Native student cultures and identities. They seek to strengthen student support programs by developing and integrating new methodologies that are responsive to the unique social and cultural needs of Native students.

The Challenge of Postsecondary Success for American Indian/Alaska Native Students

American Indian/Alaska Native populations are among the most economically disadvantaged and educationally underserved populations in the United States. The legacy of federal Indian policy to erase American Indian identity and culture through the termination of tribes and forced assimilation severely impacted AI/AN people and their tribal communities (Brayboy et al. 2012; Deloria and Wildcat 2001). Historically, the education system for AI/AN people has been complicit in these assimilation policies: the government removed children from their homes and communities, sending them to distant boarding schools to break up tribal life and assimilate

1 The number of NASNTIs comes from three sources: College Scorecard; the U.S. Department of Education, Office of Postsecondary Education, Title III Native American Serving, Nontribal Institutions; and MSI allocations under the CARES Act, April 2020.

2 Authors' own calculation of the Integrated Postsecondary Education Data System 2018 fall enrollment survey.

3 The Western Interstate Commission for Higher Education's (WICHE) Native-Serving Institutions Initiative supported these efforts, which were funded by a three-year grant from Lumina Foundation.

children into European American society. Today the lasting social and economic impacts of federal Indian policy are seen in high rates of unemployment and poverty, lack of health care, and low rates of educational attainment in AI/AN communities.

These disparities in educational achievement begin in the early grades and continue throughout the educational pipeline, with 74 percent of AI/AN students graduating from public high schools compared with the national average of 85 percent (NCES, n.d.a). Even though the number of AI/AN students enrolling in postsecondary institutions is increasing, they remain the most underrepresented group in higher education, and are the least likely to earn a bachelor's degree (NCES, n.d.b). In fact, about one out of every three AI/AN students enrolled in postsecondary education will complete a bachelor's degree (NCES, n.d.b). Many of those who enroll and do not complete often return to communities with three times the average poverty rate of White communities, struggling to repay debts incurred during their first entry into postsecondary education. This loss is amplified in tribal communities that need college-educated professionals who will contribute to the well-being and sustainability of their sovereign nations.

The unique background and experiences of AI/AN students are not acknowledged or well understood. Too often, these students are relegated to a footnote or asterisk at the bottom of reports on underrepresented groups, leading many scholars to decry the invisibility of Indigenous issues in higher education (First Nations Development Institute and Echo Hawk Consulting 2018). By examining barriers to student success, as well as the institutional practices and policies that contribute to those barriers, some NASNTIs are implementing culturally responsive practices to better serve Native students. As effective culturally responsive practices are developed and shared among institutions serving Native students, greater visibility is brought to the unique needs of AI/AN students in higher education.

Culturally responsive programs recognize and integrate understanding of Native student cultures and identities. They seek to strengthen student support programs by developing and integrating new methodologies that are responsive to the unique social and cultural needs of Native students.

High-Impact Practices at Native American-Serving Nontribal Institutions

Networks and communities of practice are essential partners when advocating for policies that support NASNTIs' efforts to increase AI/AN student attainment in higher education.

In recent years, and with the support of Lumina Foundation, the Western Interstate Commission for Higher Education's (WICHE) Native-Serving Institutions Initiative launched a consortium to build networks, tailor specific strategies, and speak with a strong and common voice on legislative and policy matters for NASNTIs. The collaboration fosters the sharing of effective practices to address common goals for AI/AN students, such as increasing attainment rates, reducing disparities between AI/AN and majority students, and working with tribal governments. In order to share and propel best practices for Native student attainment, 11 NASNTIs received planning grants to implement high-impact practices (Kuh 2008).

The network and communities of practice created through the consortium allowed for NASNTIs to blend traditional high-impact practices with culturally relevant approaches. The following examples detail practices that have emerged during the initiative, illustrating the variety of activities that can be implemented to support AI/AN students and other minority populations.

High-impact practices are learning activities that lead to greater engagement and retention among undergraduate students (Kuh 2008). Building on Kuh's research, the Association of American Colleges and Universities identified 10 practices that have a high impact on student learning and success. They include (1) first-year seminars and experiences, (2) common intellectual experiences, (3) learning communities, (4) writing-intensive courses, (5) collaborative assignments and projects, (6) undergraduate research, (7) diversity/global learning, (8) service learning and community-based learning, (9) internships, and (10) capstone courses and projects.

Community-Based Learning and Internships

San Juan College (SJC), a community college in New Mexico, forged partnerships with different tribal industries, such as the Navajo Agricultural Products Industry (NAPI), to make degree attainment relevant to tribal economic development. NAPI was developed in the 1970s by the Navajo Nation Council as a Navajo-owned enterprise to create employment. Today it is one of the largest employers in the Navajo Nation and one of the largest contiguous farmlands in the United States, providing products in the U.S. and internationally (NAPI, n.d.). NAPI expanded internship opportunities to SJC students majoring in business, accounting, marketing, and computer science, in addition to the traditional biology, geology, and horticulture internships. In order to increase participation for students that do not have transportation, SJC is also creating more service learning and internship opportunities for students on campus. SJC's partnership with these industries is an opportunity for Native students to make meaningful contributions and give back to their communities.

Learning Communities and Common Intellectual Experiences

Northeastern State University (NSU) in Oklahoma created a reserved section of its University Strategies course for American Indian students, with students enrolled in a course called Native Scholars. The curriculum incorporates cultural programs and information about support programs on campus and in the community for Native students. Additionally, the Center for Tribal Studies at NSU is developing common intellectual and educational experiences that are more consistent with AI/AN cultural practices, values, and educational models to increase student engagement, such as an Indigenous Living Learning Community. Students in the Native Scholars course and living-learning community have higher retention rates compared with students at NSU who are eligible but not participating in these programs. The most successful aspect of the learning community was the Native Scholars' dinners, which brought together students, faculty, and staff to facilitate the development of relationships and community building.

Use of ePortfolios

Kodiak College, a public two-year community college campus of the University of Alaska, Anchorage, integrated high-impact practices into a preexisting program by implementing the use of ePortfolios into its Alutiiq Studies program. This program provides students with career preparation and professional development in Alutiiq culture and values, while earning an occupational endorsement certificate (OEC) in Alutiiq language. Culturally relevant ePortfolio templates were created for AI/AN students, which enabled them to share their work with others, take an electronic resume on job searches, or use it in cultural activities in a way that acknowledges their ancestral stories. These efforts will inform Kodiak's development of a second OEC in Alaska Native community development, which will address specific workforce needs and high-demand training sought after by local tribal, nonprofit, and business organizations.

Diversity Learning

Montana State University-Northern (MSU-N), through its Little River Institute (LRI), aimed to increase American Indian retention and program completion rates. LRI increased academic and social engagement opportunities for students, faculty, and staff through mentoring, tutoring, and developing culturally responsive curriculum and pedagogy. Professional development opportunities provided for LRI tutors and faculty use Roland Tharp's "Standards for Effective American Indian Pedagogy" as the foundation to develop cultural responsiveness. Activities include a presentation of American Indian history and training on cultural sensitivity during staff/faculty orientation with guest lectures from Native faculty members. MSU-N provides evidence-based professional development to their faculty through individualized, one-on-one sessions with curriculum experts to fine tune the curricula to better serve and support AI/AN students. Efforts at LRI have resulted in retention rates for AI/AN students that increased from 57 percent in 2016 to 86 percent in 2019.[4]

4 MSU-N, "Planning Grant Report for WICHE Native-Serving Institutions Initiative," April 15, 2019, unpublished report.

Developing Effective Policy and Practice: Building Relationships with Tribal Nations and Engaging Communities

In addition to the development and implementation of high-impact practices like those illustrated above, NASNTIs are leaders in developing culturally responsive promising practices that support AI/AN student success, incorporating AI/AN families in the college-going experience, developing relationships and partnerships with tribal communities, and advocating for state policy to support AI/AN students. NASNTI efforts in state and federal policy are particularly notable since no policy or advocacy organization represents NASNTIs in the same way that, for example, the Hispanic Association of Colleges and Universities represents Hispanic-Serving Institutions.[5]

The following culturally responsive promising practices and policies highlight some of the efforts of NASNTIs to increase AI/AN student success.

Promising Practices

Utah State University (USU) sought to increase family support and understanding of the college experience, as well as generally build a more engaged campus responsive to the unique values, needs, and perspectives of Native American students. In response, the Family Engagement Project at the USU Blanding campus is building relationships with Native students' families and communities by employing staff liaisons at satellite locations. The project also engages in institutional outreach to remote areas of the Navajo Nation. These efforts are focused on demystifying the college experience for American Indian students, for example, by providing assistance in navigating the complex federal and state financial aid processes for tribal families. A partnership with Navajo Health Services provides emotional and mental health support for all Native students, with particular attention to first-year students in transition to college.

East Central University (ECU) of Oklahoma has partnerships with eight tribal communities to support American Indian students at the university. ECU's Tribal Resources to Enhance Achievement and Completion in Higher Education (REACHE) complements existing effective services and programs, while identifying and establishing new resources and activities to successfully close attainment gaps for Native students. As part of a two-year planning phase, ECU is hosting meetings, AI/AN student focus groups, and Tribal Forums to generate data to assist ECU in determining appropriate and effective first-year experiences, internship structures, Tribal workforce opportunities, and fields of study responsive to Native students. Additionally, this plan seeks to create a Sovereignty Center on campus, a center dedicated to Native students' needs. Although early in the change process, these activities show promise to increase student and faculty engagement in improving student success.

State Policy

In Montana, the Indian Education for All Act, passed in 1999, encourages every Montana citizen, whether Indian or non-Indian, to learn about the unique heritage of American Indians. The act requires that every educational agency and all educational personnel work cooperatively with Montana tribes, or those tribes that are in close proximity, when providing instruction, implementing an educational goal, or adopting a rule related to the education of each Montana citizen. It recognizes the distinct and unique cultural heritage of American Indians and requires educators to integrate American Indian history and content into all educational instruction. The College of Education at MSU-N is leading the effort to graduate teachers that can provide appropriate cultural context of historical American Indian knowledge in K–12 classrooms in Montana.

5 While the American Indian Higher Education Consortium represents the interests of Tribal Colleges and Universities, it does not advocate for NASNTIs specifically. For more information on Tribal Colleges and Universities, see Chapter 2 of this report.

These are just a few examples that illustrate how NASNTIs are strengthening their ties to tribal governments and communities. These relationships are essential to their success in closing AI/AN student attainment gaps and important to developing institutional practices inclusive of formal tribal representation and involvement.

Conclusion

With their high percentage of AI/AN students, NASNTIs are well positioned to contribute to our understanding of effective practices for improving AI/AN student attainment. From curricular development to workforce preparation, these efforts illustrate the variety of approaches available when supporting AI/AN student success.

Engaging with the work of NASNTIs is a unique opportunity to invite these long unrecognized and unrepresented institutions to become communities of common policy and practice, building networks of shared purpose and the capacity for a collective impact on increasing AI/AN student completion. While much work remains, especially in the area of developing effective federal and state policies to support their efforts, these institutions are building on their strengths and utilizing their collective expertise to better serve their unique student populations.

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CHAPTER 3

Graduate and Professional Education

INTRODUCTION

Graduate education has diversified greatly over the past several decades; however, there are still large differences in where students attend graduate education and in what they study (Espinosa et al. 2019). Black or African American and Native Hawaiian or other Pacific Islander students were much more likely than all other groups to have completed their master's, doctoral, and professional degrees at for-profit institutions. Such trends have a direct impact on other graduate education outcomes, such as the level of loan debt that students graduate with. For example, research shows that students who complete degrees from for-profit institutions are more likely to borrow and carry larger debt burdens than students at public and private nonprofit institutions (Espinosa et al. 2019).

Similarly, field of study has bearing on other outcomes, such as employment and earnings. As the data show, American Indian or Alaska Native, Black or African American, Hispanic or Latino, and Native Hawaiian or other Pacific Islander students were much less likely to have completed graduate degrees in the potentially more lucrative science, technology, engineering and math (STEM) fields.[1]

Race and Ethnicity in Higher Education: A Status Report (2019) included an overview of graduate school enrollment and completion. This chapter builds upon data presented in the 2019 report and provides a comprehensive overview of master's, doctoral, and professional degree recipients between 2015 and 2017,[2] as well as the educational pathways of doctoral degree recipients, and a profile of students attending dental, medical, and law schools.

KEY FINDINGS

- Over 2.3 million master's degrees were awarded between 2015 and 2017. Of all master's degree recipients, 50.9 percent were White, 25.5 percent were students of color,[3] 17.0 percent were international students,[4] and 6.7 percent were students of unknown racial and ethnic backgrounds.[5]
- Over 530,000 doctoral and professional degrees[6] were awarded between 2015 and 2017. Of all doctoral and professional degree recipients, 56.0 percent were White, 25.9 percent were students of color, 12.1 percent were international students, and 6.1 percent were students of unknown racial and ethnic backgrounds.
- Most graduate students earned their degrees at public and private nonprofit four-year institutions.[7] However, Black or African American and Native Hawaiian or other Pacific Islander students were much more likely than all other groups to have completed their master's, doctoral, and professional degrees at for-profit institutions.
- Among master's degree recipients, the primary fields of study across most groups were business and management, education, and STEM fields. Among doctoral and professional degree recipients, the primary fields of study across most groups were health fields, law, and STEM fields.

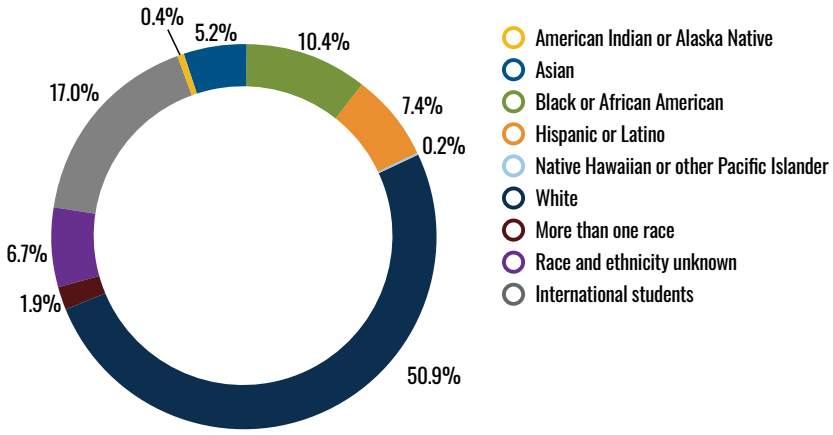
1 STEM fields include life and physical sciences, math, engineering, and computer science.
2 This chapter examines pooled graduate completions data for three years. Doing so allows for a detailed analysis of fine field of study by race and ethnicity. For more information, please visit this report's methods section.
3 The term students of color includes American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, and Native Hawaiian or other Pacific Islander students, as well as students of more than one race.
4 The National Center for Education Statistics (NCES) defines a nonresident alien as "a person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely." In this chapter, nonresident aliens are labeled as international students.
5 Race and ethnicity unknown is included among the racial and ethnic categories within data from the Integrated Postsecondary Education Data System (IPEDS), which are used in this chapter of the report. As a result, tables and figures include this group alongside other racial and ethnic categories.
6 Includes all doctoral degrees classified as research/scholarship, professional practice, and other doctorates in IPEDS.
7 Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- Nearly half of international students completed their master's degrees in STEM fields, the only group for which STEM was their top field of study. Similarly, 60.2 percent of international students completed doctoral and professional degrees in STEM fields—more than six times as likely as nearly all other groups. Among those pursuing doctoral and professional degrees, Black or African American and Native Hawaiian or other Pacific Islander students were the least likely to pursue STEM degrees.
- About one-third of Hispanic or Latino and American Indian or Alaska Native students who pursued doctoral and professional degrees did so in law, the highest shares across all groups.
- Overall, 14.7 percent of all 2017 doctoral degree recipients had ever attended a community college. Nearly 30 percent of all American Indian or Alaska Native doctoral recipients had attended a community college; one-quarter of Hispanic or Latino students and 23.0 percent of Black or African American students had done so.
- Across all groups, the majority of 2017 doctoral degree recipients[8] had parents who had some level of postsecondary education. However, greater shares of American Indian or Alaska Native, Black or African American, and Hispanic or Latino students than other groups had parents who had completed only a high school credential or less.
- Large gender gaps exist for Black or African American students pursuing dental, medical, and law school, where women constitute more than 60 percent of all Black or African American students enrolled—the largest gender gaps of any group.
- Dental, medical, and law school graduates remain predominantly White. In 2018–19, 39.3 percent of dental school graduates were students of color, as were 41.4 percent of medical school graduates. Slightly less than one-third (30.6 percent) of law school graduates were students of color.

MASTER'S DEGREE RECIPIENTS

Over 2.3 million master's degrees were awarded between 2015 and 2017. Of these, 50.9 percent were earned by White students, followed by international students (17.0 percent), Black or African American students (10.4 percent), Hispanic or Latino students (7.4 percent), students of unknown racial or ethnic background (6.7 percent), Asian students (5.2 percent), students of more than one race (1.9 percent), American Indian or Alaska Native students (0.4 percent), and Native Hawaiian or other Pacific Islander students (0.2 percent).

Figure 3.1: Master's Degree Recipients, by Race and Ethnicity: Pooled 2015 to 2017



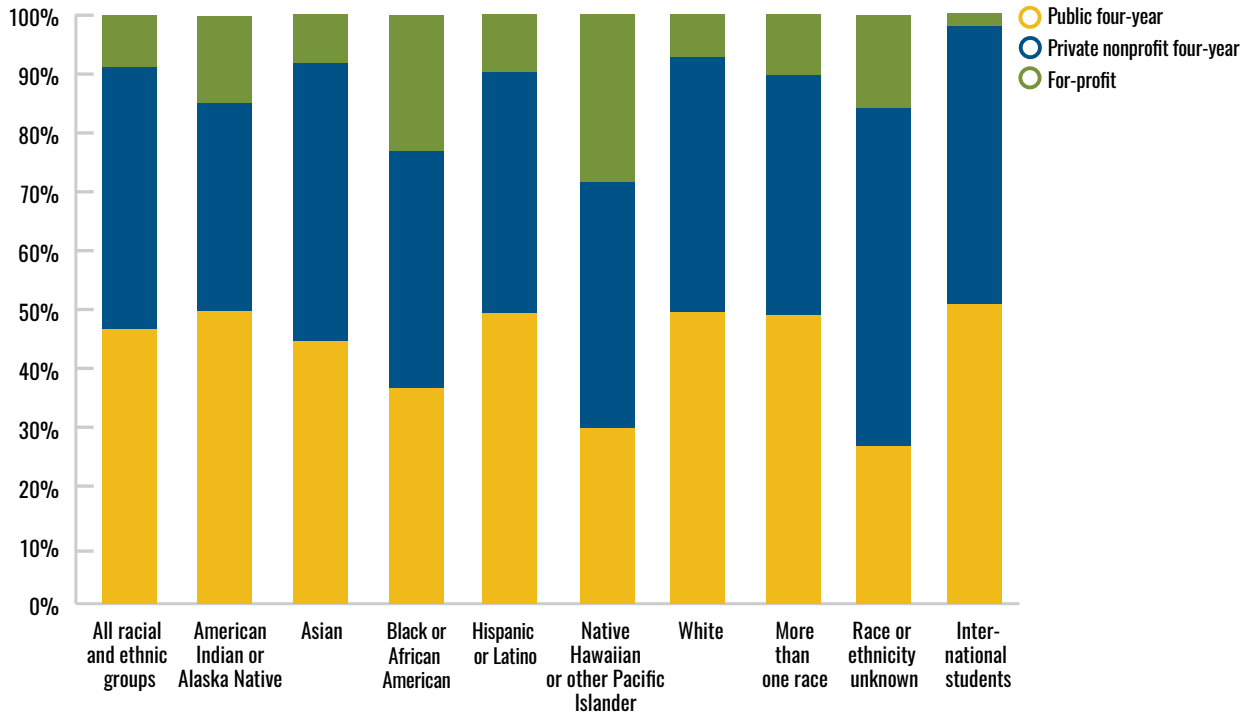
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect master's degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | Total may not add up to 100 percent due to rounding.

8 Data on level of parental education come from the Survey of Earned Doctorates, which includes only research doctoral degree recipients.

Master's Degrees Awarded, by Sector

Of all master's degrees awarded between 2015 and 2017, 46.5 percent were completed at public four-year institutions, 44.5 percent at private nonprofit four-year institutions, and 8.9 percent at for-profit institutions. Black or African American and Native Hawaiian or other Pacific Islander students were much more likely than all other groups to have completed their master's degrees at for-profit institutions.

Figure 3.2: Master's Degrees, by Sector and Race and Ethnicity: Pooled 2015 to 2017



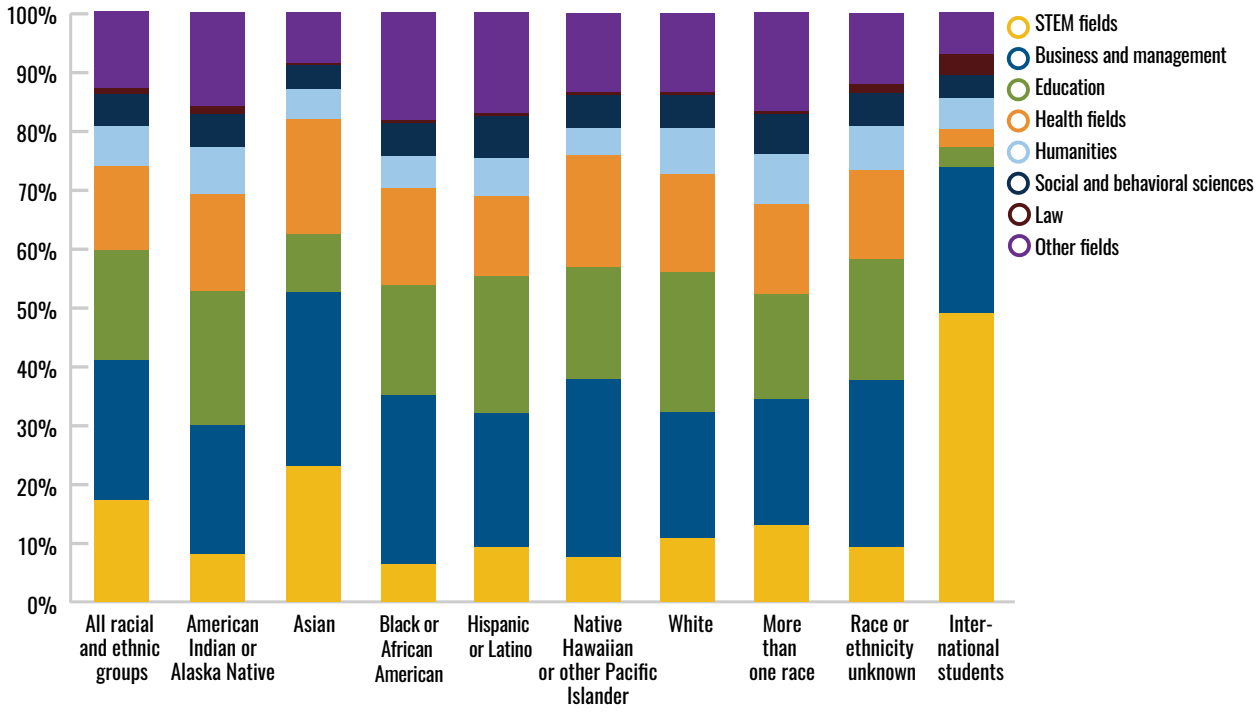
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect the total number of master's degrees awarded, pooled for 2015, 2016, and 2017. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Between 2015 and 2017, 0.3 percent of American Indian or Alaska Native students and 0.1 percent of Black or African American students completed their master's degrees at a public two-year institution.

- About half of all international students (50.8 percent), American Indian or Alaska Native students (49.6 percent), White students (49.4 percent), Hispanic or Latino students (49.3 percent), and students of more than one race (49.0 percent) earned their master's degrees at a public four-year institution, compared with 36.6 percent of Black or African American students and 29.7 percent of Native Hawaiian or other Pacific Islander students.
- American Indian or Alaska Native students were the least likely of all groups to complete their master's degrees at a private nonprofit four-year institution (35.4 percent).
- A much greater proportion of Native Hawaiian or other Pacific Islander (28.4 percent) and Black or African American (23.2 percent) students completed their master's degrees at for-profit institutions than all other groups.
- Nearly 15 percent of American Indians or Alaska Natives also completed their master's degrees at for-profit institutions, twice that of White students (7.2 percent).

Master's Degrees Awarded, by Broad Field of Study

The primary fields in which students completed master's degrees between 2015 and 2017 were business and management (23.8 percent), education (18.7 percent), and STEM fields (17.2 percent).

Figure 3.3: Field of Study for Master's Degree Recipients, by Race and Ethnicity: Pooled 2015 to 2017



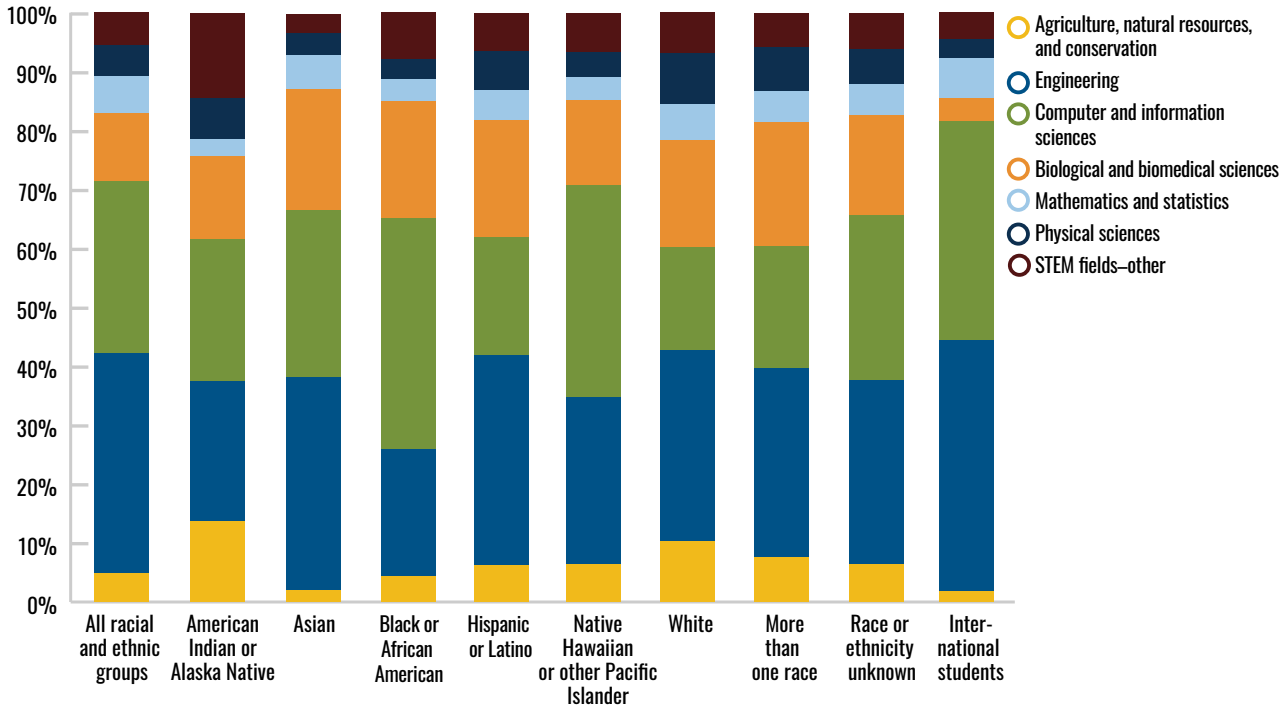
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect master's degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | STEM fields include life and physical sciences, math, engineering, and computer science.

- Nearly half of international students completed their master's degrees in STEM fields (48.9 percent), the only group for which STEM was their top field of study.
- More than one in five White (23.8 percent), Hispanic or Latino (23.2 percent), and American Indian or Alaska Native (22.9 percent) students completed their master's degrees in education, compared with 9.8 percent of Asians and 3.4 percent of international students.
- Domestic students were much more likely than international students to have completed a master's degree in health fields.

Detailed Field of Study of Master's Degree Recipients in STEM

Among all master's degrees earned in STEM fields between 2015 and 2017, the primary fields of study were engineering (37.3 percent); computer and information sciences (29.2 percent); and biological and biomedical sciences (11.6 percent).

Figure 3.4: Master's Degree Recipients in STEM Fields, by Detailed Field of Study and Race and Ethnicity: Pooled 2015 to 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect master's degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | Agriculture, natural resources, and conservation includes the following fields of study: agriculture and related sciences; natural resources and conservation. | STEM fields–other includes the following fields of study: engineering technologies/technicians; science technologies/technicians; anthropology.

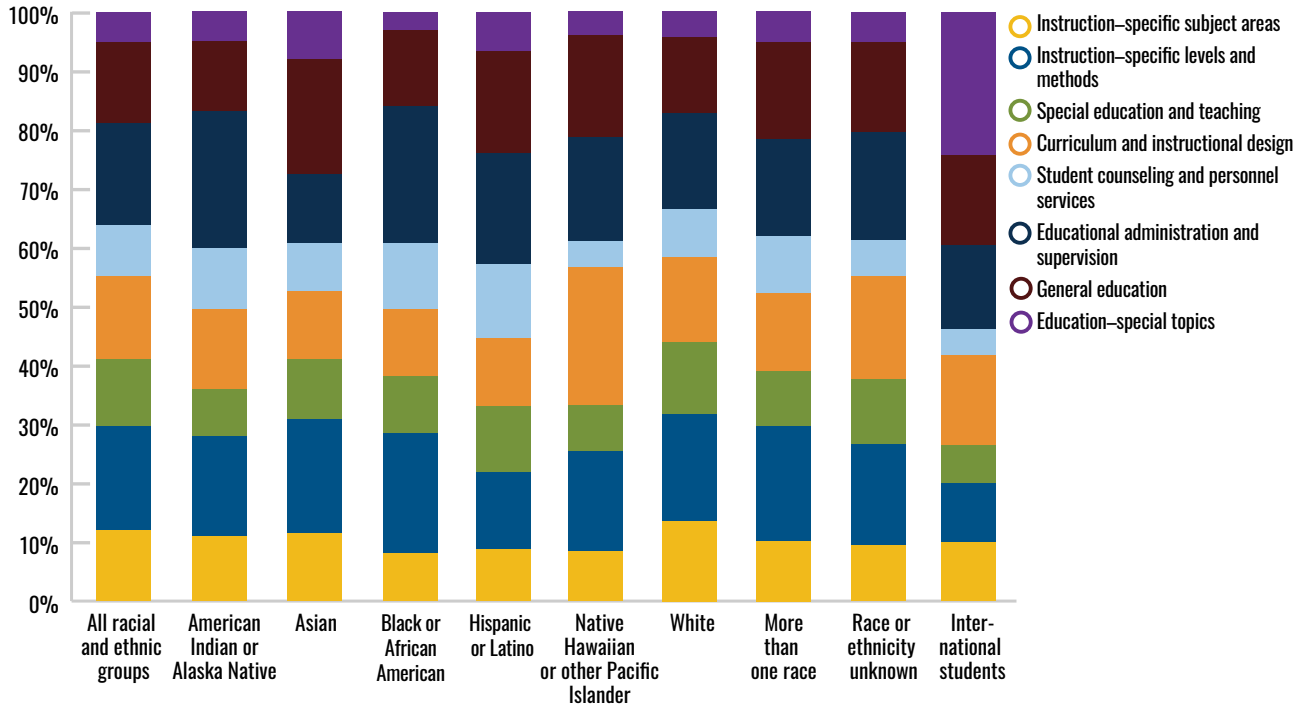
- American Indian or Alaska Native (13.7 percent) and White (10.2 percent) students were much more likely to complete their degrees in agriculture, natural resources, and conservation[9] than all other groups.
- Nearly 43 percent of international students completed their STEM master's degrees in engineering—the highest share of any group. American Indian or Alaska Native (23.8 percent) and Black or African American (21.6 percent) students were the least likely to have completed their degrees in this field.
- A larger proportion of Black or African American (39.2 percent), international (37.3 percent), and Native Hawaiian or other Pacific Islander (36.0 percent) STEM master's degree recipients completed their degrees in computer and information sciences, compared with 28.4 percent of Asians, 24.0 percent of American Indians or Alaska Natives, 20.0 percent of Hispanics or Latinos, and 17.5 percent of Whites.
- International students were much less likely to have completed their degrees in biological and biomedical sciences (3.9 percent) than domestic students.

9 Agriculture, natural resources, and conservation includes the following fields of study: agriculture and related sciences; natural resources and conservation.

Detailed Field of Study of Master's Degree Recipients in Education

The primary fields of study among master's degree recipients in education between 2015 and 2017 were instruction—specific levels and methods[10] (17.6 percent); educational administration and supervision (17.2 percent); curriculum and instructional design[11] (14.0 percent); and general education (13.8 percent).

Figure 3.5: Master's Degree Recipients in Education, by Detailed Field of Study and Race and Ethnicity: Pooled 2015 to 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect master's degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | Instruction—specific levels and methods includes the following field of study: teacher education and professional development, specific levels and methods. | Curriculum and instructional design includes the following fields of study: curriculum and instruction, and educational/instructional media design. | Education—special topics includes the following fields of study: bilingual, multilingual, and multicultural education; teaching English or French as a second or foreign language; international and comparative education; social and philosophical foundations of education; education, other; teaching assistants/aides; educational assessment, evaluation, and research. | Instruction—specific subject areas includes the following field of study: teacher education and professional development, specific subject areas.

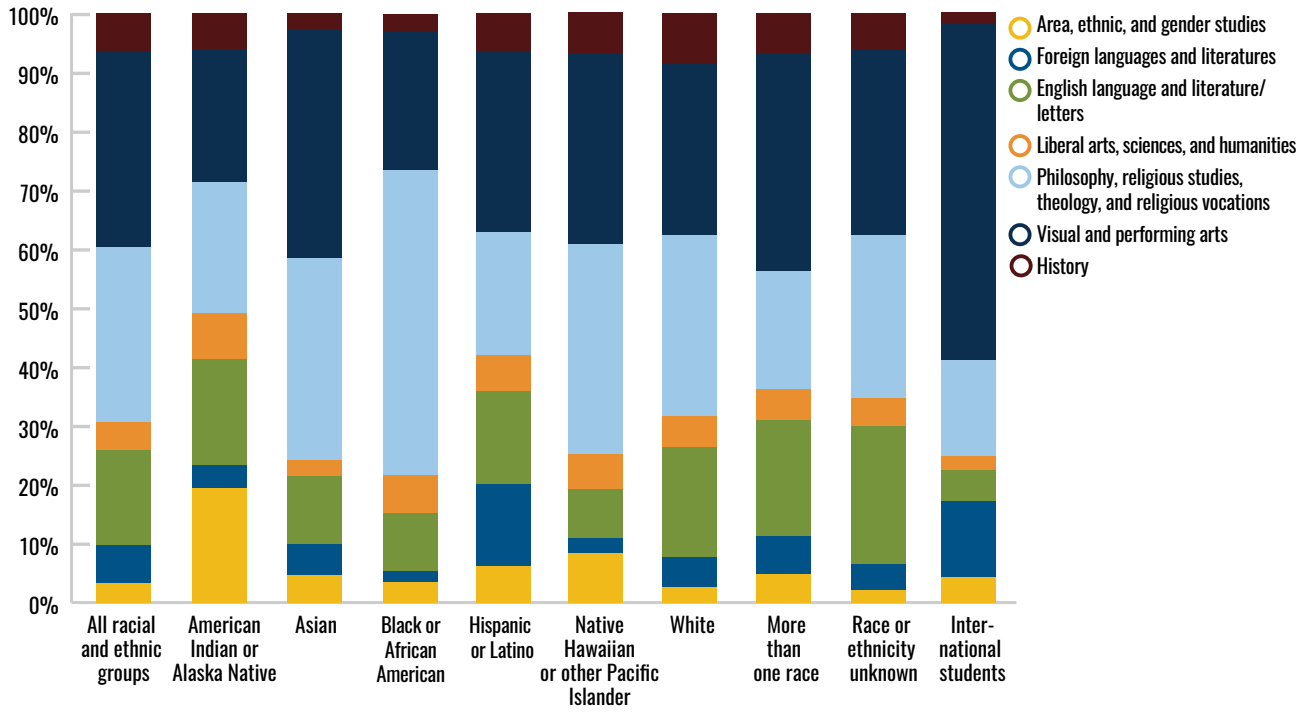
- A larger proportion of American Indian or Alaska Native (23.4 percent) and Black or African American (23.1 percent) students completed their degrees in educational administration and supervision than any other group.
- Native Hawaiian or other Pacific Islander students (23.3 percent) were twice as likely as Asian (11.6 percent), Hispanic or Latino (11.4 percent), and Black or African American (11.3 percent) students to complete their education master's degrees in curriculum and instructional design.
- A larger share of White students (12.3 percent) completed their degrees in special education and teaching than any other group.
- International students were much more likely than domestic students to complete their degrees in education—special topics[12] fields (24.4 percent).

10 Instruction—specific levels and methods includes the following field of study: teacher education and professional development, specific levels and methods.
11 Curriculum and instructional design includes the following fields of study: curriculum and instruction; educational/instructional media design.
12 Education—special topics includes the following fields of study: bilingual, multilingual, and multicultural education; teaching English or French as a second or foreign language; international and comparative education; social and philosophical foundations of education; education, other; teaching assistants/aides; educational assessment, evaluation, and research.

Detailed Field of Study of Master's Degree Recipients in Humanities

Between 2015 and 2017, the primary fields of study among master's recipients in the humanities were visual and performing arts (33.1 percent); philosophy, religious studies, theology, and religious vocations (29.6 percent); and English language and literature/letters (16.1 percent).

Figure 3.6: Master's Degree Recipients in Humanities, by Detailed Field of Study and Race and Ethnicity: Pooled 2015 to 2017



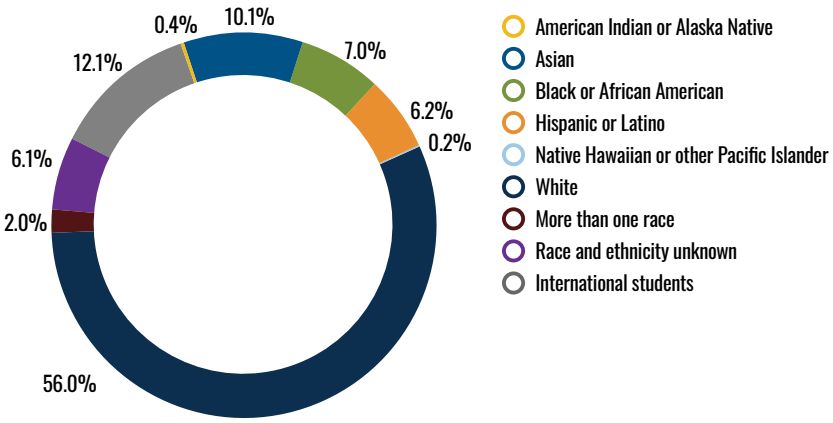
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Note: Data reflect master's degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017.

- Nearly one in five American Indians or Alaska Natives completed their humanities master's degrees in area, ethnic, and gender studies (19.4 percent), a much higher percentage than all other groups.
- Hispanic or Latino (13.8 percent) and international (12.8 percent) students were twice as likely as all other groups to have completed their degrees in foreign languages and literatures.
- The range in the share of students who completed their degrees in philosophy, religious studies, theology, and religious vocations was 16.4 percent of international students to 51.7 percent of Black or African American students.
- Over half of all international students completed their humanities master's degrees in visual and performing arts (57.1 percent)—the highest share of any group.

DOCTORAL AND PROFESSIONAL DEGREE RECIPIENTS

Over 530,000 doctoral and professional degrees were awarded between 2015 and 2017. Of these, 56.0 percent were earned by White students, followed by international students (12.1 percent), Asian students (10.1 percent), Black or African American students (7.0 percent), Hispanic or Latino students (6.2 percent), students of unknown racial or ethnic background (6.1 percent), students of more than one race (2.0 percent), American Indian or Alaska Native students (0.4 percent), and Native Hawaiian or other Pacific Islander students (0.2 percent).

Figure 3.7: Doctoral and Professional Degree Recipients, by Race and Ethnicity: Pooled 2015 to 2017

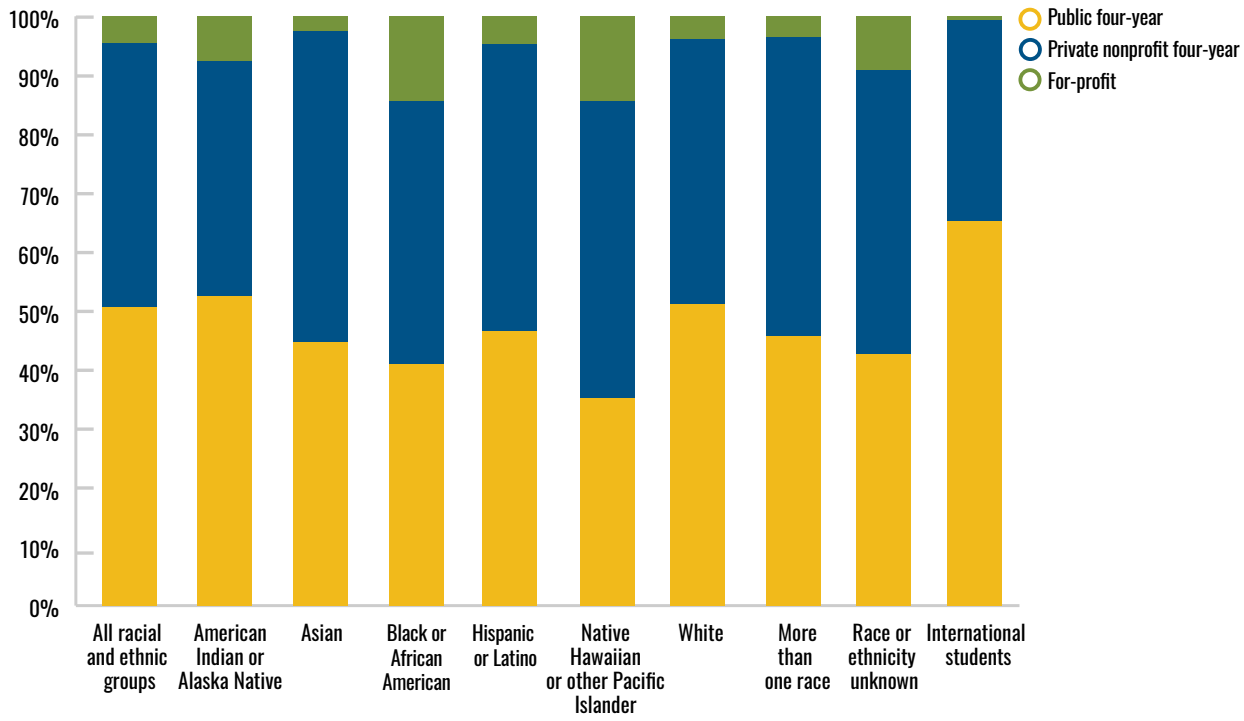


Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Note: Data reflect all doctoral degrees classified as research/scholarship, professional practice, and other doctorates earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017.

Doctoral and Professional Degrees Awarded, by Sector

Of all doctoral and professional degrees awarded between 2015 and 2017, 50.6 percent were completed at public four-year institutions, 44.9 percent at private nonprofit four-year institutions, and 4.5 percent at for-profit institutions. Black or African American and Native Hawaiian or other Pacific Islander students were much more likely than all other groups to have completed their doctoral and professional degrees at for-profit institutions.

Figure 3.8: Doctoral and Professional Degrees, by Sector and Race and Ethnicity: Pooled 2015 to 2017



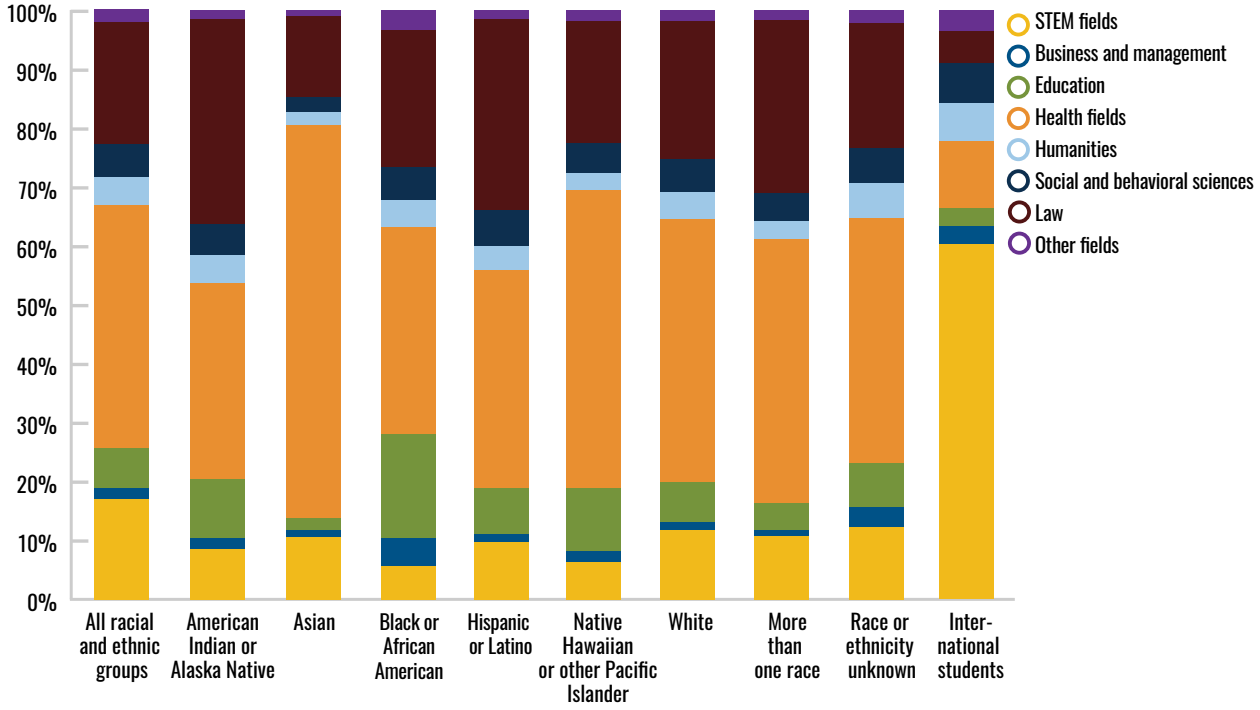
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect all research/scholarship, professional practice, and other doctoral degrees earned, pooled for 2015, 2016, and 2017. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- Over half of all international (65.2 percent), American Indian or Alaska Native (52.5 percent), and White (51.2 percent) students completed their doctoral and professional degrees at public four-year institutions.
- Over half of all Asian students (52.7 percent), students of more than one race (50.7 percent), and Native Hawaiian or other Pacific Islander students (50.4 percent) completed their doctoral and professional degrees at private nonprofit four-year institutions. In comparison, 39.8 percent of American Indian or Alaska Native and 34.2 percent of international students completed their degrees at these institutions.
- Hispanic or Latino students were slightly more likely to have completed their doctoral and professional degrees at private nonprofit four-year institutions (48.6 percent) than public four-year institutions (46.6 percent).
- A much greater proportion of Black or African American (14.4 percent) and Native Hawaiian or other Pacific Islander (14.4 percent) students completed their doctoral and professional degrees at for-profit institutions than all other groups.

Doctoral and Professional Degrees Awarded, by Broad Field of Study

The primary fields in which students completed doctoral and professional degrees between 2015 and 2017 were health fields (41.4 percent), law (20.8 percent), and STEM fields (17.0 percent).

Figure 3.9: Field of Study for Doctoral and Professional Degree Recipients, by Race and Ethnicity: Pooled 2015 to 2017



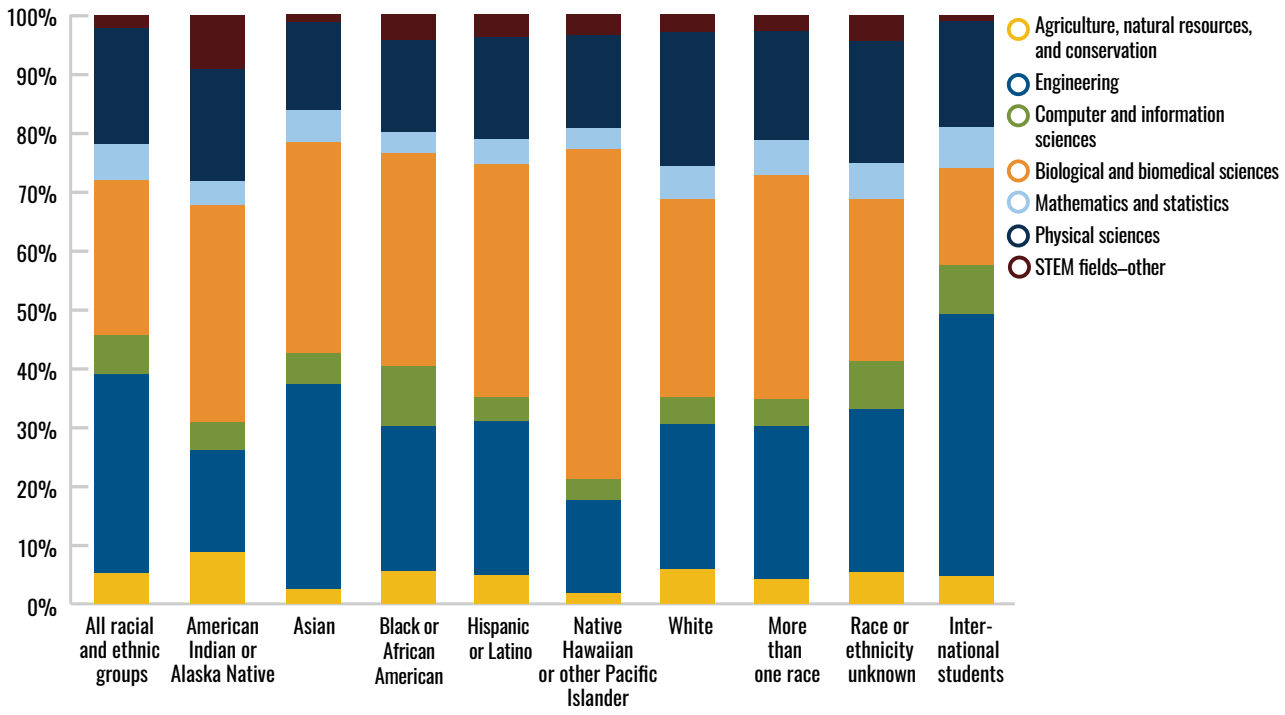
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect all research/scholarship, professional practice, and other doctoral degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | STEM fields include life and physical sciences, math, engineering, and computer science.

- The majority of international students completed their doctoral and professional degrees in STEM fields (60.2 percent) between 2015 and 2017—more than six times as likely as nearly all other groups.
- Black or African American (17.7 percent), Native Hawaiian or other Pacific Islander (10.7 percent), and American Indian or Alaska Native (10.0 percent) students were much more likely than other groups to complete their doctoral and professional degrees in education.
- Over half of all Asian (66.7 percent) and Native Hawaiian or other Pacific Islander (50.5 percent) students completed their doctoral and professional degrees in health fields, compared with 36.9 percent of Hispanic or Latino, 35.1 percent of Black or African American, 33.2 percent of American Indian or Alaska Native, and 11.3 percent of international students.
- A larger proportion of American Indian or Alaska Natives (34.9 percent), Hispanics or Latinos (32.4 percent), and students of more than one race (29.4 percent) completed their doctoral and professional degrees in law than any other group. International students were the least likely to complete their doctoral and professional degrees in law, at 5.3 percent.

Detailed Field of Study of Doctoral and Professional Degree Recipients in STEM

Among all doctoral and professional degrees earned in STEM fields between 2015 and 2017, the primary fields of study were engineering (33.9 percent), biological and biomedical sciences (26.4 percent), and physical sciences (19.6 percent).

Figure 3.10: Doctoral and Professional Degree Recipients in STEM Fields, by Detailed Field of Study and Race and Ethnicity: Pooled 2015 to 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect all research/scholarship, professional practice, and other doctoral degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | Agriculture, natural resources, and conservation includes the following fields of study: agriculture and related sciences; natural resources and conservation. | STEM fields–other includes the following fields of study: engineering technologies/technicians; science technologies/technicians; anthropology.

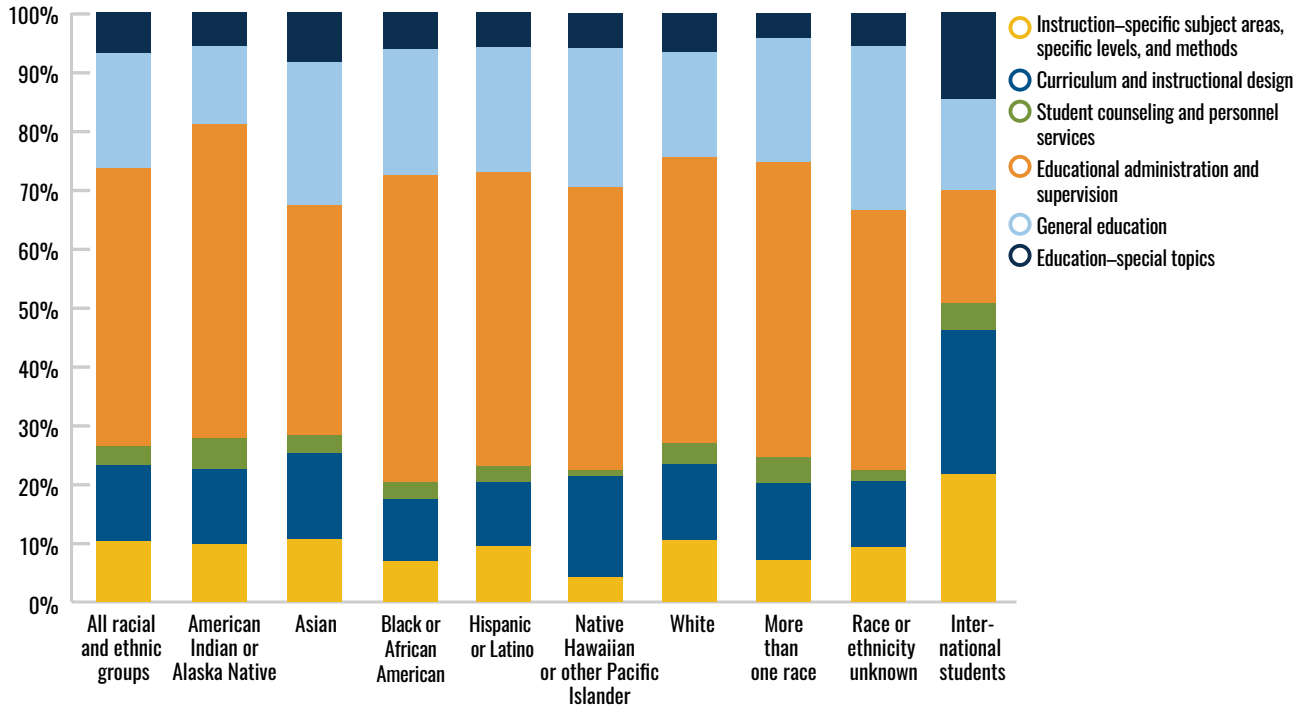
- More than one-third of international (44.4 percent) and Asian (34.7 percent) students completed their STEM doctoral and professional degrees in engineering, compared with 17.4 percent of American Indian or Alaska Native and 15.8 percent of Native Hawaiian or other Pacific Islander students.
- One in 10 Black or African American students completed their doctoral and professional degrees in computer and information sciences (10.3 percent), as did 8.4 percent of international students. The shares of other groups completing their degrees in this field were much smaller.
- Over half of all Native Hawaiian or other Pacific Islander students (56.1 percent) completed their doctoral and professional degrees in biological and biomedical sciences, as did over one-third of all other domestic students. International students were the least likely of all groups to complete their degrees in these fields (16.3 percent).
- American Indian or Alaska Native students were more than twice as likely as all other groups to complete their STEM doctoral and professional degrees in other STEM fields[13] (9.2 percent).

13 STEM fields–other includes the following fields of study: engineering technologies/technicians; science technologies/technicians; anthropology.

Detailed Field of Study of Doctoral and Professional Degree Recipients in Education

The primary fields of study among education doctoral and professional degree recipients between 2015 and 2017 were educational administration and supervision (47.1 percent); general education (19.5 percent); and curriculum and instructional design (13.0 percent).

Figure 3.11: Doctoral and Professional Degree Recipients in Education, by Detailed Field of Study and Race and Ethnicity: Pooled 2015 to 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect all research/scholarship, professional practice, and other doctoral degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | Curriculum and instructional design includes the following fields of study: curriculum and instruction; educational/instructional media design. | Education—special topics includes the following fields of study: bilingual, multilingual, and multicultural education; teaching English or French as a second or foreign language; international and comparative education; social and philosophical foundations of education; education, other; teaching assistants/aides; educational assessment, evaluation, and research. | Instruction—specific subject areas, levels, and methods includes the following fields of study: teacher education and professional development, specific subject areas; teacher education and professional development, specific levels and methods; special education and teaching.

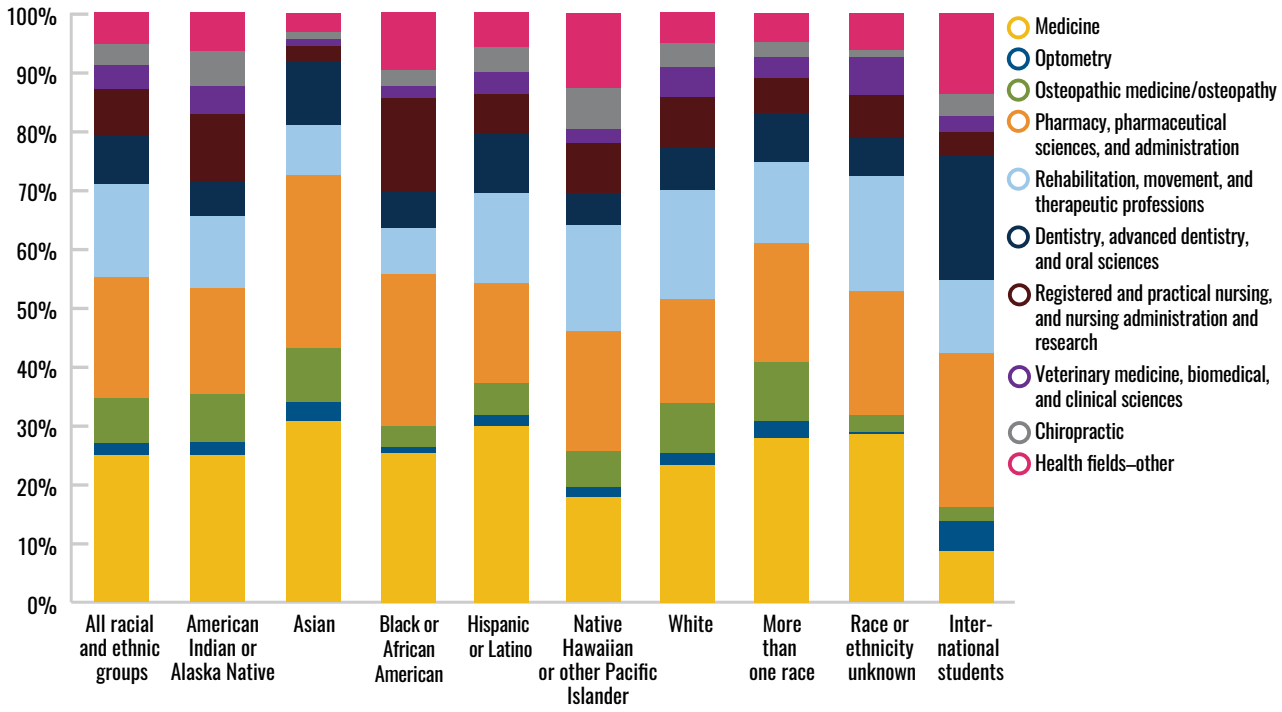
- A higher share of American Indian or Alaska Native students (53.3 percent), Black or African American students (52.1 percent), Hispanic or Latino students (50.0 percent), students of more than one race (49.9 percent), White students (48.6 percent), and Native Hawaiian or other Pacific Islander students (48.0 percent) completed their doctoral and professional degrees in educational administration and supervision than Asian (38.9 percent) and international (19.2 percent) students.
- White (17.8 percent), international (15.3 percent), and American Indian or Alaska Native (13.2 percent) students were less likely than all other groups to have completed their doctoral and professional degrees in general education.
- International students were more than twice as likely as domestic students to have completed their education doctoral and professional degrees in instruction—specific subject areas, specific levels, and methods.[14]
- Nearly one-quarter of all international students (24.5 percent) completed their doctoral and professional degrees in curriculum and instructional design. The shares of domestic students completing their degrees in these fields were much smaller.

14 Instruction–specific subject areas, levels, and methods includes the following fields of study: teacher education and professional development, specific subject areas; teacher education and professional development, specific levels and methods; special education and teaching.

Detailed Field of Study of Doctoral and Professional Degree Recipients in Health Fields

Between 2015 and 2017, the primary fields of study among students who completed doctoral and professional degrees in health fields were medicine (24.9 percent); pharmacy, pharmaceutical sciences, and administration (20.5 percent); and rehabilitation, movement, and therapeutic professions (15.9 percent).

Figure 3.12: Doctoral and Professional Degree Recipients in Health Fields, by Detailed Field of Study and Race and Ethnicity: Pooled 2015 to 2017



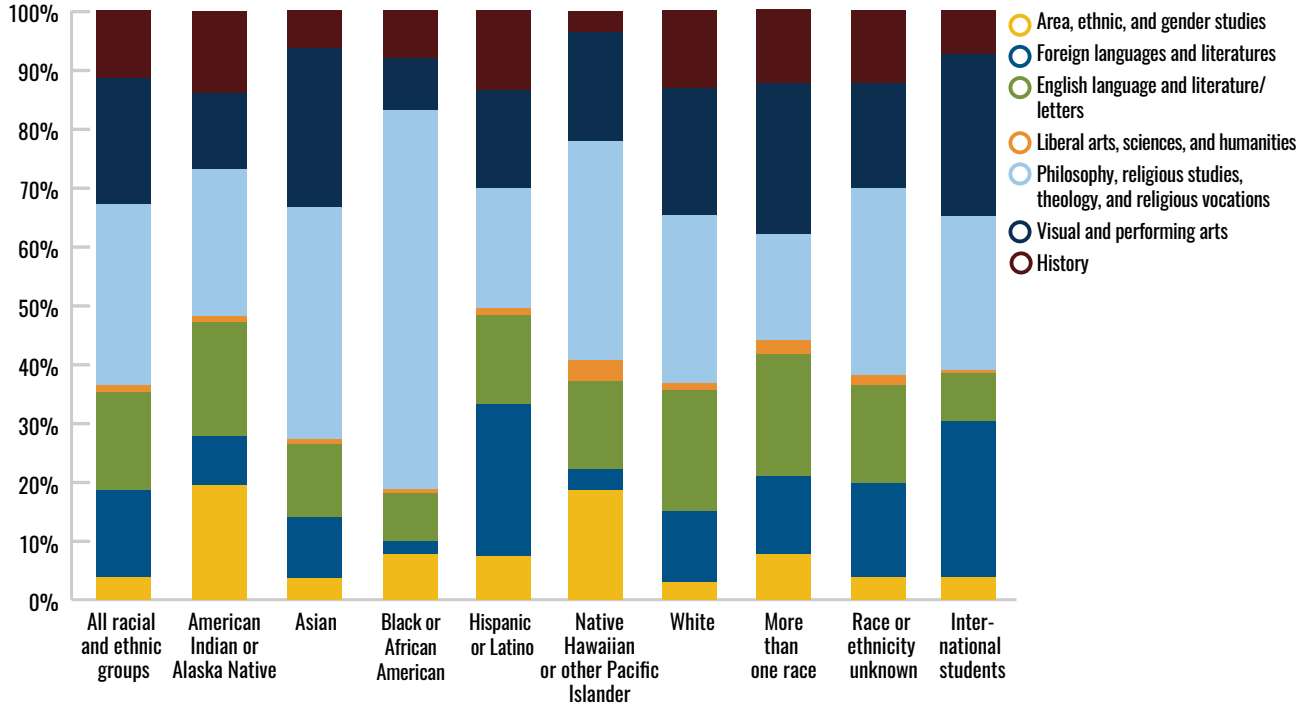
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect all research/scholarship, professional practice, and other doctoral degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | Health fields—other includes the following fields of study: allied health; communication disorders sciences and services; dietetics and clinical nutrition services; alternative and complementary medicine; health professions and related clinical sciences, other; public health; health and medical administrative services; podiatric medicine/podiatry.

- About three in 10 Asian (30.7 percent) and Hispanic or Latino (29.9 percent) students completed their health fields doctoral and professional degrees in medicine, compared with only 8.7 percent international students.
- Asian (8.4 percent) and Black or African American (7.9 percent) students were much less likely than all other groups to have completed their doctoral and professional degrees in rehabilitation, movement, and therapeutic professions.
- A higher share of Black or African American (16.1 percent) and American Indian or Alaska Native (11.4 percent) students completed their doctoral and professional degrees in registered and practical nursing, and nursing administration and research than any other group.
- Roughly one in five international students (21.0 percent) completed their doctoral and professional degrees in dentistry, advanced dentistry, and oral sciences, as did 11.0 percent of Asian students and 10.0 percent of Hispanic or Latino students. The shares of other groups to complete a doctoral and professional degree in these fields were much smaller.

Detailed Field of Study of Doctoral and Professional Degree Recipients in Humanities

Among doctoral and professional degree recipients who completed their degrees in the humanities between 2015 and 2017, the primary fields of study were philosophy, religious studies, theology, and religious vocations (30.7 percent); visual and performing arts (21.4 percent); and English language and literature/letters (16.6 percent).

Figure 3.13: Doctoral and Professional Degree Recipients in Humanities, by Detailed Field of Study and Race and Ethnicity: Pooled 2015 to 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Note: Data reflect all research/scholarship, professional practice, and other doctoral degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017.

- American Indian or Alaska Native (19.4 percent) and Native Hawaiian or other Pacific Islander (18.5 percent) students were more than twice as likely as all other groups to complete their humanities doctoral and professional degrees in area, ethnic, and gender studies.
- International (26.5 percent) and Hispanic or Latino (25.9 percent) students were more than twice as likely as all other groups to complete their doctoral and professional degrees in foreign languages and literatures.
- The majority of Black or African American students completed their doctoral and professional degrees in philosophy, religious studies, theology, and religious vocations (64.2 percent)—the highest share of any group.
- A higher share of international students (27.5 percent), Asian students (27.1 percent), and students of more than one race (25.7 percent) completed their doctoral and professional degrees in visual and performing arts than Black or African American students (8.9 percent).

EDUCATIONAL PATHWAYS OF DOCTORAL DEGREE RECIPIENTS

This section utilizes data from the Survey of Earned Doctorates (SED) to examine the educational pathways of doctoral degree recipients. Started in 1957, the SED is an annual survey of individuals receiving a research doctorate from accredited institutions in the United States in a given academic year. The SED collects information related to the educational pathways of research doctoral degree recipients, demographic characteristics, and plans following graduation. The SED is sponsored by the National Center for Science and Engineering Statistics with the National Science Foundation, the National Institutes of Health, the Department of Education, and the National Endowment for the Humanities (National Science Foundation, n.d.). The data presented in this report reflect research doctoral degree recipients in 2017.

Parental Educational Attainment Level

The majority of 2017 doctoral degree recipients had parents who had completed some level of postsecondary education. Overall, doctoral degree recipients' fathers had higher levels of educational attainment than their mothers. Roughly 62 percent of doctoral degree recipients had fathers who had completed a bachelor's degree or higher. A little more than half of all doctoral degree recipients had mothers who had completed a bachelor's degree or higher (54.2 percent).

Table 3.1: Educational Attainment of 2017 Doctoral Degree Recipients' Parents, by Race and Ethnicity

	High School or Less	Some College	Bachelor's Degree	Advanced Degree
FATHER'S LEVEL OF EDUCATIONAL ATTAINMENT				
All doctoral degree recipients	24.0%	13.9%	27.0%	35.1%
American Indian or Alaska Native	34.8%	22.8%	25.0%	17.4%
Asian	21.8%	9.2%	23.0%	46.1%
Black or African American	40.1%	20.1%	16.5%	23.3%
Hispanic or Latino	35.8%	16.7%	21.1%	26.5%
White	18.7%	14.6%	26.0%	40.8%
More than one race	18.0%	14.9%	20.6%	46.6%
Other race or race not reported	15.9%	11.9%	27.8%	44.4%
Ethnicity not reported	17.4%	12.8%	31.4%	38.4%
International students	29.2%	12.5%	32.1%	26.3%
MOTHER'S LEVEL OF EDUCATIONAL ATTAINMENT				
All doctoral degree recipients	28.4%	17.3%	28.6%	25.6%
American Indian or Alaska Native	26.9%	26.9%	24.7%	21.5%
Asian	29.1%	13.0%	31.3%	26.6%
Black or African American	34.0%	24.6%	19.4%	22.1%
Hispanic or Latino	38.1%	19.6%	21.6%	20.7%
White	19.2%	19.2%	29.3%	32.4%
More than one race	20.8%	19.3%	25.7%	34.2%

	High School or Less	Some College	Bachelor's Degree	Advanced Degree
Other race or race not reported	17.3%	14.2%	32.7%	35.8%
Ethnicity not reported	24.1%	16.1%	27.6%	32.2%
International students	41.0%	13.9%	29.6%	15.5%

Source: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2017
Notes: Data for individual racial and ethnic categories include all U.S. citizens and permanent residents. Temporary visa holders are categorized as international students. | Totals include only doctoral degree recipients who reported parental education. | Some college includes those who attended college, but did not earn a bachelor's degree. | Totals may not add to 100 percent due to rounding.

- Over one-third of all Black or African American (40.1 percent), Hispanic or Latino (35.8 percent), and American Indian or Alaska Native (34.8 percent) doctoral degree recipients' fathers had attained only a high school credential or less. Comparatively, 18.7 percent of White doctoral degree recipients had fathers who had attained only a high school credential or less.
- Over one-third of all international (41.0 percent), Hispanic or Latino (38.1 percent), and Black or African American (34.0 percent) doctoral degree recipients' mothers had attained only a high school credential or less, compared with 19.2 percent of White doctoral degree recipients.
- Nearly half of all Asian doctoral degree recipients' fathers had attained an advanced degree (46.1 percent). Roughly one-quarter of all Asian doctoral degree recipients' mothers had attained an advanced degree (26.6 percent). This was the largest percentage point difference between father and mother educational attainment across all groups (19.5 percentage points).

Pre-doctoral Postsecondary Education

COMMUNITY COLLEGE ENROLLMENT

Overall, 14.7 percent of all 2017 doctoral degree recipients had ever attended a community college. By broad field of study, doctoral degree recipients in education were the most likely to have ever attended a community college (21.7 percent), followed by life sciences (16.5 percent), and psychology and social sciences (16.3 percent). Engineering doctoral degree recipients were the least likely to have ever attended a community college (10.1 percent).

Table 3.2: Percentage of 2017 Doctoral Degree Recipients Who Had Ever Attended a Community College, by Broad Field of Study and Race and Ethnicity

	All Doctoral Degrees	Education	Engineering	Humanities and Arts	Life Sciences	Mathematics and Computer Sciences	Physical Sciences and Earth Sciences	Psychology and Social Sciences	Other Fields
All doctoral degree recipients	14.7%	21.7%	10.1%	15.4%	16.5%	10.5%	13.3%	16.3%	14.0%
American Indian or Alaska Native	29.4%	50.0%	‡	‡	44.0%	0.0%	‡	19.2%	0.0%
Asian	12.9%	18.8%	11.7%	14.9%	14.4%	11.2%	12.3%	11.3%	8.6%
Black or African American	23.0%	26.1%	21.9%	16.2%	22.5%	14.3%	26.6%	22.0%	24.4%
Hispanic or Latino	25.5%	32.6%	22.4%	25.2%	27.4%	24.1%	19.9%	24.7%	20.0%
White	20.6%	24.4%	17.9%	17.9%	21.7%	19.8%	19.5%	21.0%	22.0%
More than one race	23.2%	24.1%	20.2%	24.3%	21.3%	22.0%	20.5%	25.4%	35.3%
Other race or race not reported	15.3%	21.6%	‡	‡	11.2%	17.5%	‡	19.1%	8.0%
Ethnicity not reported	3.8%	4.1%	2.1%	6.7%	4.9%	2.9%	1.8%	4.1%	2.0%
International students	5.1%	6.9%	5.3%	4.2%	6.3%	4.6%	4.9%	3.8%	3.8%
Citizenship unknown	2.7%	4.6%	0.5%	3.3%	3.4%	3.0%	1.4%	2.9%	3.4%

Source: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2017
Notes: Data for individual racial and ethnic categories include all U.S. citizens and permanent residents. Temporary visa holders are categorized as international students. | Life sciences includes agricultural sciences and natural sciences, biological and biomedical sciences, and health sciences. | Other fields includes other non-science and engineering fields not shown separately. | Percentages based on total number of doctoral degree recipients. | ‡ Estimate suppressed. Reporting standards not met.

- American Indians or Alaska Natives were the most likely to have attended a community college (29.4 percent), followed by Hispanic or Latino (25.5 percent) and Black or African American (23.0 percent) students.[15]
- Across all fields of study, a very small share of international[16] doctoral degree recipients had attended a community college.
- Among math and computer science doctoral degree recipients, Hispanic or Latino students (24.1 percent) and individuals of more than one race (22.0 percent) were more than twice as likely as all graduates to have attended a community college (10.5 percent).
- Among engineering doctoral degree recipients, Hispanic or Latino students (22.4 percent), Black or African American students (21.9 percent), and students of more than one race (20.2 percent) were twice as likely to have attended a community college as all doctoral degree recipients (10.1 percent).

15 The groups other race or race not reported and ethnicity not reported are included among the racial and ethnic categories within the Survey of Earned Doctorates (SED) data, which are used in this chapter of the report. As a result, tables and figures include this group alongside other racial and ethnic categories.

16 The SED includes several categories in which students can identify their citizenship status. In the SED data presented in this chapter, individual racial and ethnic categories include all U.S. citizens and permanent residents. Temporary visa holders are categorized as international students.

BACHELOR'S DEGREE COMPLETION

More than half of all doctoral degree recipients in 2017 had previously completed a bachelor's degree in a field of study related to their doctorate (54.7 percent). By broad field of study, engineering doctoral degree recipients were the most likely to have completed a bachelor's degree in a related field of study (76.9 percent). Education doctoral degree recipients were the least likely to have completed a bachelor's degree in a related field (23.7 percent).

Table 3.3: 2017 Doctoral Degree Recipients Who Earned a Bachelor's Degree Related to Their Doctorate, by Broad Field of Study and Race and Ethnicity

	All Doctoral Degrees	Education	Engineering	Humanities and Arts	Life Sciences	Mathematics and Computer Sciences	Physical Sciences and Earth Sciences	Psychology and Social Sciences	Other Fields
All doctoral degree recipients	54.7%	23.7%	76.9%	51.5%	48.5%	61.5%	68.8%	51.9%	34.9%
American Indian or Alaska Native	47.7%	36.4%	60.0%	43.8%	68.0%	‡	‡	34.6%	‡
Asian	52.9%	18.3%	77.6%	47.0%	46.7%	52.9%	62.2%	49.1%	29.0%
Black or African American	39.4%	17.8%	69.8%	42.6%	41.2%	65.3%	66.0%	47.1%	32.5%
Hispanic or Latino	51.0%	12.7%	82.2%	52.1%	50.0%	62.0%	67.6%	54.2%	34.8%
White	57.4%	25.3%	79.2%	57.3%	52.4%	68.7%	75.0%	60.5%	38.6%
More than one race	59.4%	20.5%	75.4%	59.1%	54.9%	‡	75.9%	66.8%	‡
Other race or race not reported	32.9%	13.5%	34.8%	39.0%	29.0%	‡	‡	30.9%	‡
Ethnicity not reported	6.7%	4.1%	10.4%	7.8%	3.8%	10.0%	10.5%	6.4%	2.0%
International students	63.0%	42.0%	81.8%	51.7%	50.2%	64.0%	69.1%	46.4%	41.5%
Citizenship unknown	13.7%	8.3%	30.6%	8.1%	9.9%	19.3%	13.9%	8.8%	9.5%

Source: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2017
Notes: Data for individual racial and ethnic categories include all U.S. citizens and permanent residents. Temporary visa holders are categorized as international students. | Life sciences includes agricultural sciences and natural sciences, biological and biomedical sciences, and health sciences. | Other fields includes other non-science and engineering fields not shown separately. | A bachelor's degree is counted as "in same field as doctorate" if the fields of study of the doctorate recipient's first or most recent bachelor's degree and doctoral degree are both in the same major field category, except for engineering and education fields where broad field categories need to be the same. See Survey of Earned Doctorates technical notes for a listing of major fields and their constituent subfields based on the National Center for Science and Engineering Statistics' field of study taxonomy. | ‡ Estimate suppressed. Reporting standards not met.

- Over half of all international students (63.0 percent), students of more than one race (59.4 percent), Whites (57.4 percent), Asians (52.9 percent), and Hispanics or Latinos (51.0 percent) completed a bachelor's degree in a field related to their doctoral degrees. In contrast, 47.7 percent of American Indian or Alaska Native students and 39.4 percent of Black or African American students completed a bachelor's degree in a related field.
- Among engineering doctoral degree recipients, 82.2 percent of Hispanic or Latino students and 81.8 percent of international students completed a bachelor's degree in a related field—the highest shares of any group.
- Less than one in five Asian (18.3 percent), Black or African American (17.8 percent), and Hispanic or Latino (12.7 percent) education doctoral degree recipients completed a bachelor's degree in a related field, compared with 42.0 percent of international and 36.4 percent of American Indian or Alaska Native students.

- Roughly three-quarters of individuals of more than one race (75.9 percent) and White (75.0 percent) doctoral degree recipients in physical sciences and earth sciences completed a bachelor's degree in a related field, compared with 68.8 percent of all doctoral degree recipients in this field.

MASTER'S DEGREE COMPLETION

More than half of all doctoral degree recipients in 2017 had previously completed a master's degree in a field of study related to their doctorate (51.1 percent). The remaining 48.9 percent of doctoral degree recipients either earned no master's degree or a master's degree in an unrelated field. By broad field of study, doctoral degree recipients in engineering (62.8 percent) and the humanities and arts (62.5 percent) were most likely to have completed a master's degree in a related field of study. Life sciences doctoral degree recipients were the least likely to have completed a master's degree in a related field (32.2 percent).

Table 3.4: 2017 Doctoral Degree Recipients Who Earned a Master's Degree Related to Their Doctorate, by Broad Field of Study and Race and Ethnicity

	All Doctoral Degrees	Education	Engineering	Humanities and Arts	Life Sciences	Mathematics and Computer Sciences	Physical Sciences and Earth Sciences	Psychology and Social Sciences	Other Fields
All doctoral degree recipients	51.1%	53.7%	62.8%	62.5%	32.2%	57.1%	42.4%	59.1%	53.4%
American Indian or Alaska Native	43.1%	‡	50.0%	56.3%	36.0%	‡	‡	46.2%	‡
Asian	46.6%	56.7%	60.4%	64.1%	28.9%	48.6%	37.3%	55.3%	50.0%
Black or African American	49.3%	52.9%	66.3%	58.1%	36.0%	61.2%	27.7%	50.8%	56.9%
Hispanic or Latino	51.8%	54.4%	65.7%	62.8%	28.4%	67.1%	38.4%	63.1%	59.3%
White	53.4%	58.4%	60.2%	69.1%	30.9%	61.8%	42.4%	67.1%	59.6%
More than one race	52.9%	61.4%	57.9%	75.7%	25.5%	70.0%	42.0%	71.7%	60.8%
Other race or race not reported	35.0%	‡	37.9%	46.8%	20.6%	‡	‡	50.0%	‡
Ethnicity not reported	6.9%	13.3%	6.9%	8.9%	3.3%	8.6%	5.3%	6.4%	5.9%
International students	58.5%	57.8%	71.2%	63.6%	41.3%	61.0%	49.6%	60.5%	60.2%
Citizenship unknown	5.5%	7.1%	7.6%	3.6%	4.7%	8.4%	1.9%	4.6%	6.4%

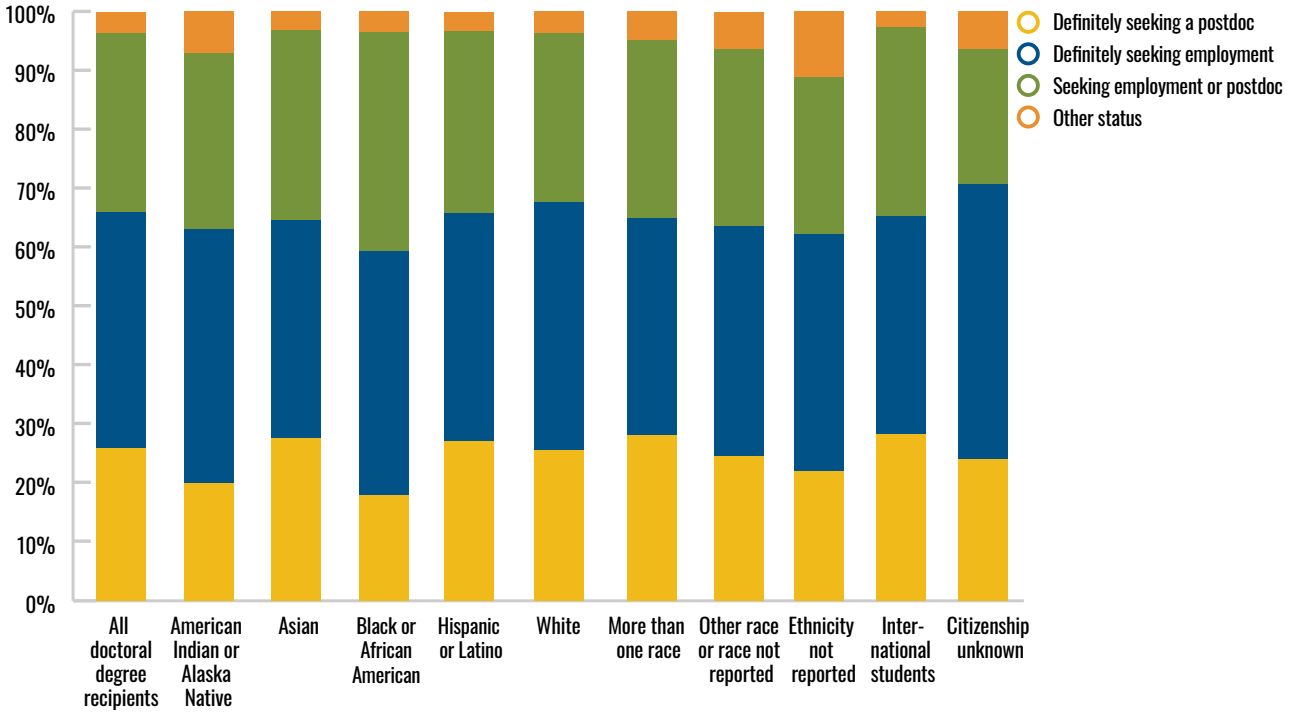
Source: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2017
Notes: Data for individual racial and ethnic categories include all U.S. citizens and permanent residents. Temporary visa holders are categorized as international students. | Life sciences includes agricultural sciences and natural sciences, biological and biomedical sciences, and health sciences. | Other fields includes other non-science and engineering fields not shown separately. | A master's degree is counted as "related master's" if the fields of study of doctorate recipient's first or most recent master's degree and doctoral degree are both in the same major field category, except for engineering and education fields where broad field categories need to be the same. See the Survey of Earned Doctorates technical notes for a listing of major fields and their constituent subfields based on the National Center for Science and Engineering Statistics' field of study taxonomy. | Percentages based on total number of doctorate recipients. | ‡ Estimate suppressed. Reporting standards not met.

- Over half of all international students (58.5 percent), White students (53.4 percent), students of more than one race (52.9 percent), and Hispanic or Latino students (51.8 percent) had previously earned a master's degree in a field related to their doctoral degrees, compared with 49.3 percent of Black or African American, 46.6 percent of Asian, and 43.1 percent of American Indian or Alaska Native students.
- Over 75 percent of students of more than one race who completed a doctoral degree in the humanities and arts earned a master's degree in a related field, compared with 62.5 percent of all doctoral degree recipients in these fields, a difference of 13.2 percentage points.
- Among mathematics and computer sciences doctoral degree recipients, individuals of more than one race (70.0 percent) and Hispanics or Latinos (67.1 percent) were the most likely to have earned a master's degree in a related field.
- Among life sciences doctoral degree recipients, international (41.3 percent), American Indian or Alaska Native (36.0 percent), and Black or African American (36.0 percent) students were more likely than all other groups to have completed a master's degree in a related field.

Postgraduate Plans

Among all 2017 doctoral degree recipients, 40.2 percent reported they planned to seek employment after graduation and 25.8 percent reported they would seek a postdoc.[17] An additional 30.3 percent reported they would seek either employment or study, and 3.6 percent reported some other plan following graduation.

Figure 3.14: Postgraduate Plans of 2017 Doctoral Degree Recipients, by Race and Ethnicity



Source: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2017
Notes: A "postdoc" is a temporary position primarily for gaining additional education and training in research, awarded in academe, industry, government, or a nonprofit organization. | Data for individual racial and ethnic categories include all U.S. citizens and permanent residents. Temporary visa holders are categorized as international students.

17 A "postdoc" is a temporary position awarded in academe, industry, government, or a nonprofit organization, primarily for gaining additional education and training in research.

- American Indian or Alaska Native (43.0 percent), White (42.0 percent) and Black or African American (41.5 percent) doctoral degree recipients were more likely than other groups to report they would definitely seek employment after graduation.
- Over one-quarter of international students (28.2 percent), students of more than one race (28.1 percent), Asian students (27.5 percent), Hispanic or Latino students (27.1 percent), and White students (25.6 percent) reported they would definitely seek a postdoc.
- American Indian or Alaska Native (20.0 percent) and Black or African American (17.9 percent) doctoral degree recipients were the least likely of all groups to report they definitely planned to seek a postdoc.

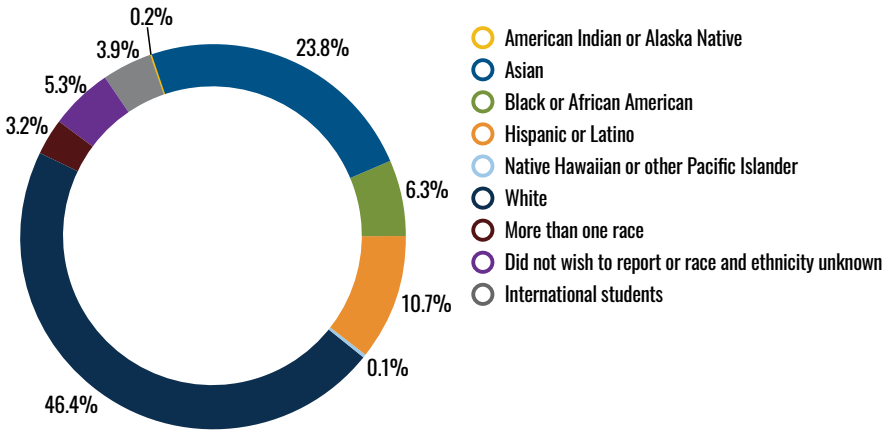
PROFESSIONAL DEGREE PROGRAMS

This section examines the profile of students applying to, enrolling in, and completing doctorates in three professional degree programs: dentistry, law, and medicine. Data on dental school applicants, enrollment, and completions came from the American Dental Education Association and the American Dental Association. The Association of American Medical Colleges provided data on medical school applicants, enrollment, and graduates. Data on law school applicants, enrollment, and completions come from AccessLex.

Dental School

Of the over 11,200 dental school applicants in 2018, 46.4 percent were White, 23.8 percent were Asian, 10.7 percent were Hispanic or Latino, 6.3 percent were Black or African American, 3.9 percent were international, 3.2 percent were of more than one race, 0.2 percent were American Indian or Alaska Native, and 0.1 percent were Native Hawaiian or other Pacific Islander. An additional 5.3 percent were of unknown racial or ethnic backgrounds.

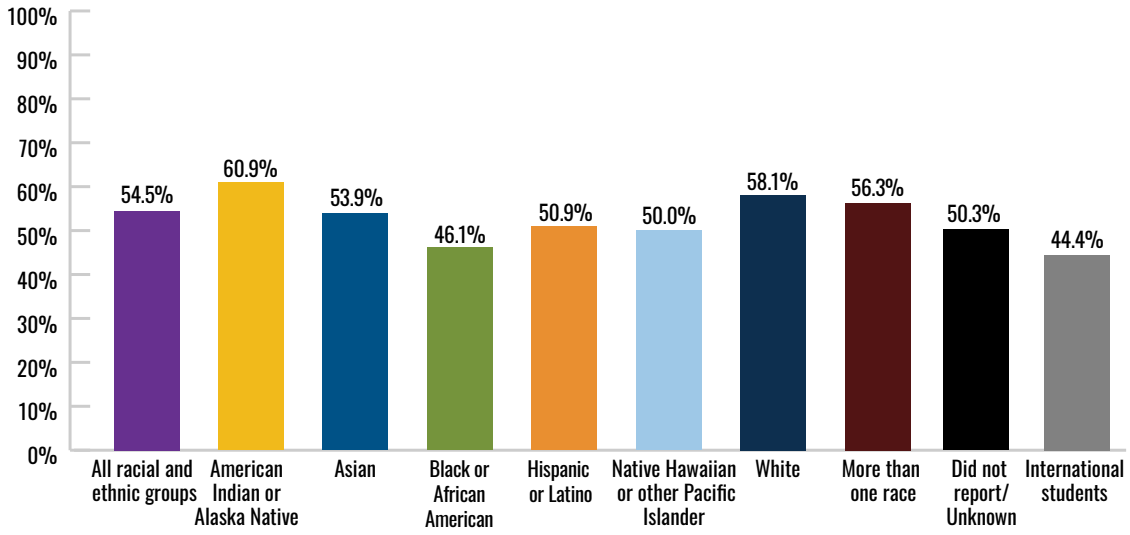
Figure 3.15: Dental School Applicants, by Race and Ethnicity: 2018 Entering Class



Source: American Dental Education Association, U.S. Dental School Applicants and Enrollees, 2018 Entering Class
Note: Total may not add up to 100 percent due to rounding.

In 2018, there were over 6,100 applicants admitted into dental schools. The enrollment rate[18] of all 2018 dental school applicants was 54.5 percent. Overall, Whites had higher enrollment rates than most other groups.

Figure 3.16: Enrollment Rate of Dental School Applicants, by Race and Ethnicity: 2018 Entering Class



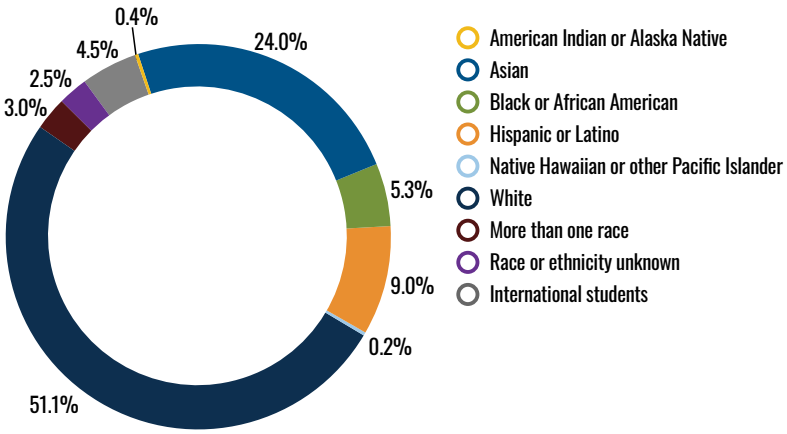
Source: American Dental Education Association, U.S. Dental School Applicants and Enrollees, 2018 Entering Class

- Roughly 58 percent of Whites who applied to dental school enrolled, as did 56.3 percent of individuals of more than one race, 53.9 percent of Asians, 50.9 percent of Hispanics or Latinos, and 50.0 percent of Native Hawaiians or other Pacific Islanders.
- Black or African American (46.1 percent) and international (44.4 percent) students were the only groups among whom less than half of all applicants enrolled in dental school.
- The enrollment rate of American Indians or Alaska Natives who applied to dental school in 2018 was 60.9 percent—the highest of any group. While the enrollment rate of this group is high, only 23 applicants identified as American Indian or Alaska Native.

18 Enrollment rate measures the proportion of dental school applicants who enrolled in a program as first-time students in the entering class of 2018.

In 2018–19, over 25,000 students were enrolled in dental education. Of these, the majority were White (51.5 percent), 24.0 percent were Asian, 9.0 percent were Hispanic or Latino, 5.3 percent were Black or African American, 4.5 percent were international, 3.0 percent were of more than one race, 0.4 percent were American Indian or Alaska Native, and 0.2 percent were Native Hawaiian or other Pacific Islander. An additional 2.5 percent were of unknown racial or ethnic backgrounds.

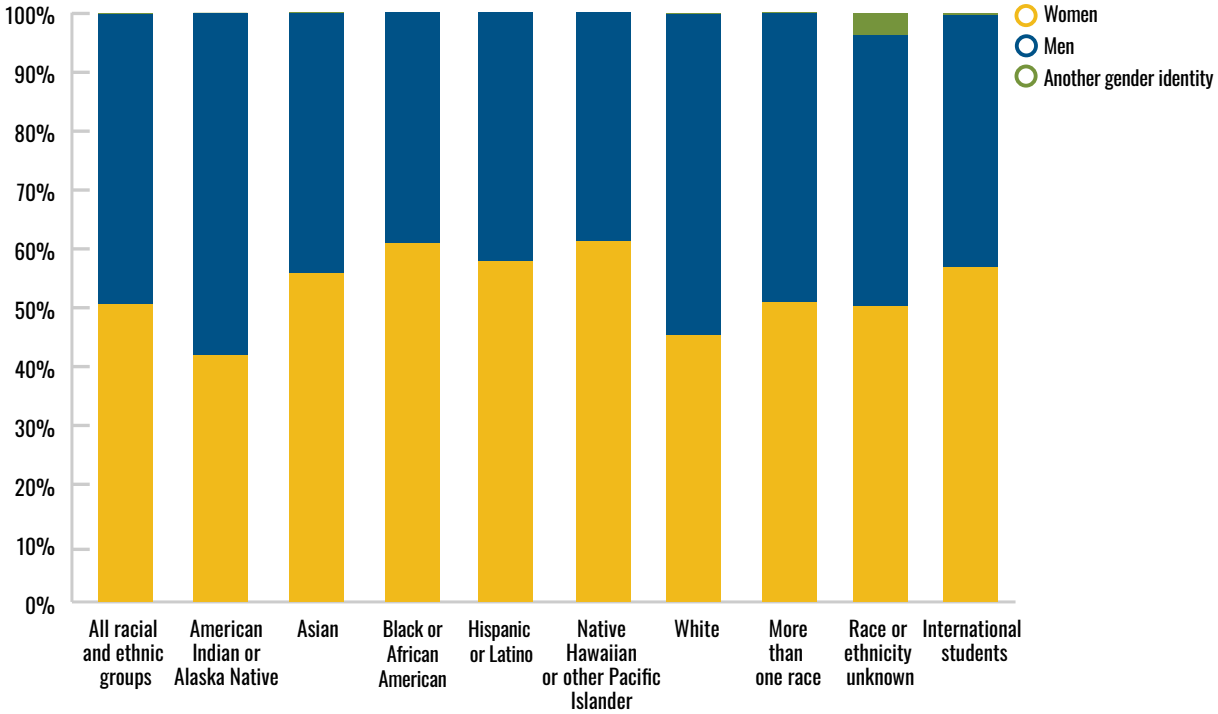
Figure 3.17: Dental School Enrollment, by Race and Ethnicity: 2018–19



Source: American Dental Association, Health Policy Institute, 2018–19 Survey of Dental Education

In 2018–19, 50.5 percent of students enrolled in dental education identified as women, 49.2 percent identified as men, and 0.2 percent had another gender identity. This pattern was similar across most groups, with the exception of American Indians or Alaska Natives and Whites, among whom the majority of students identified as men.

Figure 3.18: Dental School Enrollment, by Gender and Race and Ethnicity: 2018–19

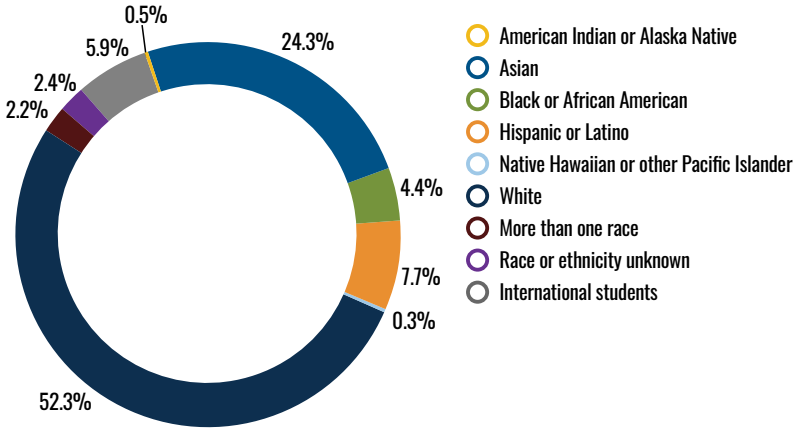


Source: American Dental Association, Health Policy Institute, 2018–19 Survey of Dental Education

- More than six in 10 Native Hawaiian or other Pacific Islander (61.1 percent) and Black or African American (60.8 percent) students in dental education identified as women—the highest shares of any group.
- The majority of American Indian or Alaska Native (58.2 percent) and White (54.6 percent) students enrolled in dental education identified as men, the only groups for which this was the case.

In 2018–19, more than 6,300 students graduated from dental school. Of these, 52.3 percent were White, 24.3 percent were Asian, 7.7 percent were Hispanic or Latino, 5.9 percent were international, 4.4 percent were Black or African American, 2.2 percent were of more than one race, 0.5 percent were American Indian or Alaska Native, and 0.3 percent were Native Hawaiian or other Pacific Islander. An additional 2.4 percent were of unknown racial or ethnic backgrounds.

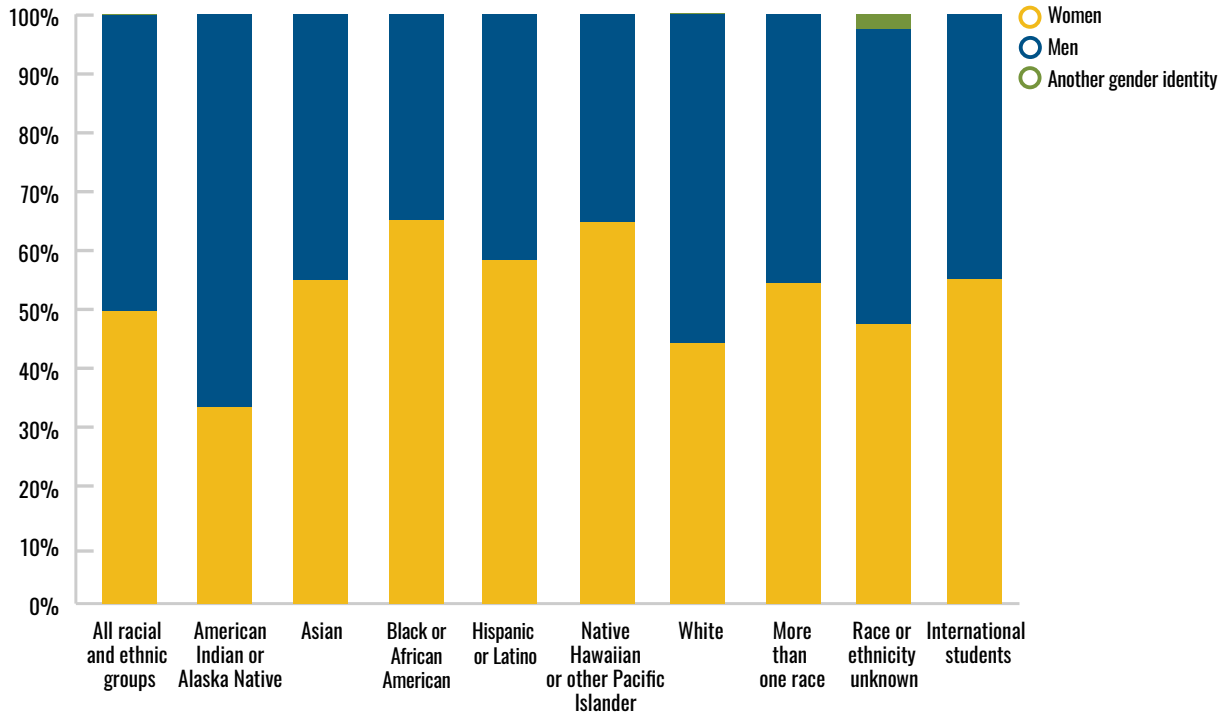
Figure 3.19: Dental School Graduates, by Race and Ethnicity: 2018–19



Source: American Dental Association, Health Policy Institute, 2018–19 Survey of Dental Education

Among all dental school graduates, 50.2 percent identified as men, 49.7 percent identified as women, and 0.1 percent had another gender identity. The majority of all dental school graduates among American Indians or Alaska Natives and Whites identified as men. Among all other groups, women represented the majority of dental school graduates.

Figure 3.20: Dental School Graduates, by Gender and Race and Ethnicity: 2018–19



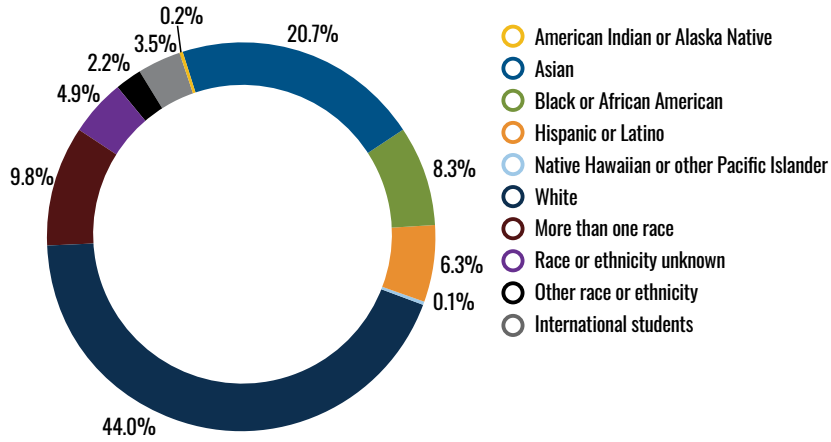
Source: American Dental Association, Health Policy Institute, 2018–19 Survey of Dental Education

- Nearly two-thirds of Black or African American dental school graduates identified as women (65.0 percent), as did 64.7 percent of Native Hawaiians or other Pacific Islanders—the highest shares across all groups.
- Over half of all Hispanics or Latinos (58.3 percent), international graduates (55.0 percent), Asians (54.9 percent), and individuals of more than one race (54.3 percent) identified as women.
- The majority of American Indian or Alaska Native (66.7 percent) and White (55.8 percent) dental school graduates identified as men.

Medical School

Over 53,000 individuals applied to medical school in the 2019–20 academic year. Of all applicants, 44.0 percent were White, 20.7 percent were Asian, 9.8 percent were of more than one race, 8.3 percent were Black or African American, 6.3 percent were Hispanic or Latino, 3.5 percent were international, 0.2 percent were American Indian or Alaska Native, and 0.1 percent were Native Hawaiian or other Pacific Islander. An additional 2.2 percent identified as another race or ethnicity, and 4.9 percent were of unknown racial or ethnic backgrounds.

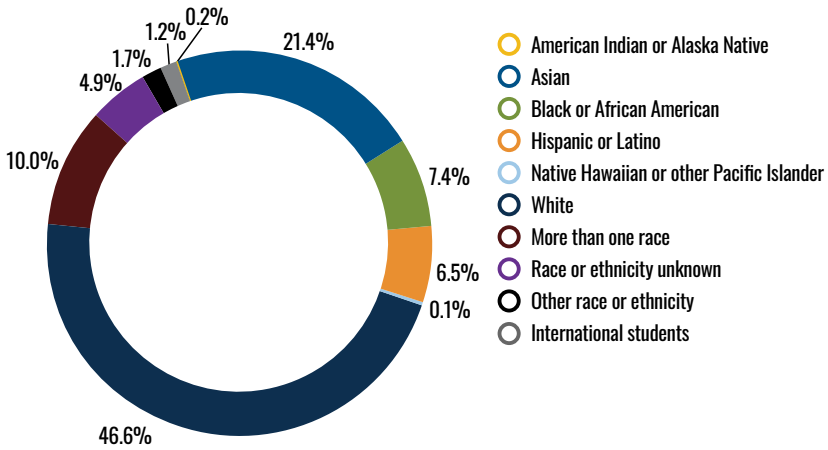
Figure 3.21: Medical School Applicants, by Race and Ethnicity: 2019–20



Source: Association of American Medical Colleges, 2019 FACTS: Applicants and Matriculants Data

In the 2019–20 academic year, over 21,800 applicants were admitted into medical school. Of all first-year medical students, 46.6 percent were White, 21.4 percent were Asian, 10.0 percent were of more than one race, 7.4 percent were Black or African American, 6.5 percent were Hispanic or Latino, 1.2 percent were international, 0.2 percent were American Indian or Alaska Native, and 0.1 percent were Native Hawaiian or other Pacific Islander. An additional 1.7 percent identified as another race or ethnicity, and 4.9 percent were of unknown racial or ethnic backgrounds.

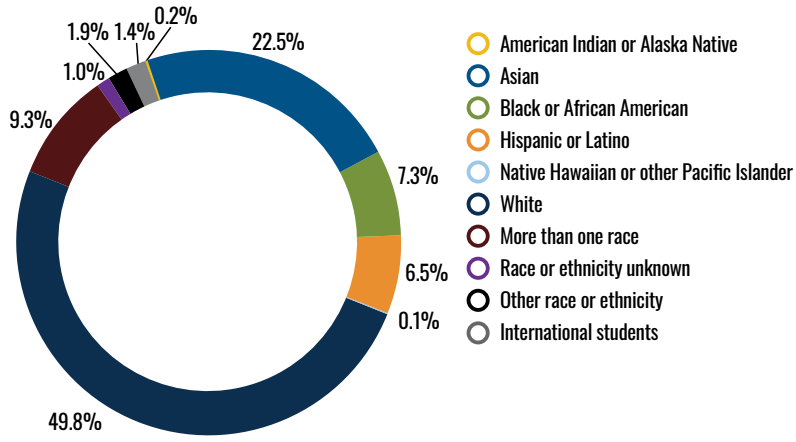
Figure 3.22: Admitted Medical School Students, by Race and Ethnicity: 2019–20



Source: Association of American Medical Colleges, 2019 FACTS: Applicants and Matriculants Data

In 2019–20, there were nearly 93,000 students enrolled in medical school. Of these, nearly half were White (49.8 percent), 22.5 percent were Asian, 9.3 percent were of more than one race, 7.3 percent were Black or African American, 6.5 percent were Hispanic or Latino, 1.4 percent were international, 0.2 percent were American Indian or Alaska Native, and 0.1 percent were Native Hawaiian or other Pacific Islander. An additional 1.9 percent identified as another race or ethnicity, and 1.0 percent were of unknown racial or ethnic backgrounds.

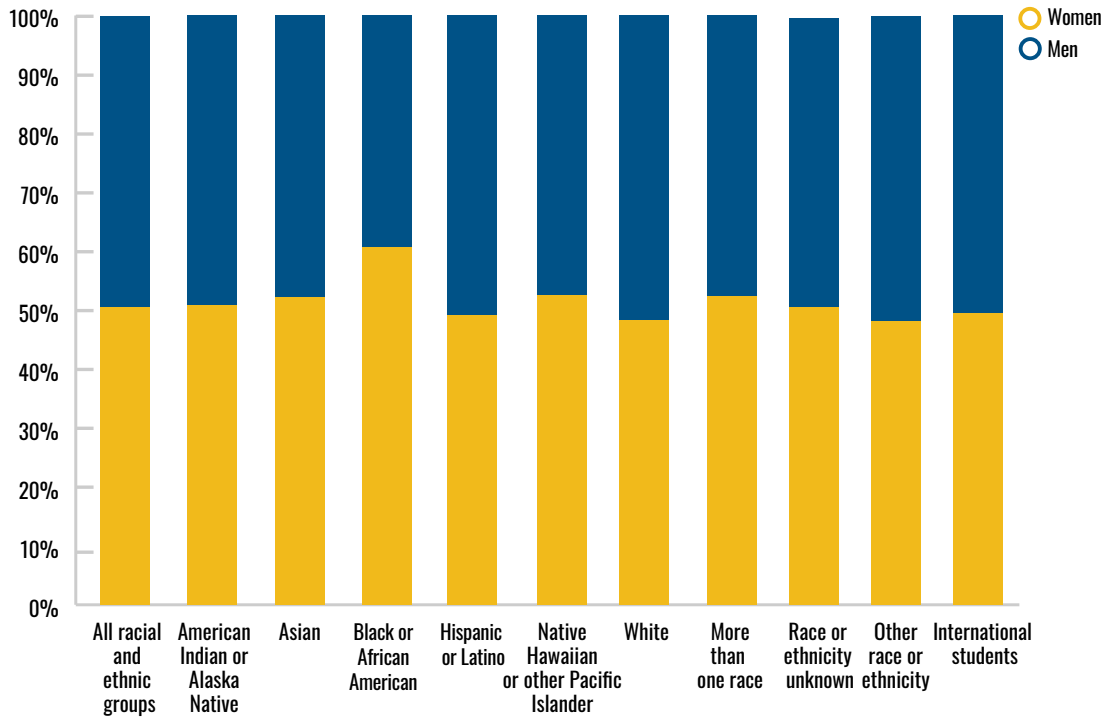
Figure 3.23: Enrollment in Medical School, by Race and Ethnicity: 2019–20



Source: Association of American Medical Colleges, 2019 FACTS: Enrollment, Graduates, and MD–PhD Data

Roughly half of all students enrolled in medical school identified as women (50.5 percent), and 49.4 percent identified as men. This pattern was similar across most groups, with exception of Hispanic or Latino, White, and international students, among whom the majority identified as men.

Figure 3.24: Medical School Enrollment, by Gender and Race and Ethnicity: 2019–20

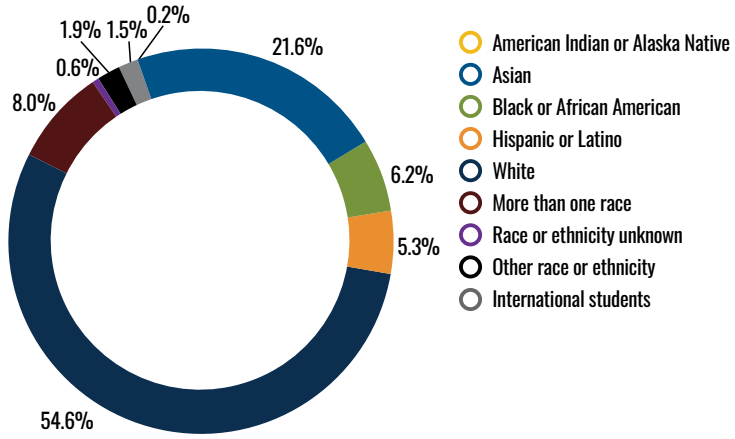


Source: Association of American Medical Colleges, 2019 FACTS: Enrollment, Graduates, and MD–PhD Data
Note: Table only includes medical school students who reported their gender. Therefore, totals may not sum to 100%.

- Roughly 61 percent of all Black or African American medical school students identified as women. This was the largest gender gap among all groups, 21.5 percentage points.
- The gender gap between men and women was smallest among American Indians or Alaska Natives, Hispanics or Latinos, and international students.
- White medical students were slightly more likely to identify as men (51.7 percent) than as women (48.3 percent).

Nearly 20,000 individuals graduated from medical school in 2018–19. Of these, 54.6 percent were White, 21.6 percent were Asian, 8.0 percent were of more than one race, 6.2 percent were Black or African American, 5.3 percent were Hispanic or Latino, 1.5 percent were international, and 0.2 percent were American Indian or Alaska Native. An additional 1.9 percent identified as another race or ethnicity, and 0.6 percent were of unknown racial or ethnic backgrounds.

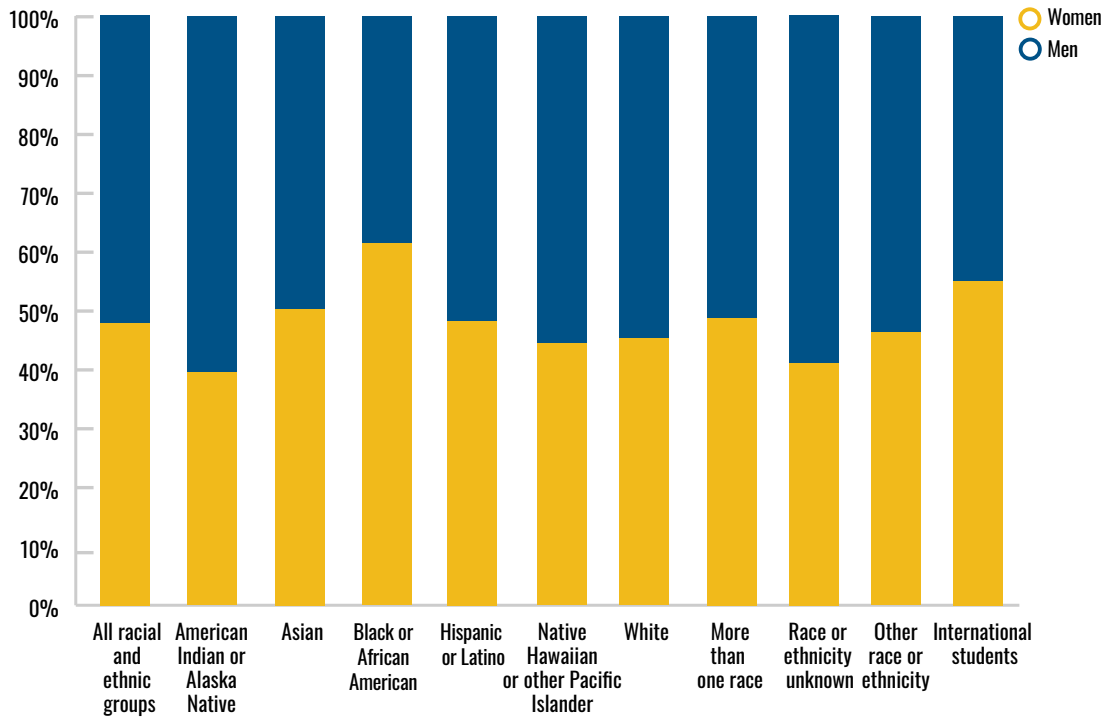
Figure 3.25: Medical School Graduates, by Race and Ethnicity: 2018–19



Source: Association of American Medical Colleges, 2019 FACTS: Enrollment, Graduates, and MD-PhD Data
Note: Total may not add up to 100 percent due to rounding.

Among all medical school graduates, 52.1 percent identified as men and 47.9 percent identified as women. Men represented the majority of medical school graduates across most groups, with exception of Asian, Black or African American, and international students, the majority of whom identified as women.

Figure 3.26: Medical School Graduates, by Gender and Race and Ethnicity: 2018–19



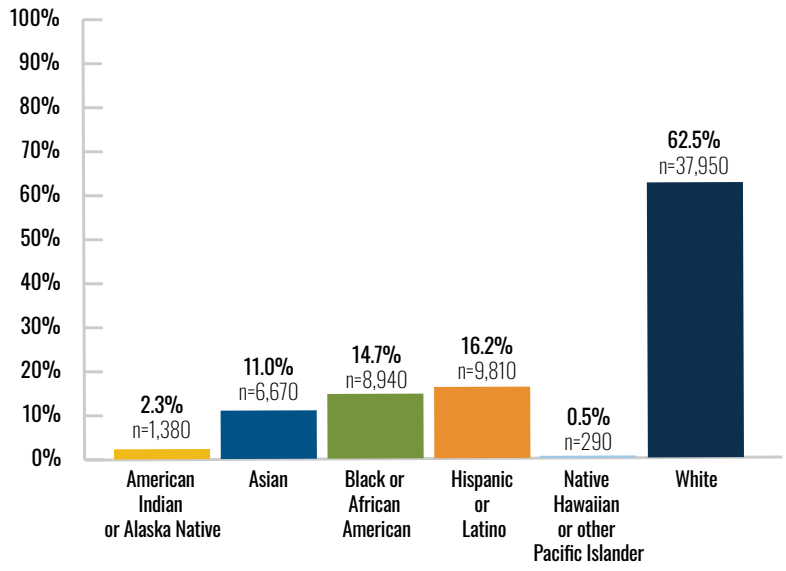
Source: Association of American Medical Colleges, 2019 FACTS: Enrollment, Graduates, and MD-PhD Data

- Among Black or African American medical school graduates, 61.4 percent identified as women and 38.6 percent identified as men. This was the largest difference by gender among all groups (22.8 percentage points).
- The second largest difference by gender was among American Indians or Alaska Natives, of whom 60.5 percent identified as men and 39.5 percent as women, a difference of 21.0 percentage points.
- Asians had the smallest difference by gender, with 50.3 percent identifying as women and 49.7 percent identifying as men.

Law School

In 2018, there were 60,700 individuals who applied to law school.[19] Of these, 62.5 percent identified as White, 16.2 percent identified as Hispanic or Latino, 14.7 percent identified as Black or African American, 11.0 percent identified as Asian, 2.3 percent identified as American Indian or Alaska Native, and 0.5 percent identified as Native Hawaiian or other Pacific Islander.

Figure 3.27: Law School Applicants, by Race and Ethnicity: 2018

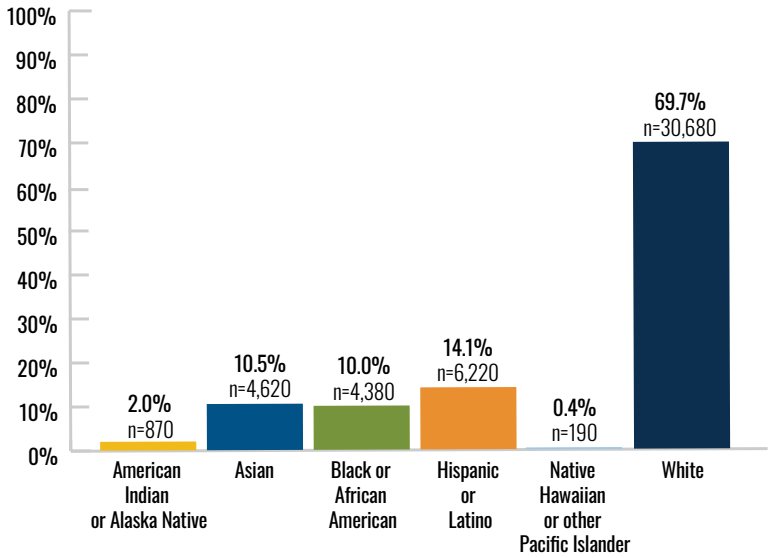


Source: Law School Admission Council, 2018
Note: Data incorporate maximum reporting, meaning that applicants could select multiple racial and ethnic identities. All selections are counted in each racial and ethnic group. As a result of this overlap, summing the racial and ethnic category totals will yield a larger number than the total number of individuals who applied to law school.

19 Data from the Law School Admission Council incorporates maximum reporting, meaning that applicants could select multiple racial and ethnic identities and students are counted in each racial and ethnic group with which they identify. As a result of this overlap, summing the racial and ethnic category totals will exceed 100 percent.

In 2018, 44,000 applicants were admitted into law school. Of these, 69.7 percent identified as White, 14.1 percent identified as Hispanic or Latino, 10.5 percent identified as Asian, 10.0 identified as Black or African American, 2.0 percent identified as American Indian or Alaska Native, and 0.4 percent identified as Native Hawaiian or other Pacific Islander.

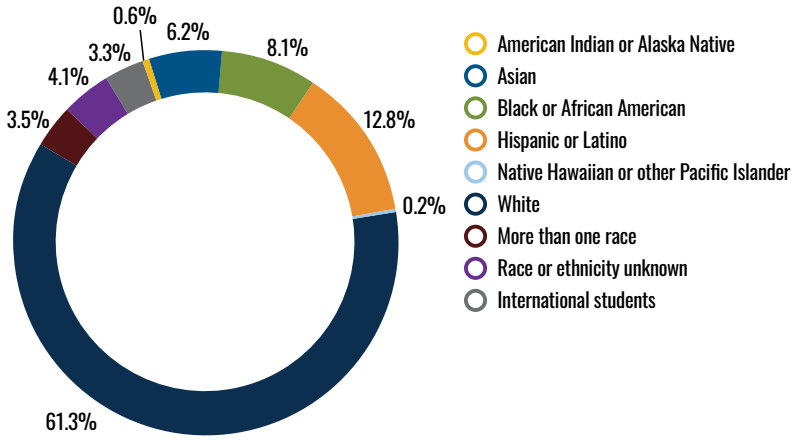
Figure 3.28: Admitted Law School Students, by Race and Ethnicity: 2018



Source: Law School Admission Council, 2018
Note: Data incorporate maximum reporting, meaning that applicants could select multiple racial and ethnic identities. All selections are counted in each racial and ethnic group. As a result of this overlap, summing the racial and ethnic category totals will yield a larger number than the total number of individuals who applied to law school.

Over 111,000 students were enrolled in law school in 2018. Of these, 61.3 percent were White, 12.8 percent were Hispanic or Latino, 8.1 percent were Black or African American, 6.2 percent were Asian, 3.5 percent were more than one race, 3.3 percent were international, 0.6 percent were American Indian or Alaska Native, and 0.2 percent were Native Hawaiian or other Pacific Islander. An additional 4.1 percent were of unknown racial or ethnic backgrounds.

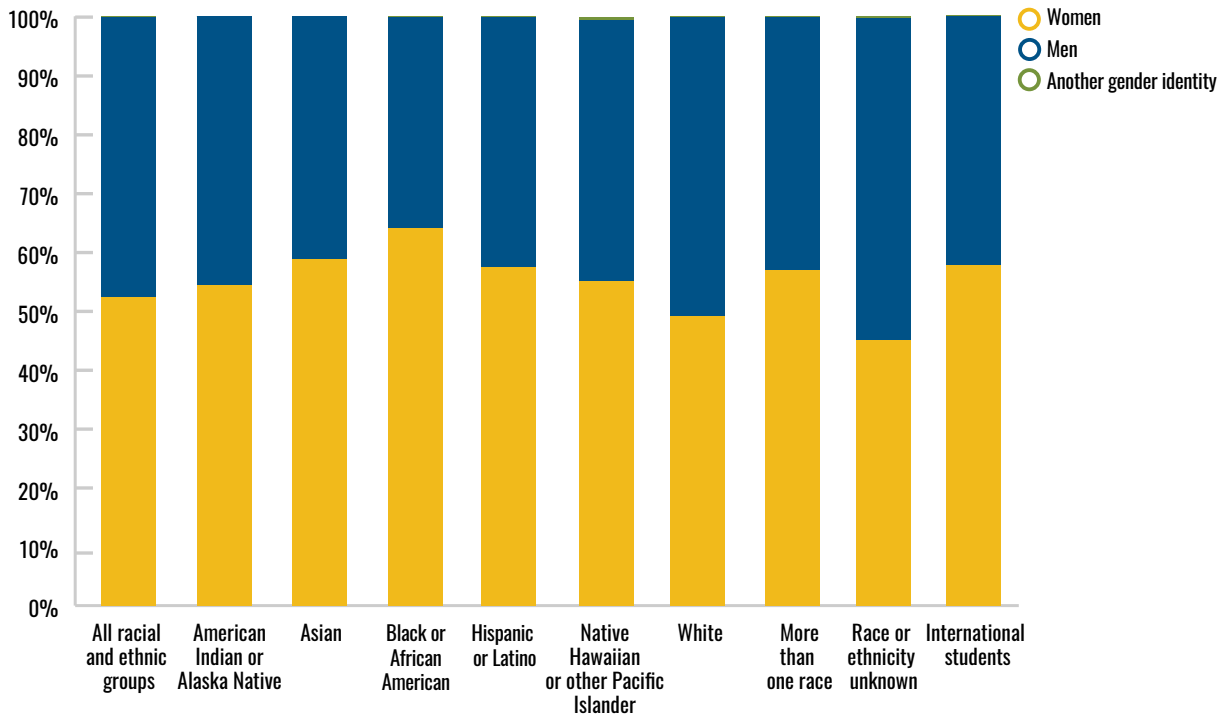
Figure 3.29: Enrollment in Law School, by Race and Ethnicity: 2018



Source: Analytix by AccessLex, 2018 Enrollment Dataset
Note: Total may not add to 100 percent due to rounding.

In 2018, 52.4 percent of students enrolled in law school identified as women, 47.5 percent identified as men, and 0.1 percent had another gender identity. This pattern remained across most groups, with exception of White students, among whom the gender distribution was nearly even between men and women.

Figure 3.30: Enrollment in Law School, by Gender and Race and Ethnicity: 2018

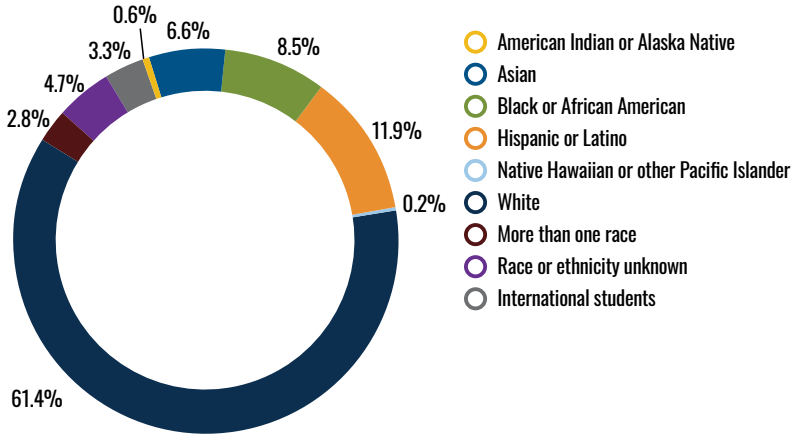


Source: Analytix by AccessLex, 2018 Enrollment Dataset

- Roughly 64 percent of all Black or African American law school students identified as women, and 35.8 percent identified as men. This was the largest gender gap among all groups, 28.4 percentage points.
- The gender gap between men and women was smallest among American Indian or Alaska Native and White students.
- White law students were slightly more likely to identify as men (50.8 percent) than as women (49.1 percent).

Over 34,000 individuals graduated from law school in 2018. Of these, 61.4 percent were White, 11.9 percent were Hispanic or Latino, 8.5 percent were Black or African American, 6.6 percent were Asian, 3.3 percent were international, 2.8 percent were of more than one race, 0.6 percent were American Indian or Alaska Native, and 0.2 percent were Native Hawaiian or other Pacific Islander. An additional 4.7 percent were of unknown racial or ethnic backgrounds.

Figure 3.31: Law School Graduates, by Race and Ethnicity: 2018



Source: Analytix by AccessLex, 2018 Degrees Dataset

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INVITED ESSAY

An Early Warning in the Academy: Mental Health and Racial Equity in Graduate Education

Julie Posselt

An Early Warning in the Academy: Mental Health and Racial Equity in Graduate Education

Julie Posselt, Associate Professor of Education, University of Southern California

Racial and ethnic equity in graduate education has taken on new prominence within higher education as students of color with bachelor's degrees are enrolling in graduate education at rates similar to or in some cases even higher than that of college graduates overall (Espinosa et al. 2019). However, this growth is uneven. Black, Latinx, Native American, and Asian American students of Southeast Asian origin are overrepresented in professional master's degree programs in fields like education and social work (Posselt and Grodsky 2017), while they remain severely underrepresented in many PhD programs and fields of study. For example, in 2017, in 20 science, technology, engineering, and mathematics (STEM) subfields, not a single PhD was awarded to Black students (National Science Foundation 2018).

At the same time, a study in *Nature Biotechnology* found that graduate students are more than six times as likely to experience depression and anxiety as compared with the general population (Evans et al. 2018). And this reality is noticeable to administrators: nearly two-thirds of deans agreed that today's graduate students struggle more with mental health compared with five years ago, according to a survey by the Council of Graduate Schools (Okahana 2018). Graduate students are a relatively vulnerable population within universities, and graduate students of color experience vulnerability on multiple levels. They rarely have access to the infrastructure of support services that undergraduate students have, for example, and social dynamics within graduate learning environments that exacerbate mental health risks are felt most profoundly by minoritized students.

This combination of persistent underrepresentation and threats to the well-being of those who do enroll are consequential for both current students and the future professoriate. This is no small matter when Black, Latinx, and Native American full-time faculty collectively represent only approximately 11 percent of the professoriate (Espinosa et al. 2019). Improving the mental health of graduate students of color will not only create healthier campus communities, but can be part of a comprehensive set of efforts to create a more diverse and inclusive professoriate.

Improving the mental health of graduate students of color will not only create healthier campus communities, but can be part of a comprehensive set of efforts to create a more diverse and inclusive professoriate.

Social Dynamics of Student Well-Being

The same qualities of learning environments that maintain inequalities in enrollment also affect the well-being of those who do enroll. A robust conception of racial equity needs to therefore consider not only who is present and absent, but also their well-being, and attend to sociocultural dynamics in academe that affect both access and success. Competition for admission, recognitions, and opportunities, for example, may look neutral to some observers,[1] but the logics, rules, and effects of many academic competitions disproportionately harm racially minoritized members of our community (Posselt 2016).

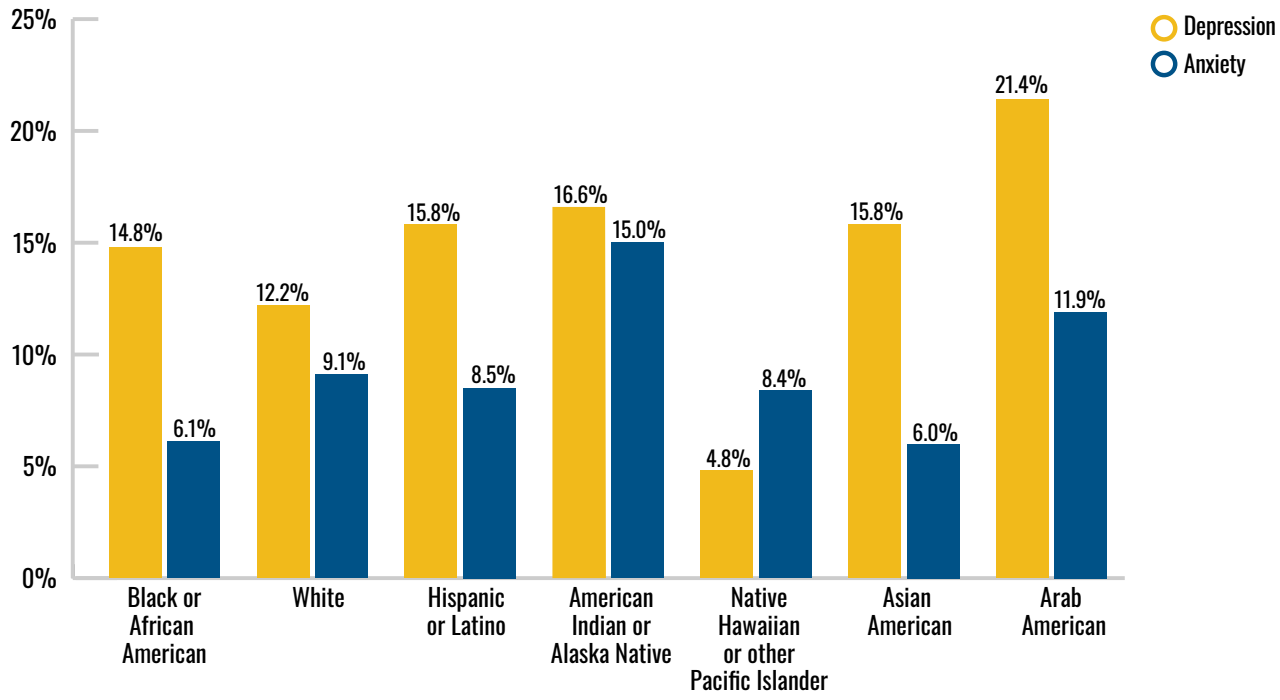
To understand how to create more inclusive research and learning environments, I analyzed five cohorts of graduate and professional student data from the Healthy Minds Study (HMS) (2018). I specifically focused on social dynamics within the academy and their relationships with depression and anxiety for racially minoritized students. With this multi-year, multi-institutional, multi-disciplinary data, I focused on three dynamics that affect all students, but perhaps minoritized populations most acutely: discrimination, competition, and support. These dynamics are forces in the higher education system—a system that produces not only knowledge, but also the next generation of professors. Failure to name or engage with these forces contributes to continued racial inequities in both participation levels and overall well-being.

1 Inequitable distributions of access and success in these competitions can seem neutral in appearance because our own socialization has desensitized us to them, because they are so entrenched that we take them for granted, or because they personally benefit us.

The data represent over 20,000 graduate and professional students across 89 institutions and a variety of fields of study (Healthy Minds Network 2018). One strength of the survey is its clinically validated measures of depression and anxiety.[2] I looked at the prevalence of depression and anxiety by race and ethnicity and across graduate fields of study. I also analyzed how experiences with discrimination and competitiveness associate with depression and anxiety and how these relationships varied by social identities and the availability of support from family, friends, and faculty.[3]

Figure 1 displays the prevalence of depression and anxiety among graduate and professional students by race and ethnicity. The highest prevalence of depression was observed among Arab American, American Indian, and Asian American graduate students. Of all groups, Arab Americans have the highest risk of a positive screen for depression.[4] In general, students from minoritized groups had a higher prevalence of depression than White students.

Figure 1: Prevalence of Depression and Anxiety Among Graduate and Professional Students, by Race and Ethnicity



Source: Healthy Minds Network, Healthy Minds Study, 2018

Discrimination: The Most Potent Risk Factor

We know that everyday forms of discrimination mean that graduate students from minoritized backgrounds face mental health threats above and beyond those faced by White students (Lui and Quezada 2019). Indeed, among the many risk factors I analyzed in the HMS data—including social identity characteristics, fields of study, and health behaviors—the single most potent risk factor for depression was frequently experiencing racial discrimination. Black students are more likely than

2 Clinically validated measures using the Patient Health Questionnaire are superior to survey items on subjective well-being, which is an important but less-reliable measure.

3 Analyses included simple descriptive analyses, hierarchical cluster analyses, and multivariate regression analytic methods. Unlike the hierarchical cluster analysis and other descriptive analyses, which capture prevalence, the multivariate models estimate the odds that students in a particular field of study will have a positive anxiety or depression screen. For full details of the methodology, please contact the author.

4 A notable finding because the small number of Arab American students in this sample (n=385) depresses the likelihood of finding a significant relationship.

any other racial and ethnic group to report frequent discrimination. Students who report they "often" experienced discrimination over the last year were 2.3 times more likely to report they were depressed compared with students who report they "never" experienced discrimination.[5]

Discrimination is an even stronger risk factor for anxiety. Compared with those who never experience racial discrimination, graduate students who often endure discrimination have a three times higher risk of reporting clinical symptoms of anxiety. The risk is nearly two times higher for those who experience it sometimes than for those who never do. These findings are consistent with other recent studies: in a national sample of African American[6] and Latinx graduate students, the Council of Graduate Schools found a little over 60 percent reported frequent or occasional worries about their mental or physical health (Sowell, Allum, and Okahana 2015). A 2011 study summarized this finding in a simple question—"Am I going crazy?"—the refrain Black and Latinx doctoral students expressed as they sought to make sense of racial microaggressions encountered in predominantly White graduate programs (Gildersleeve et al. 2011).

Competitiveness: Creating Producers

Graduate education prepares students for careers where career survival may be determined by intellectual output, which is tied to research productivity and the size and prominence of one's networks, to name two factors. The overt and subtle competitions for resources that enable this output (e.g., competitions for funding, faculty attention, and special training opportunities) have become an aspect of the "professionalization process." The relationship of this process to graduate student well-being merits closer attention (Margolis and Romero 1998). One recent survey found that perceived competitiveness was the number one reason that graduate students cited for *not* pursuing a career as a professor (Russo 2011).

In other words, intense competitiveness, while emotionally challenging to most graduate students, is especially salient to the mental health of minoritized students.

Furthering this illustration, graduate students in HMS who described their classes as "very competitive" were more likely to screen positive for depression and anxiety than those who saw their classes as less competitive.[7] This pattern is consistent with other research on graduate students (Hyun et al. 2006), and it intersects with race and ethnicity. Specifically, in a recent study, we found that undergraduates who identified as Black, Latinx, and Asian and who perceived their classes as very competitive also have significantly higher probabilities of anxiety and depression than students from those same groups who did not experience classes as highly competitive (Posselt and Lipson 2016). In other words, intense competitiveness, while emotionally challenging to most graduate students, is especially salient to the mental health of minoritized students.

Support: A Critical Buffer

Unsurprisingly, social support provides a buffer to threats to well-being and is also a well-established resource for persistence to degree completion. Family, friends, and faculty present potential sources of support for graduate students, so I examined the interactions of each of these forms of support with discrimination and competitiveness. I hypothesized strong support would mitigate the mental health risks that come with experiencing either frequent discrimination or intense competitiveness. Weak social support, on the other hand, might be associated with even higher probabilities of mental illness—either as a primary driver or an effect of the self-isolation that can come with depression and anxiety.

And indeed, among students who report the lowest level of support from friends, frequent racial discrimination is associated with an increase in the probability of screening positive for anxiety and depression—over and above the risks that already

5 All else in a multivariate model held equal.
6 Black and African American are used interchangeably.
7 Perceived competitiveness in undergraduate classes is also associated in Healthy Minds Study data with significantly higher probability of screening positive for anxiety and depression. Students had 67 percent higher odds of screening for anxiety and 34 percent higher odds of screening for depression.

come with frequent racial discrimination.[8] Similarly, graduate students reporting the lowest levels of family support have an increase in the probability of screening positive for both anxiety and depression when they experience frequent racial discrimination.[9] However, at the highest levels of family support, the mental health risks of frequent racial discrimination are significantly reduced. These findings suggest that support from family and friends may protect the mental health of students experiencing racial discrimination.

What does this support look like in practice? A recent study looked at what facilitated Black men's persistence to a PhD in engineering and found that social supports within the Black community are critical. Family members, faith-based communities, and faculty mentors "can reduce the strains that students experience in an academic environment. Furthermore, they can foster behaviors that help students respond to difficult circumstances in productive or adaptive ways" (Burt, Williams, and Palmer 2019).

Implications for Higher Education Institutions and Faculty

Students' interest in pursuing academic careers decreases as their doctoral programs continue (Fuhrmann et al. 2011; Sauermann and Roach 2012), and those declines are greater for Black, Latinx, and Native American graduate students. Women who identify with these three racial/ethnic groups show the lowest interest in faculty careers by the end of their graduate program (Gibbs et al. 2014).[10] Preserving—even enhancing—desire for academic careers among graduate students from groups who are also underrepresented in the professoriate will take a variety of strategies. Among them, institutional leaders should attend to social dynamics that both undermine interest and compromise well-being. Administrators and faculty members can work together toward equity and improved mental health for their graduate students in the following, specific ways:

Document and disrupt patterns of discrimination. At a basic level, academic institutions need structures to document patterns of mistreatment and discrimination that students of color experience. Schools and colleges without an ombudsperson in place should consider appointing someone to this role. Second, although graduate programs may not be able to assert control over discrimination that students experience outside the program or university, they should act to ensure protection from bias and discrimination in labs, classrooms, research sites, and faculty offices. Institutional policy should hold faculty accountable to one another, their institutions, and their students for eliminating forms of discrimination that are within their control.

Select and train faculty for support. Research shows that most faculty need a more nuanced understanding about the varied ways that racism manifests, and Healthy Minds data revealed the importance of raising awareness about the ties between discrimination and graduate student health. Thus, developing faculty competencies for serving diverse students—competencies that Twine (2004) and Harper and Davis (2016) refer to as *racial literacy*—should also include developing their ability to initiate discussions about well-being and mental health. Examples of this practice are in the current effort by the California Consortium for Inclusive Doctoral Education and the NSF-INCLUDES Inclusive Graduate Education Network that provide STEM faculty with professional development opportunities in discussing race and in mentoring with an eye to graduate student well-being.

Institutional policy should hold faculty accountable to one another, their institutions, and their students for eliminating forms of discrimination that are within their control.

Faculty relationships are not only a critical site of intellectual development and professional sponsorship for graduate students; they also make students' connection to the institution personal. Yet 70 percent of respondents in the Healthy Minds survey expressed unwillingness to discuss mental health with their advisor, with rates higher for students of color. Graduate education must destigmatize mental health, and this begins on campus, in individual programs, and with faculty.

8 Ten and 12 percentage point probability increase.
9 Fifteen percentage point probability increase.
10 The implications of this research on faculty hiring practices and other aspects of the professoriate are explored in Kimberly A. Griffin's essay "Redoubling Our Efforts: How Institutions Can Affect Faculty Diversity," in *Race and Ethnicity in Higher Education: A Status Report* (Espinosa et al. 2019).

Interrogating a competitive culture. In addition to eliminating structural discrimination and improving the capacity of faculty to support mental health, we need to question ingrained cultural norms of the academy that have a disparate impact for students of color. Overlaid on everyday experiences with discrimination, graduate students of color experience academia's culture of competitiveness as racialized on multiple dimensions. It can threaten their sense of belonging, raise doubts about their sufficiency, and ultimately prompt impostorism, or the feeling that they are a fraud—all of which are negatively associated with well-being and persistence (Posselt 2018; Cohen et al. 2009; Field, Duffy, and Huggins 2013; McClain et al. 2016). Mentoring relationships may be one site to shift these perceptions; at their best, structured mentoring can both acquaint graduate students to existing professional norms and become a setting in which norms are negotiated, reconciled, and even reimagined toward creating a more equitable, diverse, and inclusive academy (Antony 2002; Antony and Taylor 2000; Gopaul 2011).

These recommendations—addressing discrimination, expecting racial literacy from faculty, and taking a step back to question whether academic norms serve the health of our communities—are three actions higher education institutions can take now. Alongside strengthening structures of support for students who are struggling and creating more supportive environments for the next generation of students, systemic change that reduces the odds that students of color will disproportionately struggle is nothing less than an equity imperative.

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CHAPTER 4

Postsecondary Career and Technical Education

INTRODUCTION

In 2015–16, 33 percent of all undergraduates who completed a postsecondary credential earned an associate degree and 16 percent earned a sub-baccalaureate certificate. In fact, the majority of American Indian or Alaska Native (59 percent), Hispanic or Latino (59 percent), and Black or African American (57 percent) graduates earned an associate degree or sub-baccalaureate certificate. Many of these associate degrees and sub-baccalaureate awards were in a career or technical field.

Career and technical education (CTE) provides students at the secondary, postsecondary, and adult education levels with opportunities to develop the academic, technical, and employability skills needed to be successful in today's workforce. At the postsecondary level, credit-based CTE can be defined as "coursework directly related to an occupational field that, upon completion, can lead to industry-recognized credentials, certificates, and/or associate degrees" (D'Amico, Sublett, and Bartlett 2019, 3). Between 2015 and 2017, the majority of credit-based CTE associate degrees and sub-baccalaureate certificates were earned at public two-year institutions or community colleges.[1] However, non-degree-granting for-profit institutions awarded a sizeable share of sub-baccalaureate certificates.[2] While CTE programs provide millions of students with the opportunity to receive an education that will prepare them to meet local labor market needs, racial disparities exist within CTE program enrollment, completion, and labor market outcomes (Rios-Aguilar et al. 2019).

Race and Ethnicity in Higher Education: A Status Report (2019) broadly examined the enrollment and completion of sub-baccalaureate awards by race and ethnicity. This chapter expands upon the 2019 report by more closely examining sub-baccalaureate certificate and degree completions by race and ethnicity using three years of pooled data from the Integrated Postsecondary Education Data System (IPEDS). First, completions are mapped across the 16 career clusters as categorized by the National Career Clusters Framework. Next, the chapter takes a more detailed look at completions by field, using the Classification of Instructional Programs (CIP). Finally, this chapter concludes with analysis of non-credit-based CTE programs such as work certifications, licenses, and work experience programs,[3] from the National Household Education Surveys Program's Adult Training and Education Survey.

KEY FINDINGS

- Between 2015 and 2017,[4] close to 2.8 million sub-baccalaureate certificates[5] were awarded. Nearly 60 percent of all certificates awarded were conferred by public two-year institutions. Non-degree-granting for-profit institutions awarded almost 20 percent of all certificates. Black or African American, Hispanic or Latino, Native Hawaiian or other Pacific Islander, and Asian students were much more likely than American Indian or Alaska Native and White students to complete their sub-baccalaureate certificates at degree-granting and non-degree-granting for-profit institutions.
- Across all sectors, the health science career cluster was the most common field of study among certificate recipients. A much higher share of students at degree-granting for-profit institutions (67.2 percent) than at public two-year institutions (24.8 percent) completed certificates in this career cluster.

1 In this report, two-year institutions are those that award predominantly associate degrees and sub-baccalaureate certificates, which includes a growing number of community colleges that now award bachelor's degrees.
2 Non-degree-granting for-profit institutions are those that exclusively award credit-based certificates.
3 Work experience programs include internships, co-ops, practicums, clerkships, externships, residencies, clinical experiences, apprenticeships, and similar programs.
4 This chapter pools sub-baccalaureate completions data for three years—2015, 2016, and 2017. Doing so allows for a detailed analysis of fine field of study by race and ethnicity. For more information, please visit this report's methods section.
5 In this chapter, the terms sub-baccalaureate certificates and certificates are used interchangeably. This chapter combines short-term certificates (those that are typically earned in less than one academic year) and long-term certificates (those that are typically earned in more than one academic year, but less than four academic years).

- Native Hawaiian or other Pacific Islander, Hispanic or Latino, and Black or African American students were the most likely of all groups to earn their sub-baccalaureate certificates in the health science career cluster. American Indian or Alaska Native students were more than twice as likely as Asian students, Hispanic or Latino students, students of more than one race, and international students to earn their sub-baccalaureate certificates in the architecture and construction career cluster.
- Between 2015 and 2017, close to 3 million associate degrees were awarded. Public two-year institutions conferred nearly 82 percent of all associate degrees. Degree-granting for-profit institutions conferred the second most, at 9.4 percent. Black or African American and Native Hawaiian or other Pacific Islander students were much more likely than all other groups to complete their associate degrees at degree-granting for-profit institutions.
- A much higher share of students at degree-granting for-profit institutions completed their associate degrees in the health science career cluster (43.7 percent) than students who completed their associate degrees at public two-year institutions (14.5 percent).
- Asian associate degree recipients were more than three times as likely to have earned a degree in the STEM career cluster as Black or African American associate degree recipients.
- Approximately one in five adults reported having either a work certification or license. Regardless of gender, White adults and Black or African American adults were more likely to have either a work certification or license than other groups. Hispanic or Latino adults were the least likely to have either work certifications or licenses.
- About 61 percent of American Indian or Alaska Native men with a work certification or license reported that their credential was very useful in getting a job, while 86.1 percent of White women reported this. These were the highest and lowest shares across all groups.
- Nearly 70 percent of adults working in the healthcare field reported having at least one work certification or license, the most of any occupational field. Among those working in the health care field, White adults were the most likely to report having a work license or certification, while Black or African American adults and American Indian or Alaska Native adults were the least likely.
- Adults of more than one race and Asian or Pacific Islander adults were the most likely to have completed a work experience program, while Hispanic or Latino adults were the least likely to have done so.

SUB-BACCALAUREATE COMPLETIONS, BY CAREER CLUSTERS

Created by AdvanceCTE,[6] the National Career Clusters Framework (NCCF) was designed as an organizing tool to support curriculum design and instruction for career and technical programs. The NCCF is also often used to help individuals explore potential careers and related educational pathways. The NCCF consists of 16 career clusters—broad groups of occupations and industries—which can be further subdivided into 79 career pathways—small groups of occupations within a career cluster. Together with the National Research Center for Career and Technical Education, AdvanceCTE produced a comprehensive and standardized mapping of codes from the Classification of Instructional Programs (CIP) used to report credential completions in the Integrated Postsecondary Education Data System to the NCCF.[7]

Certificate Completions

Between 2015 and 2017, close to 2.8 million sub-baccalaureate certificates were awarded. The top four career clusters among all certificate completers were health science (32.6 percent); human services (12.7 percent); manufacturing (9.3 percent); and transportation, distribution, and logistics (8.6 percent). The smallest four career clusters among all sub-baccalaureate certificate completers—all under 1 percent—were government and public administration (0.1 percent); marketing (0.6 percent); science, technology, engineering, and mathematics (STEM) (0.8 percent); and agriculture, food, and natural resources (0.9 percent).

Table 4.1: Career Clusters for Sub-baccalaureate Certificate Completions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Agriculture, food, and natural resources	0.9%	1.0%	0.3%	0.3%	0.6%	0.5%	1.2%	0.7%	0.8%	0.6%
Architecture and construction	5.1%	9.1%	2.6%	5.9%	4.1%	4.7%	5.4%	3.8%	5.2%	2.4%
Arts, audio/video technology, and communications	2.6%	2.5%	2.8%	2.3%	2.5%	1.6%	2.6%	3.5%	3.9%	8.8%
Business, management, and administration	6.0%	6.0%	5.4%	6.8%	5.4%	4.8%	6.0%	5.4%	6.4%	12.5%
Education and training	8.3%	7.5%	14.1%	4.9%	10.9%	7.0%	7.6%	10.9%	6.5%	20.5%
Finance	1.9%	1.6%	4.1%	1.6%	2.0%	1.7%	1.8%	1.6%	1.9%	4.9%
Government and public administration	0.1%	0.2%	0.1%	0.1%	0.1%	0.3%	0.1%	0.1%	0.1%	0.1%
Health science	32.6%	29.9%	29.9%	35.3%	35.5%	39.0%	31.1%	32.6%	34.0%	12.4%
Hospitality and tourism	2.2%	2.3%	2.4%	3.0%	1.8%	2.8%	1.9%	2.6%	2.5%	4.3%

6 Formerly the National Association of State Directors of Career and Technical Education Consortium.
7 For more information on AdvanceCTE and the National Career Clusters Framework, please visit https://careertech.org/career-clusters.

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Human services	12.7%	9.5%	16.7%	15.6%	13.4%	12.3%	11.7%	11.7%	8.7%	7.7%
Information technology	3.7%	3.2%	5.1%	3.2%	2.8%	3.4%	4.0%	4.2%	4.7%	7.1%
Law, public safety, corrections, and security	4.5%	3.3%	2.2%	3.3%	4.7%	3.7%	5.1%	3.8%	5.5%	1.8%
Manufacturing	9.3%	12.1%	5.7%	7.5%	7.2%	7.5%	11.2%	8.2%	9.2%	4.8%
Marketing	0.6%	0.4%	0.6%	0.6%	0.5%	0.5%	0.6%	0.7%	0.6%	2.4%
Science, technology, engineering, and mathematics	0.8%	0.7%	1.4%	0.4%	0.6%	0.7%	1.0%	1.1%	0.9%	2.7%
Transportation, distribution, and logistics	8.6%	10.6%	6.6%	9.2%	8.0%	9.7%	8.7%	9.2%	8.9%	7.1%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect sub-baccalaureate certificates earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- Native Hawaiian or other Pacific Islander (39.0 percent), Hispanic or Latino (35.5 percent), and Black or African American (35.3 percent) students were the most likely of all groups to earn their sub-baccalaureate certificates in the health science career cluster. In contrast, among domestic students, 29.9 percent each of American Indian or Alaska Native and Asian students completed their certificates in this career cluster, compared with 12.4 percent of international students.
- American Indian or Alaska Native students were the most likely to earn their sub-baccalaureate certificates in the architecture and construction career cluster (9.1 percent). This was more than double the share of Asian students, Hispanic or Latino students, students of more than one race, and international students in this career cluster.
- International students (20.5 percent) and Asian students (14.1 percent) were the most likely to earn their sub-baccalaureate certificates in the education and training career cluster, while Black or African American students were the least likely (4.9 percent).
- International students were twice as likely as domestic students to earn their certificates in business, management, and administration.

The top three career clusters among women who completed sub-baccalaureate certificates were health science (47.4 percent), human services (19.9 percent), and education and training (9.5 percent). For men, the top three career clusters were manufacturing (19.9 percent); transportation, distribution, and logistics (18.7 percent); and health science (12.7 percent).

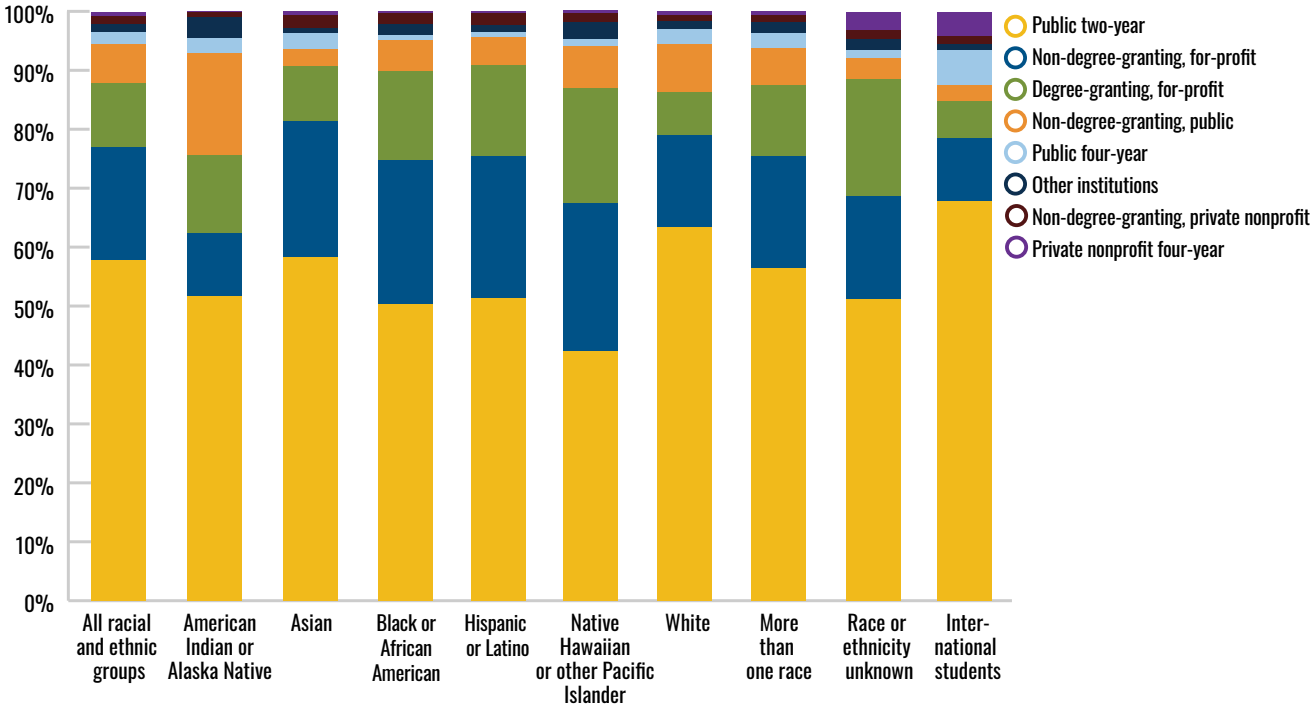
Table 4.2: Top Three Career Clusters for Sub-baccalaureate Certificate Completions, by Gender: 2015 to 2017

Women	Health science	47.4%
	Human services	19.9%
	Education and training	9.5%
Men	Manufacturing	19.9%
	Transportation, distribution, and logistics	18.7%
	Health science	12.7%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect sub-baccalaureate certificates earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

Nearly 60 percent of all sub-baccalaureate certificates awarded between 2015 and 2017 were conferred by public two-year institutions, the most of any institutional sector. Among degree-granting institutions, for-profit institutions awarded the next largest share, 10.9 percent. However, non-degree-granting for-profit institutions awarded almost 20 percent of all certificates.

Figure 4.1: Sub-baccalaureate Certificate Completions Across Sectors, by Race and Ethnicity: 2015 to 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. Other institutions include those not separately shown. | Data reflect sub-baccalaureate certificates earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- The range in the share of domestic students who complete their sub-baccalaureate certificates at public two-year institutions was 42.4 percent of Native Hawaiian or other Pacific Islander students to 63.4 percent of White students.
- Roughly one-quarter of all Native Hawaiian or other Pacific Islander (25.1 percent), Black or African American (24.5 percent), Hispanic or Latino (24.2 percent), and Asian (23.0 percent) students completed their certificates at non-degree-granting for-profit institutions.
- Higher shares of Native Hawaiian or other Pacific Islander (19.5 percent), Hispanic or Latino (15.4 percent), Black or African American (15.1 percent), and American Indian or Alaska Native (13.2 percent) students completed their certificates at degree-granting for-profit institutions than Asian (9.5 percent) and White (7.2 percent) students.
- American Indian or Alaska Native students were more than twice as likely as all other groups to have completed their certificates at non-degree-granting, public institutions (17.3 percent).
- More than two-thirds of all international students (67.8 percent) earned their sub-baccalaureate certificates at public two-year institutions, the highest share of any group. International students were also the least likely of any group to have completed their certificates at degree-granting for-profit (6.3 percent) and non-degree-granting for-profit (10.6 percent) institutions.

The top three career clusters among certificate completers at public two-year institutions were health science (24.8 percent); education and training (13.0 percent); and manufacturing (11.8 percent).

Table 4.3: Career Clusters for Sub-baccalaureate Certificate Completions at Public Two-Year Institutions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Agriculture, food, and natural resources	1.3%	1.3%	0.5%	0.5%	1.0%	0.8%	1.6%	1.1%	1.3%	0.7%
Architecture and construction	5.5%	9.2%	2.6%	6.7%	4.1%	5.7%	5.9%	3.9%	5.9%	3.0%
Arts, audio/video technology, and communications	2.7%	2.9%	2.8%	2.1%	3.1%	2.1%	2.6%	3.5%	3.0%	4.6%
Business, management, and administration	8.3%	8.5%	6.7%	11.6%	8.2%	8.7%	7.6%	7.2%	8.4%	13.9%
Education and training	13.0%	13.1%	22.2%	8.9%	20.1%	15.0%	10.8%	17.5%	11.2%	27.5%
Finance	2.9%	2.5%	6.2%	2.8%	3.1%	3.2%	2.5%	2.5%	2.9%	5.8%
Government and public administration	0.1%	0.2%	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%
Health science	24.8%	20.7%	22.3%	22.2%	19.7%	22.6%	27.8%	25.5%	22.6%	10.4%
Hospitality and tourism	2.3%	2.8%	2.3%	3.9%	2.2%	2.6%	1.9%	2.8%	2.3%	4.9%
Human services	5.6%	4.6%	4.8%	9.2%	7.6%	5.3%	4.4%	5.0%	3.9%	3.7%

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Information technology	5.0%	4.0%	7.1%	4.5%	4.4%	5.4%	5.1%	5.7%	5.4%	7.5%
Law, public safety, corrections, and security	6.6%	5.2%	3.4%	5.7%	8.0%	7.2%	6.6%	5.7%	9.1%	2.1%
Manufacturing	11.8%	12.7%	8.0%	10.5%	8.9%	9.3%	13.6%	10.4%	11.9%	5.4%
Marketing	0.8%	0.5%	0.9%	1.0%	0.7%	1.1%	0.7%	1.0%	0.9%	2.1%
Science, technology, engineering, and mathematics	0.9%	0.9%	1.8%	0.5%	0.8%	1.2%	0.9%	1.0%	1.1%	1.9%
Transportation, distribution, and logistics	8.3%	10.7%	8.3%	9.7%	8.0%	9.6%	7.9%	7.3%	10.0%	6.4%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Data reflect sub-baccalaureate certificates earned at all Title IV eligible, degree-granting public two-year institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- At public two-year institutions, White students were more likely than any other group to earn their certificates in the health science career cluster (27.8 percent). In contrast, 19.7 percent of Hispanic or Latino students and 10.4 percent of international students earned their certificates in this career cluster.
- American Indian or Alaska Native students were more likely than any other group to earn their certificates in the architecture and construction career cluster (9.2 percent); Asian students were the least likely to complete their certificates in architecture and construction (2.6 percent).
- The range of students who earned their certificates in the human services career cluster was from 3.7 percent of international students and 4.4 percent of White students to 7.6 percent of Hispanic or Latino students and 9.2 percent of Black or African American students.

Similar to patterns observed at public two-year institutions, the most popular career cluster in which students earned their sub-baccalaureate certificates at degree-granting for-profit institutions was health science (67.2 percent). However, the total share of students completing their certificates in this career cluster was 42.4 percentage points higher than the total share of students at public two-year institutions. Students completing their certificates at for-profit institutions were much less likely than students at public two-year institutions to have completed their certificates in the education and training career cluster—only 1.1 percent had done so.

Table 4.4: Career Clusters for Sub-baccalaureate Certificate Completions at Degree-Granting For-Profit Institutions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Agriculture, food, and natural resources	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.1%	0.0%
Architecture and construction	4.7%	3.5%	3.5%	6.2%	4.3%	3.2%	4.9%	2.5%	2.8%	0.3%
Arts, audio/video technology, and communications	2.0%	1.0%	1.3%	1.9%	0.6%	0.8%	1.7%	2.2%	5.9%	40.3%
Business, management, and administration	2.9%	1.6%	1.8%	2.9%	1.8%	2.8%	3.2%	4.2%	6.5%	4.3%
Education and training	1.1%	0.5%	3.6%	0.5%	1.1%	0.5%	1.0%	1.0%	1.3%	7.4%
Finance	0.5%	0.3%	0.6%	0.3%	0.2%	0.6%	0.8%	0.9%	1.3%	0.6%
Government and public administration	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	0.1%	0.1%	0.1%
Health science	67.2%	69.2%	77.7%	65.1%	78.8%	79.4%	61.9%	64.8%	52.8%	9.0%
Hospitality and tourism	2.3%	1.1%	1.3%	3.1%	1.2%	1.0%	2.4%	2.6%	3.8%	2.0%
Human services	3.8%	2.5%	1.1%	6.0%	2.5%	1.3%	3.9%	2.7%	3.7%	0.9%
Information technology	2.9%	1.0%	3.0%	2.9%	1.1%	2.7%	3.0%	4.2%	7.2%	22.7%
Law, public safety, corrections, and security	0.9%	0.4%	0.4%	0.7%	0.5%	0.6%	1.3%	1.1%	1.2%	1.0%
Manufacturing	5.5%	15.2%	2.8%	4.0%	4.8%	3.6%	6.4%	5.7%	7.8%	4.7%
Marketing	0.2%	0.1%	0.1%	0.2%	0.1%	0.2%	0.3%	0.2%	0.5%	0.6%
Science, technology, engineering, and mathematics	0.3%	0.2%	0.2%	0.2%	0.1%	0.2%	0.3%	1.1%	0.3%	2.4%
Transportation, distribution, and logistics	5.6%	3.1%	2.6%	5.9%	2.7%	3.0%	8.4%	6.7%	4.8%	3.7%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Data reflect sub-baccalaureate certificates earned at all Title IV eligible, degree-granting for-profit institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- At degree-granting for-profit institutions, Native Hawaiian or other Pacific Islander students (79.4 percent), Hispanic or Latino students (78.8 percent) and Asian students (77.7 percent) were the most likely to complete their certificates in the health science career cluster, while White students (61.9 percent) were the least likely of all domestic students to be in this career cluster.
- American Indians or Alaska Natives were much more likely than all other groups to have earned their sub-baccalaureate certificates in the manufacturing career cluster (15.2 percent).
- International students were much less likely than domestic students to complete their certificates in the health science career cluster (9.0 percent) and much more likely than domestic students to complete their certificates in arts, audio/video technology, and communications (40.3 percent) and information technology (22.7 percent).

Associate Degree Completions

Between 2015 and 2017, close to 3 million associate degrees were awarded. The top three career clusters among all associate degree completers were education and training (41.1 percent); health science (18.4 percent); and business, management, and administration (8.5 percent). Government and public administration (0.4 percent) and marketing (0.6 percent) were the least common career clusters among associate degree completers.

Table 4.5: Career Clusters for Associate Degree Completions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Architecture and construction	1.0%	1.5%	0.2%	0.2%	0.4%	0.5%	1.5%	0.7%	1.1%	0.5%
Arts, audio/video technology, and communications	1.3%	1.9%	0.9%	0.9%	0.8%	1.6%	1.6%	1.1%	1.5%	1.2%
Business, management, and administration	3.0%	2.4%	3.2%	2.5%	3.4%	2.8%	2.7%	3.9%	3.5%	6.5%
Education and training	8.5%	9.9%	11.5%	10.3%	7.9%	8.9%	7.7%	8.0%	9.8%	14.8%
Finance	41.1%	40.4%	35.5%	41.5%	44.7%	38.7%	40.2%	43.9%	38.6%	44.2%
Government and public administration	1.5%	1.6%	2.5%	1.5%	1.2%	1.5%	1.5%	1.2%	1.9%	2.2%
Health science	0.4%	0.5%	0.3%	0.3%	0.5%	0.7%	0.3%	0.4%	0.2%	0.3%
Hospitality and tourism	18.4%	17.3%	16.8%	18.8%	12.8%	18.8%	21.0%	14.9%	18.0%	5.8%
Human services	1.6%	1.4%	1.5%	2.2%	1.3%	1.7%	1.5%	1.9%	2.3%	3.0%
Information technology	3.2%	4.1%	2.5%	4.6%	4.5%	2.7%	2.5%	3.1%	2.7%	1.4%
Law, public safety, corrections, and security	3.1%	2.8%	4.0%	3.2%	2.0%	3.1%	3.3%	3.0%	3.8%	3.4%

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Manufacturing	4.7%	4.2%	2.1%	5.6%	6.1%	4.7%	4.4%	4.1%	5.0%	1.2%
Marketing	2.9%	3.1%	2.1%	2.3%	1.9%	2.3%	3.6%	2.3%	2.9%	1.6%
Science, technology, engineering, and mathematics	0.6%	0.3%	0.7%	0.6%	0.5%	0.7%	0.6%	0.6%	0.6%	2.7%
Transportation, distribution, and logistics	7.0%	6.2%	15.1%	4.4%	10.4%	8.3%	5.6%	9.1%	5.7%	9.9%
Transportation, Distribution, and Logistics	1.7%	2.4%	1.1%	1.1%	1.4%	3.0%	2.0%	1.7%	2.4%	1.3%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect associate degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- Hispanic or Latino associate degree recipients were the most likely to earn their degrees in the education and training career cluster (44.7 percent), followed by international students (44.2 percent). Asians were the least likely to complete their associate degrees in this career cluster (35.5 percent).
- Black or African American students (4.6 percent) and Hispanic or Latino students (4.5 percent) were the most likely to earn their associate degrees in the human services career cluster. Among domestic students, Asian and White students were the least likely to have earned their associate degrees in this career cluster (2.5 percent each).
- The share of Asian students (15.1 percent) completing associate degrees in the STEM career cluster was more than three times as high as the share of Black or African American associate degree recipients in this career cluster (4.4 percent). These were the highest and lowest shares across all groups.
- The range of domestic students completing associate degrees in the health science career cluster was 12.8 percent of Hispanic or Latino students to 21.0 percent of White students. A much smaller proportion of international students than of domestic students completed associate degrees in the health science career cluster (5.8 percent).

The top three career clusters among women who completed associate degrees were education and training (42.4 percent); health science (25.3 percent); and business, management, and administration (8.2 percent). For men, the top three career clusters were education and training (39.0 percent); business, management, and administration (9.0 percent); and STEM (8.4 percent).

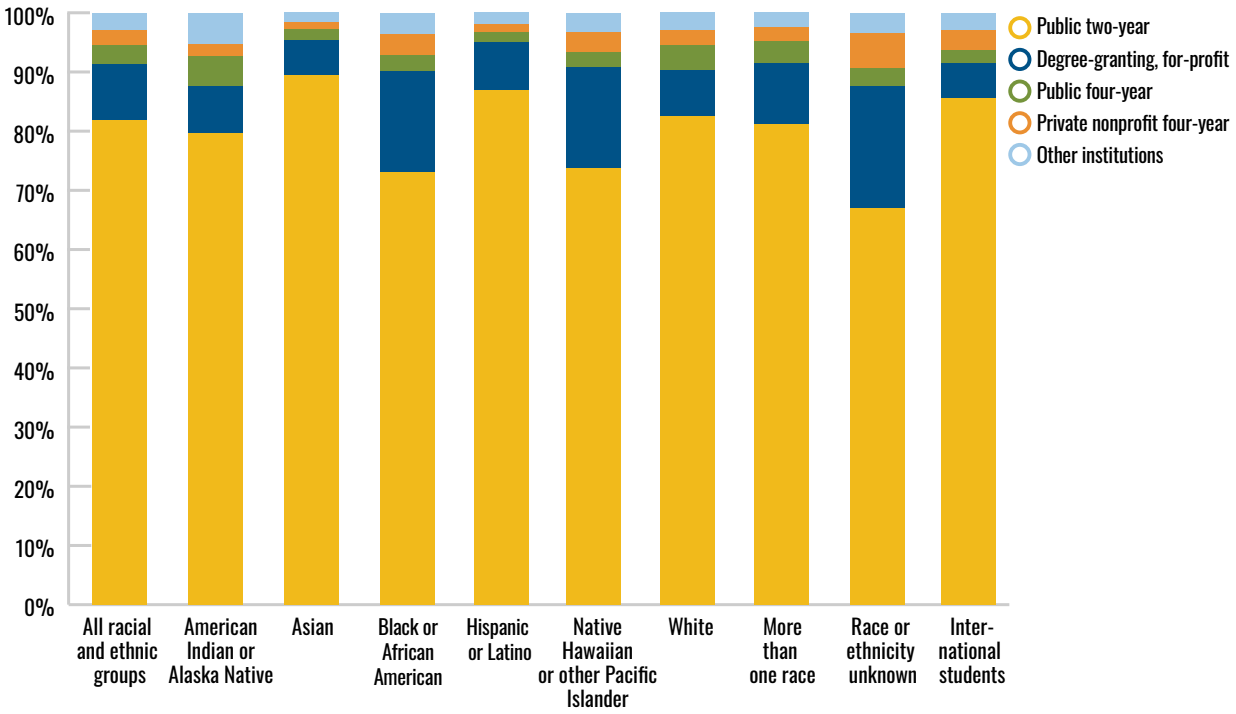
Table 4.6: Top Three Career Clusters for Associate Degree Completions, by Gender: 2015 to 2017

Women	Education and training	42.4%
	Health science	25.3%
	Business, management, and administration	8.2%
Men	Education and training	39.0%
	Business, management, and administration	9.0%
	Science, technology, engineering, and mathematics	8.4%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect associate degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

Between 2015 and 2017, public two-year institutions conferred nearly 82 percent of all associate degrees. Degree-granting for-profit institutions conferred the second most, at 9.4 percent.

Figure 4.2: Associate Degree Completions Across Sectors, by Race and Ethnicity: 2015 to 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. Other institutions include those not separately shown. | Data reflect associate degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017.

- The range in the share of students who completed their associate degrees at public two-year institutions was 73.1 percent of Black or African American students to 89.5 percent of Asian students.

- Black or African American (17.0 percent) and Native Hawaiian or other Pacific Islander (16.9 percent) students were much more likely than all other groups to complete their associate degrees at degree-granting for-profit institutions.

The top three career clusters among associate degree completers at public two-year institutions were education and training (46.2 percent); health science (14.5 percent); and STEM (8.1 percent).

Table 4.7: Career Clusters for Associate Degree Completions at Public Two-Year Institutions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Agriculture, food, and natural resources	1.0%	1.5%	0.2%	0.2%	0.4%	0.5%	1.5%	0.7%	0.9%	0.4%
Architecture and construction	1.3%	2.0%	0.9%	0.9%	0.8%	1.9%	1.6%	1.2%	1.7%	1.0%
Arts, audio/video technology, and communications	2.8%	2.3%	3.0%	2.3%	3.4%	2.5%	2.7%	3.7%	2.7%	4.5%
Business, management, and administration	8.0%	9.2%	12.0%	8.3%	7.8%	8.3%	7.3%	7.1%	7.2%	15.4%
Education and training	46.2%	44.9%	37.8%	51.1%	49.2%	47.3%	44.4%	49.6%	50.4%	48.7%
Finance	1.4%	1.4%	2.5%	1.4%	1.1%	1.5%	1.4%	1.0%	1.3%	1.7%
Government and public administration	0.4%	0.4%	0.3%	0.3%	0.5%	0.7%	0.3%	0.5%	0.2%	0.3%
Health science	14.5%	14.3%	13.2%	12.6%	8.8%	11.1%	17.7%	11.1%	13.4%	5.5%
Hospitality and tourism	1.1%	1.2%	1.2%	1.4%	0.8%	1.3%	1.1%	1.2%	1.2%	1.8%
Human services	3.2%	3.9%	2.7%	4.7%	4.8%	2.9%	2.4%	3.3%	2.6%	1.4%
Information technology	2.8%	2.6%	3.9%	2.7%	1.7%	2.7%	3.1%	2.6%	3.0%	3.1%
Law, public safety, corrections, and security	4.3%	3.7%	2.1%	4.8%	5.7%	4.1%	4.2%	3.6%	3.9%	1.1%
Manufacturing	2.9%	3.1%	2.0%	2.3%	1.9%	2.3%	3.6%	2.3%	2.9%	1.5%
Marketing	0.5%	0.3%	0.5%	0.6%	0.4%	0.4%	0.6%	0.5%	0.4%	1.5%
Science, technology, engineering, and mathematics	8.1%	7.2%	16.7%	5.3%	11.8%	10.8%	6.4%	10.6%	6.7%	11.1%
Transportation, distribution, and logistics	1.4%	1.8%	1.0%	1.0%	1.0%	1.6%	1.6%	1.2%	1.5%	1.2%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Data reflect associate degrees earned at all Title IV eligible, degree-granting public two-year institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- White students were more than twice as likely to complete their associate degrees in the health science career cluster (17.7 percent) as Hispanic or Latino students (8.8 percent) and international students (5.5 percent).
- Black or African American students were the most likely to complete their associate degrees in the education and training career cluster (51.1 percent), while Asian students were the least likely (37.8 percent).
- The share of students who completed their associate degrees in the STEM career cluster ranged from 5.3 percent of Black or African American students to 16.7 percent of Asian students.

The most common career cluster among associate degree completers at for-profit institutions was health science (43.7 percent). This was 29.2 percentage points higher than the total share of students at public two-year institutions who completed their associate degrees in this career cluster. The next two most common career clusters among associate degree completers at for-profit institutions were business, management, and administration (12.5 percent) and law, public safety, corrections, and security (8.4 percent).

Table 4.8: Career Clusters for Associate Degree Completions at Degree-Granting For-Profit Institutions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Agriculture, food, and natural resources	0.5%	0.9%	0.4%	0.1%	0.2%	0.5%	0.8%	0.4%	1.0%	0.0%
Architecture and construction	1.5%	1.7%	1.0%	1.1%	1.3%	0.9%	2.0%	1.0%	1.2%	1.5%
Arts, audio/video technology, and communications	5.4%	4.0%	6.5%	4.1%	5.3%	4.7%	5.0%	6.6%	7.1%	28.8%
Business, management, and administration	12.5%	12.7%	7.5%	16.8%	9.2%	10.2%	10.9%	14.6%	16.8%	13.0%
Education and training	3.5%	2.8%	1.6%	3.5%	2.4%	4.6%	4.0%	4.0%	4.2%	1.1%
Finance	2.8%	3.3%	3.8%	2.2%	2.5%	1.8%	2.8%	3.2%	3.6%	11.2%
Government and public administration	0.6%	1.0%	0.2%	0.3%	0.3%	0.6%	0.9%	0.5%	0.2%	0.0%
Health science	43.7%	39.3%	57.8%	44.4%	47.0%	46.9%	44.9%	38.7%	31.8%	8.9%
Hospitality and tourism	4.3%	4.0%	4.8%	4.8%	4.4%	3.5%	3.7%	3.2%	5.3%	6.5%
Human services	2.0%	1.9%	0.5%	2.4%	1.1%	1.7%	2.2%	2.5%	2.8%	0.8%
Information technology	5.9%	5.0%	5.9%	5.7%	5.0%	5.2%	6.1%	6.4%	6.7%	8.7%
Law, public safety, corrections, and security	8.4%	9.0%	2.9%	8.4%	11.4%	5.7%	7.8%	6.9%	9.1%	3.3%
Manufacturing	2.7%	3.3%	1.3%	2.4%	2.2%	1.7%	3.1%	2.4%	3.3%	1.6%

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Marketing	1.4%	0.6%	3.5%	0.9%	1.8%	2.5%	1.0%	1.2%	1.3%	12.5%
Science, technology, engineering, and mathematics	1.6%	1.3%	0.4%	1.5%	1.1%	1.2%	1.5%	3.1%	3.9%	1.7%
Transportation, distribution, and logistics	3.1%	9.1%	1.9%	1.3%	4.7%	8.2%	3.6%	5.2%	1.5%	0.4%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Data reflect associate degrees earned at all Title IV eligible, degree-granting for-profit institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- Asian students (57.8 percent) were the most likely to earn their associate degrees in the health science career cluster. In contrast, among domestic students, 39.3 percent of American Indian or Alaska Native students and 38.7 percent of students of more than one race completed their associate degrees in this career cluster. International students were the least likely to complete associate degrees in this career cluster (8.9 percent).
- Hispanic or Latino students (11.4 percent) were the most likely to earn their associate degrees in the law, public safety, corrections, and security career cluster. Asian students (2.9 percent) and international students (3.3 percent) were the least likely to complete their associate degrees in this career cluster.
- About 29 percent of international students completed their associate degrees in the arts, audio/video technology, and communications career cluster. The shares of students completing degrees in this career cluster were much lower among other groups.

COMPLETIONS, BY DETAILED FIELD OF STUDY

Developed by the National Center for Education Statistics (NCES), the Classification of Instructional Programs (CIP) provides a taxonomy by which to categorize fields of study in higher education and track credential completions. This section explores sub-baccalaureate certificate and degree completions by broad and detailed fields of study for all completers between 2015 and 2017.

From 2015 to 2017, approximately 5.7 million sub-baccalaureate certificates and degrees were awarded. This analysis uses the CIP taxonomy to organize completions into one of five parent categories: science, technology, engineering, and math fields (STEM); business fields; health and human services; service and manufacturing fields; and social sciences, humanities, and general studies fields.

Table 4.9: Field of Study for Sub-baccalaureate Completions, by Award Level and Race and Ethnicity: 2015 to 2017

		STEM	Business	Health and Human Services	Service and Manufacturing	Social Sciences, Humanities, and General Studies
All Sub-baccalaureate Credentials	All racial and ethnic groups	9.3%	10.0%	27.5%	24.1%	29.1%
	American Indian or Alaska Native	9.3%	10.1%	28.5%	28.2%	23.9%
	Asian	10.9%	13.0%	23.6%	18.4%	34.1%
	Black or African American	7.4%	11.1%	31.1%	27.5%	22.9%
	Hispanic or Latino	7.4%	8.9%	26.3%	23.7%	33.7%
	Native Hawaiian or other Pacific Islander	8.3%	9.3%	30.6%	24.7%	27.1%
	White	10.2%	9.4%	27.9%	24.3%	28.1%
	More than one race	9.3%	9.2%	24.9%	21.5%	35.1%
	Race or ethnicity unknown	10.1%	11.1%	28.2%	23.2%	27.4%
	International students	12.2%	20.8%	9.3%	10.9%	46.7%
Sub-baccalaureate Certificates	All racial and ethnic groups	9.3%	8.9%	34.4%	38.2%	9.2%
	American Indian or Alaska Native	9.2%	8.3%	32.6%	42.8%	7.1%
	Asian	10.1%	10.4%	30.9%	32.7%	15.8%
	Black or African American	7.4%	9.6%	37.4%	40.6%	5.0%
	Hispanic or Latino	7.6%	8.0%	37.3%	35.7%	11.4%
	Native Hawaiian or other Pacific Islander	8.5%	7.3%	40.6%	36.7%	6.9%
	White	10.3%	8.6%	32.8%	39.5%	8.7%
	More than one race	9.9%	8.0%	34.3%	35.3%	12.5%
	Race or ethnicity unknown	10.3%	9.3%	36.4%	35.1%	8.9%
	International students	14.3%	21.4%	14.3%	21.6%	28.3%

		STEM	Business	Health and Human Services	Service and Manufacturing	Social Sciences, Humanities, and General Studies
Associate Degrees	All racial and ethnic groups	9.3%	11.0%	21.1%	10.9%	47.7%
	American Indian or Alaska Native	9.5%	12.1%	23.8%	11.6%	42.9%
	Asian	11.5%	15.1%	17.7%	6.7%	49.1%
	Black or African American	7.3%	13.0%	23.2%	11.4%	45.1%
	Hispanic or Latino	7.1%	9.9%	15.5%	11.8%	55.7%
	Native Hawaiian or other Pacific Islander	8.1%	11.3%	20.8%	12.7%	47.0%
	White	10.1%	10.1%	23.6%	11.0%	45.1%
	More than one race	8.8%	10.1%	17.2%	10.2%	53.7%
	Race or ethnicity unknown	9.9%	12.7%	20.7%	12.2%	44.5%
	International students	11.2%	20.5%	6.9%	5.7%	55.6%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Notes: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017. | STEM includes the following fields: agriculture; biological and physical sciences and sciences technology; computer and information sciences and support services; engineering; mathematics.

- Overall, social sciences, humanities, and general studies were the most common fields of study, with 29.1 percent of all sub-baccalaureate credentials being awarded in this area. Nearly half of all associate degrees were awarded in these fields (47.7 percent), while only 9.2 percent of certificates were.
- Close to 28 percent of all sub-baccalaureate credentials were awarded in health and human services (27.5 percent). Health and human services accounted for 34.4 percent of certificates, while only 21.1 percent of associate degrees were awarded in these fields.
- Nearly 40 percent of all certificates were awarded in service and manufacturing fields (38.2 percent), while only 10.9 percent of associate degrees were awarded in these fields.
- Business and STEM fields each made up approximately 10 percent of both certificates and associate degrees awarded.

STEM Fields

From 2015 to 2017, computer and information sciences (42.9 percent) and engineering and engineering technologies (37.4 percent) were the most common STEM fields of study for sub-baccalaureate degree and certificate recipients, with 88 percent of certificates and 73 percent of associate degrees earned in these fields.

Table 4.10: Detailed Field of Study for Sub-baccalaureate Completions in STEM, by Award Level and Race and Ethnicity: 2015 to 2017

		Agriculture	Biological and Physical Sciences and Science Technology	Computer and Information Sciences and Support Services	Engineering and Engineering Technology	Mathematics
All Sub-baccalaureate Credentials	All racial and ethnic groups	8.1%	9.7%	42.9%	37.4%	1.8%
	American Indian or Alaska Native	10.7%	8.5%	39.1%	40.8%	0.9%
	Asian	1.4%	18.8%	46.2%	27.7%	6.0%
	Black or African American	2.3%	8.4%	52.8%	36.0%	0.6%
	Hispanic or Latino	4.3%	14.4%	40.5%	37.1%	3.6%
	Native Hawaiian or other Pacific Islander	3.7%	11.1%	45.1%	38.2%	1.8%
	White	11.2%	7.7%	40.8%	39.2%	1.1%
	More than one race	5.8%	11.6%	47.2%	33.0%	2.5%
	Race or ethnicity unknown	7.5%	7.9%	47.7%	35.9%	1.0%
	International students	3.3%	17.9%	44.4%	29.2%	5.3%
Sub-baccalaureate Certificates	All racial and ethnic groups	7.6%	4.2%	48.0%	40.0%	0.2%
	American Indian or Alaska Native	8.4%	2.1%	43.9%	45.5%	0.1%
	Asian	2.0%	6.6%	57.4%	32.5%	1.6%
	Black or African American	3.0%	4.1%	54.3%	38.5%	0.1%
	Hispanic or Latino	5.2%	4.0%	46.7%	44.0%	0.1%
	Native Hawaiian or other Pacific Islander	3.9%	4.1%	46.7%	45.2%	0.1%
	White	10.1%	4.1%	45.4%	40.3%	0.1%
	More than one race	5.6%	4.3%	53.2%	36.8%	0.2%
	Race or ethnicity unknown	7.0%	4.0%	51.4%	37.5%	0.1%
	International students	3.3%	5.6%	59.4%	29.3%	2.4%

		Agriculture	Biological and Physical Sciences and Science Technology	Computer and Information Sciences and Support Services	Engineering and Engineering Technology	Mathematics
Associate Degrees	All racial and ethnic groups	8.6%	14.9%	38.2%	35.0%	3.3%
	American Indian or Alaska Native	13.3%	15.6%	33.7%	35.6%	1.7%
	Asian	0.9%	27.6%	38.1%	24.2%	9.2%
	Black or African American	1.3%	13.8%	50.9%	32.9%	1.1%
	Hispanic or Latino	3.4%	25.5%	34.0%	29.7%	7.4%
	Native Hawaiian or other Pacific Islander	3.6%	18.3%	43.5%	31.1%	3.6%
	White	12.2%	10.9%	36.7%	38.2%	2.1%
	More than one race	5.9%	18.4%	41.7%	29.4%	4.6%
	Race or ethnicity unknown	7.9%	11.6%	44.2%	34.5%	1.9%
	International students	3.2%	25.4%	35.3%	29.1%	7.1%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Note: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- Among those who earned their sub-baccalaureate awards in STEM fields, more than half (52.8 percent) of Black or African American students earned their credentials in computer and information sciences, more than any other group. American Indians or Alaska Natives were the least likely of all groups to complete their sub-baccalaureate credentials in this field (39.1 percent).
- White (11.2 percent) and American Indian or Alaska Native (10.7 percent) students were the most likely to earn their STEM-focused sub-baccalaureate awards in agriculture. The shares of other groups completing sub-baccalaureate awards in this field were much lower.
- Asian students (6.0 percent) and Hispanic or Latino students (3.6 percent) were the most likely to earn their STEM-focused sub-baccalaureate awards in math. Less than 1 percent of American Indian or Alaska Native students and Black or African American students completed their awards in this field, the lowest shares of all groups.
- International students (59.4 percent) were the most likely to earn their STEM-focused certificates in computer and information sciences. Among domestic students, American Indian or Alaska Native (45.5 percent), Native Hawaiian or other Pacific Islander (45.2 percent), and Hispanic or Latino (44.0 percent) students were the most likely to earn their STEM-focused certificates in engineering and engineering technologies.
- Black or African American students were the most likely to earn their STEM-focused associate degrees in computer and information sciences (50.9 percent). The shares of other groups earning associate degrees in this field were much lower.
- Asian students were the most likely to earn their STEM-focused associate degrees in mathematics (9.2 percent) and the least likely to earn their associate degrees in engineering and engineering technologies (24.2 percent).

Business Fields

From 2015 to 2017, management (47.9 percent) and general business (26.9 percent) were the most common business fields for sub-baccalaureate degree and certificate recipients.

Table 4.11: Detailed Field of Study for Sub-baccalaureate Completions in Business Fields, by Award Level and Race and Ethnicity: 2015 to 2017

		General Business	Marketing and Sales	Finance	Management	Hospitality
All Sub-baccalaureate Credentials	All racial and ethnic groups	26.9%	4.9%	16.4%	47.9%	3.9%
	American Indian or Alaska Native	31.7%	3.0%	15.4%	46.3%	3.6%
	Asian	21.2%	3.5%	24.3%	47.3%	3.6%
	Black or African American	28.1%	4.4%	12.8%	49.0%	5.7%
	Hispanic or Latino	28.6%	3.9%	17.1%	47.7%	2.7%
	Native Hawaiian or other Pacific Islander	27.0%	5.3%	16.6%	47.9%	3.2%
	White	27.1%	5.2%	16.7%	47.3%	3.8%
	More than one race	25.7%	5.2%	14.8%	50.0%	4.2%
	Race or ethnicity unknown	21.3%	4.6%	16.1%	54.4%	3.6%
	International students	26.0%	10.5%	13.6%	43.9%	6.0%
Sub-baccalaureate Certificates	All racial and ethnic groups	31.3%	4.9%	20.2%	39.0%	4.6%
	American Indian or Alaska Native	42.9%	3.6%	18.9%	30.0%	4.5%
	Asian	27.8%	3.2%	38.2%	27.1%	3.6%
	Black or African American	29.8%	4.5%	14.8%	43.6%	7.3%
	Hispanic or Latino	34.9%	3.8%	23.2%	35.1%	3.0%
	Native Hawaiian or other Pacific Islander	33.2%	6.2%	22.3%	34.1%	4.2%
	White	31.6%	5.3%	19.6%	39.4%	4.1%
	More than one race	30.5%	6.0%	19.4%	38.7%	5.4%
	Race or ethnicity unknown	27.1%	5.3%	18.3%	45.2%	4.2%
	International students	20.4%	7.5%	20.1%	43.9%	8.1%

		General Business	Marketing and Sales	Finance	Management	Hospitality
Associate Degrees	All racial and ethnic groups	23.5%	4.9%	13.5%	54.6%	3.5%
	American Indian or Alaska Native	22.9%	2.5%	12.7%	59.0%	2.9%
	Asian	17.5%	3.7%	16.5%	58.7%	3.6%
	Black or African American	26.6%	4.3%	10.9%	53.9%	4.2%
	Hispanic or Latino	23.6%	4.1%	12.2%	57.7%	2.4%
	Native Hawaiian or other Pacific Islander	23.1%	4.8%	13.0%	56.6%	2.6%
	White	23.7%	5.1%	14.5%	53.3%	3.5%
	More than one race	22.7%	4.7%	11.9%	57.3%	3.4%
	Race or ethnicity unknown	17.4%	4.1%	14.6%	60.6%	3.3%
	International students	28.9%	12.0%	10.4%	43.9%	5.0%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Note: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- Among those who earned their sub-baccalaureate degrees and certificates in business fields, international students (6.0 percent) and Black or African American students (5.7 percent) were the most likely to earn their credentials in hospitality. Hispanic or Latino students were the least likely to have earned their sub-baccalaureate awards in this field (2.7 percent).
- International students were twice as likely to earn sub-baccalaureate credentials in marketing and sales (10.5 percent) as all students (4.9 percent). Among domestic students, Native Hawaiian or other Pacific Islander students were more likely than any other racial or ethnic group to earn their business-focused sub-baccalaureate awards in marketing and sales (5.3 percent).
- American Indian or Alaska Native students (42.9 percent) and Hispanic or Latino students (34.9 percent) were the most likely to earn their business-focused certificates in general business. Asian (27.8 percent) and international (20.4 percent) students were the least likely to have completed their certificates in this field.
- Asian students were more than twice as likely as Black or African American students to complete their business-focused certificates in finance (38.2 percent and 14.8 percent respectively).
- Nearly 60 percent of American Indian or Alaska Native students earned their business-focused associate degrees in management, the most of any group. In contrast, international students were the least likely to complete associate degrees in this field (43.9 percent).
- Hispanic or Latino students who earned business-focused associate degrees were most likely to major in management (57.7 percent) and least likely to major in hospitality (2.4 percent).

Health and Human Services Fields

Nursing (33.0 percent), allied health services (23.3 percent), and diagnostic services (14.3 percent) were the most common health and human services fields for both sub-baccalaureate degree and certificate recipients.

Table 4.12: Detailed Field of Study for Sub-baccalaureate Completions in Health and Human Services Fields, by Award Level and Race and Ethnicity: 2015 to 2017

		Diagnostic Services	Specialist Services	Therapeutic Services	Nursing	Allied Health Services	Non-treatment Fields	Education	Human Services, Social Work and Public Administration
All Sub-baccalaureate Credentials	All racial and ethnic groups	14.3%	5.3%	5.4%	33.0%	23.3%	11.5%	5.3%	2.0%
	American Indian or Alaska Native	11.3%	5.2%	5.3%	27.3%	23.7%	13.6%	10.4%	3.1%
	Asian	16.1%	5.5%	5.3%	36.6%	21.2%	11.3%	3.1%	0.9%
	Black or African American	9.0%	4.7%	6.3%	29.2%	27.2%	15.5%	5.0%	3.2%
	Hispanic or Latino	12.4%	8.3%	4.8%	23.8%	32.8%	10.2%	5.7%	1.9%
	Native Hawaiian or other Pacific Islander	12.0%	5.5%	5.7%	28.4%	29.8%	13.2%	4.0%	1.5%
	White	16.4%	4.6%	5.2%	37.5%	19.1%	10.3%	5.3%	1.7%
	More than one race	14.1%	5.4%	6.6%	31.5%	23.7%	11.5%	5.0%	2.2%
	Race or ethnicity unknown	14.0%	4.1%	6.3%	29.0%	21.5%	16.9%	5.6%	2.6%
	International students	15.3%	4.5%	7.6%	32.4%	15.0%	10.2%	12.0%	3.0%
Sub-baccalaureate Certificates	All racial and ethnic groups	14.4%	6.3%	6.9%	29.6%	26.7%	11.8%	3.5%	0.9%
	American Indian or Alaska Native	11.9%	6.8%	6.4%	26.5%	28.0%	13.9%	5.2%	1.3%
	Asian	14.5%	5.1%	7.7%	32.7%	24.1%	12.7%	2.7%	0.5%
	Black or African American	8.8%	6.2%	6.5%	28.8%	31.6%	13.8%	3.1%	1.1%
	Hispanic or Latino	11.6%	10.1%	5.5%	20.6%	37.9%	10.3%	3.2%	0.8%
	Native Hawaiian or other Pacific Islander	9.3%	6.5%	7.3%	26.7%	32.3%	14.2%	2.8%	0.9%
	White	17.8%	5.0%	7.3%	33.9%	20.4%	11.3%	3.6%	0.8%
	More than one race	14.2%	6.3%	8.6%	29.1%	26.4%	11.1%	3.2%	1.0%
	Race or ethnicity unknown	14.9%	4.6%	8.5%	26.3%	24.3%	15.7%	4.4%	1.3%
	International students	18.4%	3.8%	12.0%	28.5%	14.3%	9.2%	11.6%	2.2%

		Diagnostic Services	Specialist Services	Therapeutic Services	Nursing	Allied Health Services	Non-treatment Fields	Education	Human Services, Social Work and Public Administration
Associate Degrees	All racial and ethnic groups	14.0%	3.8%	3.1%	38.2%	18.0%	11.0%	8.1%	3.7%
	American Indian or Alaska Native	10.5%	2.6%	3.7%	28.6%	17.1%	13.1%	18.4%	6.0%
	Asian	18.4%	6.1%	1.9%	42.2%	17.0%	9.4%	3.7%	1.3%
	Black or African American	9.3%	1.7%	5.8%	30.0%	18.4%	18.8%	8.7%	7.2%
	Hispanic or Latino	14.5%	3.9%	3.1%	31.3%	20.6%	10.2%	11.7%	4.6%
	Native Hawaiian or other Pacific Islander	17.2%	3.6%	2.5%	31.6%	24.9%	11.3%	6.2%	2.6%
	White	14.8%	4.2%	2.6%	41.9%	17.5%	9.0%	7.4%	2.8%
	More than one race	13.9%	3.8%	3.3%	35.4%	19.2%	12.3%	7.9%	4.2%
	Race or ethnicity unknown	12.6%	3.3%	2.7%	33.3%	17.0%	18.8%	7.4%	4.7%
	International students	12.3%	5.1%	3.2%	36.4%	15.7%	11.2%	12.4%	3.7%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Note: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- Among those who earned their sub-baccalaureate awards in health and human services, larger shares of White students (37.5 percent) and Asian students (36.6 percent) than of other groups earned their credentials in nursing.
- Overall, Hispanic or Latino students (32.8 percent) and Native Hawaiian or other Pacific Islander students (29.8 percent) were the most likely to earn their health and human services-focused sub-baccalaureate awards in allied health services. Among associate degree recipients, higher shares of Native Hawaiians or other Pacific Islanders than of other groups earned degrees in this field (24.9 percent)
- More than 10 percent of international students (12.0 percent) and American Indian or Alaska Native students (10.4 percent) earned their health and human services-focused sub-baccalaureate awards in education, the highest shares across all groups.
- Asian students (18.4 percent) and Native Hawaiian or other Pacific Islander students (17.2 percent) were the most likely to earn their health and human services-focused associate degrees in diagnostic services. In contrast, 9.3 percent of Black or African American students earned their degrees in this field.
- Higher shares of American Indian or Alaska Native (18.4 percent), international students (12.4 percent), and Hispanic or Latino students (11.7 percent) earned their health and human services-focused associate degrees in education than all other groups.
- Black or African American students were the most likely to earn their health and human services-focused associate degrees in human services, social work, and public administration (7.2 percent), followed by American Indians or Alaska Natives (6.0 percent). The shares among other groups completing associate degrees in this field were much lower.
- Hispanic or Latino students were the least likely to earn their health and human services-focused certificates in nursing (20.6 percent), but the most likely to earn their certificates in allied health services (37.9 percent).

Service and Manufacturing Fields

Manufacturing, building trades, and civic design (41.3 percent); cosmetology (20.9 percent); and military and protective services (16.8 percent) were the most common service fields of study for sub-baccalaureate degree and certificate recipients. Among associate degree recipients, military and protective services was the most common service and manufacturing field of study (37.2 percent).

Table 4.13: Detailed Field of Study for Sub-baccalaureate Completions in Service and Manufacturing Fields, by Award Level and Race and Ethnicity: 2015 to 2017

		Culinary Arts	Cosmetology	Lifestyle Services	Military and Protective Services	Legal	Transportation	Manufacturing and Building Trades and Civic Design	Funeral Service and Mortuary Science	Other Services
All Sub-baccalaureate Credentials	All racial and ethnic groups	5.9%	20.9%	6.1%	16.8%	2.7%	5.8%	41.3%	0.4%	0.2%
	American Indian or Alaska Native	5.2%	14.6%	5.0%	11.6%	1.8%	7.8%	53.7%	0.1%	0.2%
	Asian	7.2%	36.0%	7.8%	9.9%	2.1%	4.5%	32.2%	0.1%	0.2%
	Black or African American	7.2%	24.5%	8.1%	13.8%	2.3%	9.5%	34.0%	0.5%	0.1%
	Hispanic or Latino	5.2%	22.4%	8.7%	20.6%	2.4%	3.4%	37.1%	0.2%	0.1%
	Native Hawaiian or other Pacific Islander	7.3%	21.8%	4.2%	15.9%	1.7%	6.1%	42.5%	0.3%	0.2%
	White	5.2%	19.0%	4.6%	16.9%	2.8%	5.4%	45.3%	0.5%	0.2%
	More than one race	8.1%	20.9%	4.9%	16.2%	2.5%	3.4%	43.5%	0.3%	0.1%
	Race or ethnicity unknown	8.4%	13.7%	4.1%	18.8%	4.1%	7.4%	42.9%	0.2%	0.5%
	International students	18.4%	14.8%	10.9%	9.7%	2.9%	13.3%	29.8%	0.1%	0.0%
Sub-baccalaureate Certificates	All racial and ethnic groups	4.2%	27.1%	5.4%	10.5%	1.3%	7.1%	44.0%	0.1%	0.2%
	American Indian or Alaska Native	4.1%	17.7%	4.3%	6.8%	0.8%	9.4%	56.5%	0.1%	0.3%
	Asian	5.4%	44.8%	6.8%	5.4%	1.4%	5.0%	30.9%	0.0%	0.3%
	Black or African American	5.6%	29.9%	7.3%	7.2%	1.0%	11.5%	37.1%	0.2%	0.2%
	Hispanic or Latino	4.0%	29.6%	7.9%	11.9%	1.2%	4.1%	41.1%	0.1%	0.1%
	Native Hawaiian or other Pacific Islander	5.9%	29.3%	4.0%	9.0%	1.0%	7.3%	43.1%	0.0%	0.3%
	White	3.5%	24.8%	3.9%	11.5%	1.4%	6.6%	47.8%	0.2%	0.2%
	More than one race	5.5%	27.8%	4.6%	9.6%	1.2%	3.9%	47.1%	0.1%	0.2%
	Race or ethnicity unknown	5.7%	18.7%	3.6%	13.6%	2.1%	9.3%	46.3%	0.0%	0.6%
	International students	10.7%	22.3%	11.3%	6.5%	1.7%	16.4%	31.0%	0.0%	0.0%

		Culinary Arts	Cosmetology	Lifestyle Services	Military and Protective Services	Legal	Transportation	Manufacturing and Building Trades and Civic Design	Funeral Service and Mortuary Science	Other Services
Associate Degrees	All racial and ethnic groups	11.3%	0.8%	8.2%	37.2%	7.1%	1.5%	32.5%	1.4%	0.0%
	American Indian or Alaska Native	9.6%	1.2%	8.0%	31.6%	5.9%	1.0%	42.2%	0.4%	0.0%
	Asian	14.3%	1.0%	11.9%	28.0%	4.8%	2.3%	37.5%	0.4%	0.0%
	Black or African American	14.1%	1.0%	11.2%	42.6%	8.1%	0.8%	20.2%	2.1%	0.0%
	Hispanic or Latino	8.8%	0.8%	11.0%	46.7%	6.0%	1.0%	25.1%	0.6%	0.0%
	Native Hawaiian or other Pacific Islander	11.1%	0.4%	4.7%	35.4%	3.9%	2.5%	40.8%	1.1%	0.0%
	White	10.4%	0.8%	6.5%	34.0%	7.3%	1.6%	37.6%	1.7%	0.0%
	More than one race	15.4%	1.1%	5.9%	34.9%	6.4%	2.1%	33.2%	0.9%	0.0%
	Race or ethnicity unknown	15.4%	0.5%	5.4%	32.4%	9.2%	2.4%	33.8%	0.8%	0.0%
	International students	32.4%	1.1%	10.2%	15.5%	5.2%	7.6%	27.7%	0.4%	0.0%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Note: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- Among those who earned their sub-baccalaureate certificates and degrees in service and manufacturing fields, over half of all American Indians or Alaska Natives earned their credentials in manufacturing, building trades, and civic design (53.7 percent). In contrast, international students (29.8 percent), Asian students (32.2 percent), and Black or African American students (34.0 percent) were the least likely to earn their service and manufacturing-focused sub-baccalaureate awards in these fields.
- Hispanic or Latino students were the most likely to earn their service and manufacturing-focused sub-baccalaureate awards in military and protective services (20.6 percent). This was more than double the share of Asian students (9.9 percent) and international students (9.7 percent) who completed their sub-baccalaureate awards in this field.
- More than one-third of Asian students earned their service and manufacturing-focused sub-baccalaureate awards in cosmetology (36.0 percent), a much higher share than all other groups.
- International students were the most likely of any group to earn their service and manufacturing-focused certificates in transportation (16.4 percent). Among domestic students, Black or African American students were the most likely to have earned their certificates in this field (11.5 percent).
- Approximately 30 percent each of Black or African American students, Hispanic or Latino students, and Native Hawaiian or other Pacific Islander students earned their service and manufacturing-focused certificates in cosmetology.
- Slightly less than half of Hispanic or Latino students (46.7 percent) and Black or African American students (42.6 percent) earned their service and manufacturing-focused associate degrees in military and protective services. Among domestic students, American Indian or Alaska Native students (31.6 percent) and Asian students (28.0 percent) were the least likely to complete associate degrees in this field.
- International students were the most likely to earn their service and manufacturing-focused associate degrees in culinary arts (32.4 percent). In contrast, less than 10 percent of American Indian or Alaska Native (9.6 percent) and Hispanic or Latino (8.8 percent) students completed their associate degrees in this field.

Social Sciences, Humanities, and General Studies Fields

More than three-quarters of sub-baccalaureate degree and certificate recipients in social sciences, humanities, and general studies earned their awards in general studies (78.0 percent). General studies was also the top field among certificate (66.3 percent) and associate degree (80.1 percent) recipients.

Table 4.14: Detailed Field of Study for Sub-baccalaureate Completions in Social Sciences, Humanities, and General Studies Fields, by Award Level and Race and Ethnicity: 2015 to 2017

		Foreign Language and Cultural Studies	Communications	History, Humanities, and Performing Arts	General Studies	Social Sciences	Multi/ Interdisciplinary Studies
All Sub-baccalaureate Credentials	All racial and ethnic groups	1.0%	1.9%	7.7%	78.0%	5.4%	6.0%
	American Indian or Alaska Native	2.9%	1.3%	7.8%	76.6%	7.1%	4.3%
	Asian	0.7%	1.9%	7.7%	69.8%	8.2%	11.7%
	Black or African American	0.6%	2.5%	6.6%	82.4%	3.9%	4.1%
	Hispanic or Latino	1.3%	2.2%	6.5%	74.2%	9.1%	6.6%
	Native Hawaiian or other Pacific Islander	1.6%	1.5%	6.2%	76.0%	8.3%	6.4%
	White	0.9%	1.7%	7.9%	80.2%	3.9%	5.5%
	More than one race	1.3%	2.3%	7.8%	74.8%	6.9%	6.8%
	Race or ethnicity unknown	0.8%	1.8%	11.7%	76.0%	3.4%	6.2%
	International students	1.0%	2.4%	14.4%	73.1%	4.2%	4.9%
Sub-baccalaureate Certificates	All racial and ethnic groups	3.2%	4.8%	20.1%	66.3%	1.9%	3.7%
	American Indian or Alaska Native	5.8%	3.3%	21.3%	63.1%	2.0%	4.6%
	Asian	1.7%	2.6%	15.8%	75.1%	1.1%	3.7%
	Black or African American	2.8%	11.5%	23.6%	58.0%	0.9%	3.2%
	Hispanic or Latino	3.2%	3.4%	12.9%	77.1%	0.9%	2.5%
	Native Hawaiian or other Pacific Islander	3.3%	2.7%	14.0%	73.6%	1.1%	5.3%
	White	3.4%	4.5%	22.0%	63.1%	2.7%	4.4%
	More than one race	3.8%	5.2%	17.7%	67.0%	2.0%	4.4%
	Race or ethnicity unknown	2.7%	6.1%	38.1%	46.4%	2.0%	4.6%
	International students	3.0%	4.8%	28.1%	59.7%	1.8%	2.7%

		Foreign Language and Cultural Studies	Communications	History, Humanities, and Performing Arts	General Studies	Social Sciences	Multi/ Interdisciplinary Studies
Associate Degrees	All racial and ethnic groups	0.6%	1.4%	5.5%	80.1%	6.0%	6.4%
	American Indian or Alaska Native	2.4%	0.9%	5.3%	79.2%	8.0%	4.3%
	Asian	0.4%	1.8%	5.5%	68.5%	10.0%	13.8%
	Black or African American	0.3%	1.3%	4.3%	85.7%	4.3%	4.2%
	Hispanic or Latino	0.9%	2.0%	5.2%	73.7%	10.8%	7.4%
	Native Hawaiian or other Pacific Islander	1.3%	1.3%	5.0%	76.4%	9.4%	6.6%
	White	0.4%	1.2%	5.5%	83.1%	4.1%	5.7%
	More than one race	0.9%	1.8%	5.9%	76.3%	7.9%	7.2%
	Race or ethnicity unknown	0.4%	1.0%	6.8%	81.5%	3.7%	6.5%
	International students	0.5%	1.8%	11.0%	76.4%	4.8%	5.5%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017
Note: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- Among those who earned their sub-baccalaureate certificates and degrees in social sciences, humanities, and general studies fields, higher shares of Black or African American students (82.4 percent) and White students (80.2 percent) earned their credentials in general studies than any other group.
- Asian students were nearly twice as likely as all other groups to earn their social science or humanities-focused sub-baccalaureate awards in multi or interdisciplinary studies (11.7 percent).
- Hispanic or Latino students were the most likely to earn their social science or humanities-focused sub-baccalaureate awards in social sciences (9.1 percent). In contrast, 3.9 percent each of Black or African American and White students earned their degrees in this field.
- A higher share of international students (28.1 percent) than of domestic students earned their social sciences or humanities-focused certificates in history, humanities, and performing arts.
- Black or African American students were the most likely to earn their social sciences or humanities-focused certificates in communications (11.5 percent). Asian students were the least likely to have completed certificates in these fields (2.6 percent).
- Asian students were the least likely to earn their social sciences or humanities-focused associate degrees in general studies (68.5 percent), while Black or African American students were the most likely (85.7 percent).

ADULT TRAINING AND EDUCATION

The Adult Training and Education Survey (ATES) is a part of the National Household Education Surveys Program of the National Center for Education Statistics. The ATES is a nationally representative survey of adults ages 16 to 65 who are not enrolled in high school. One of the main goals of the ATES was to capture both the prevalence of work certifications, licenses, and work experience programs and individuals' perceptions of their usefulness in the labor market. Work certifications include any occupational credential awarded by a certification body based on an individual demonstrating through an examination process the acquisition of specialized knowledge, skills, and abilities to perform a specific job (e.g., project management certificate, Cisco certified network associate). A license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job (e.g., medical license, electrician's license). Finally, work experience programs help adults develop skills necessary for success in the workforce but do not typically result in receiving a work or educational credential (e.g., internships, apprenticeships, practicums).

Work Certifications and Licenses

Approximately one in five (21.1 percent) adults reported having either a work certification or license, with 17.6 percent of adults having at least one license and 6.0 percent of adults having at least one work certification.

Table 4.15: Percentage of Adults Who Have a Work Certification or License, by Gender and Race and Ethnicity: 2016

		% with Work Certifications	% with Work Licenses	% with Any Work Certifications or Licenses
All Adults	All racial and ethnic groups	6.0%	17.6%	21.1%
	American Indian or Alaska Native	6.4%	13.7%	17.2%
	Asian or Pacific Islander	4.9%	14.1%	17.3%
	Black or African American	4.9%	17.4%	20.0%
	Hispanic or Latino	4.2%	11.6%	14.3%
	White	6.8%	19.8%	23.8%
	More than one race	5.2%	14.2%	17.7%
Women	All racial and ethnic groups	5.7%	19.7%	23.0%
	American Indian or Alaska Native	5.7%	14.8%	18.0%
	Asian or Pacific Islander	4.8%	16.3%	19.2%
	Black or African American	4.5%	19.1%	21.8%
	Hispanic or Latina	4.4%	13.6%	16.5%
	White	6.4%	22.0%	25.6%
	More than one race	4.3%	18.7%	21.0%

		% with Work Certifications	% with Work Licenses	% with Any Work Certifications or Licenses
Men	All racial and ethnic groups	6.4%	15.1%	18.9%
	American Indian or Alaska Native	7.3%!	12.4%	16.3%
	Asian or Pacific Islander	5.0%	11.5%	15.0%
	Black or African American	5.4%	15.2%	17.7%
	Hispanic or Latino	4.0%	9.3%	11.6%
	White	7.4%	17.3%	21.7%
	More than one race	6.4%	8.1%	13.2%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016
Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Women (19.7 percent) were more likely to have a work license than men (15.1 percent). However, men (6.4 percent) were more likely to have a work certification than women (5.7 percent).
- Regardless of gender, White adults (23.8 percent) and Black or African American adults (20.0 percent) were more likely to have either a work certification or license than other groups.
- Hispanic or Latino adults were the least likely to have either work certifications (4.2 percent) or licenses (11.6 percent). Of Hispanic or Latino men, only 4.0 percent had earned a work certification and only 9.3 percent had earned a work license.

Adults with higher education levels were more likely to have at least one work certification or license. Work licenses were most commonly held by individuals with graduate or professional degrees (42.7 percent).

Table 4.16: Percentage of Adults Who Have a Work Certification or License, by Level of Educational Attainment and Race and Ethnicity: 2016

		% with Work Certifications	% with Work Licenses	% with Any Work Certifications or Licenses
High School Credential or Less	All racial and ethnic groups	2.8%	7.7%	9.6%
	American Indian or Alaska Native	5.1%!	7.6%!	10.4%
	Asian or Pacific Islander	2.2%!	6.8%	8.3%
	Black or African American	1.8%	9.6%	10.7%
	Hispanic or Latino	2.1%	4.9%	6.3%
	White	3.4%	8.8%	11.1%
	More than one race	2.3%!!	6.2%!!	8.5%!!
Some College but No Bachelor's Degree	All racial and ethnic groups	6.8%	17.6%	21.7%
	American Indian or Alaska Native	6.1%	12.8%	16.9%
	Asian or Pacific Islander	5.1%!	12.5%	16.8%
	Black or African American	6.1%	17.9%	21.4%
	Hispanic or Latino	7.4%	17.9%	22.2%
	White	6.9%	18.2%	22.4%
	More than one race	5.5%	11.0%	15.1%
Bachelor's Degree	All racial and ethnic groups	8.5%	22.6%	27.4%
	American Indian or Alaska Native	8.5%!	23.7%	28.6%
	Asian or Pacific Islander	5.3%	15.3%	17.9%
	Black or African American	7.9%	28.1%	31.9%
	Hispanic or Latino	6.6%	20.9%	25.2%
	White	9.3%	23.2%	28.5%
	More than one race	4.5%!	18.4%	20.4%
Graduate or Professional Degree	All racial and ethnic groups	10.3%	42.7%	47.7%
	American Indian or Alaska Native	12.9%!!	38.9%	40.9%
	Asian or Pacific Islander	7.3%	23.1%	27.9%
	Black or African American	11.6%	41.1%	45.9%
	Hispanic or Latino	7.2%	40.6%	44.7%
	White	10.9%	46.5%	51.7%
	More than one race	12.3%!!	39.0%	45.3%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016
Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- Among those who have some college but no bachelor's degree, the percentage of people who have work certifications was higher among Hispanic or Latino adults (7.4 percent) than White adults (6.9 percent).
- Among those who have earned a bachelor's degree, White adults (9.3 percent) and American Indian or Alaska Native adults (8.5 percent) were the most likely to have earned a work certification.
- Among those who have a graduate or professional degree, the percentage of adults with a work certification was higher among Black or African American individuals (11.6 percent) than White individuals (10.9 percent).
- Among those who have a graduate or professional degree, the percentage of adults with a work license was highest among White adults (46.5 percent) and lowest among Asian or Pacific Islander adults (23.1 percent).

Nearly 70 percent of adults working in the healthcare field reported having at least one work certification or license, the most of any occupational field.

Table 4.17: Percentage of Adults Within Occupational Fields Who Have a Work Certification or License, by Race and Ethnicity: 2016

	Administrative Support	Applied	Arts, Design, Entertainment, and Media	Business	Food Preparation and Serving	Healthcare	Public Services	STEM	Unknown
All racial and ethnic groups	9.3%	17.4%	8.1%	18.7%	6.8%	69.5%	47.5%	19.6%	12.7%
American Indian or Alaska Native	9.6%!	17.3%	15.6%!!	17.5%	4.0%!	49.0%!	23.9%!	19.0%!	11.9%!!
Asian or Pacific Islander	10.3%!	16.6%	2.4%!!	11.8%	2.5%!	69.5%	28.1%	10.2%	19.0%
Black or African American	10.1%	17.4%	5.2%!!	18.9%	10.4%	51.4%	43.6%	20.0%	12.9%
Hispanic or Latino	8.0%	12.3%	7.3%!!	15.5%	4.1%	68.5%	40.2%	22.0%	6.9%
White	9.5%	19.3%	9.2%	19.9%	7.3%	75.0%	51.2%	22.0%	15.3%
More than one race	3.2%!	23.8%	2.1%!!	13.3%	13.4%!	62.2%	43.3%	8.2%!	6.8%!!

Source: U.S. Department of Education, Adult Training and Education Survey, 2016
Notes: Applied work certifications and licenses include the following fields: manufacturing; farming; construction and extraction; installation and repair; military and protective services; personal, building, and ground services; and transportation. | Business work certifications and licenses include the following fields: business management and operations; financial specialists; and sales. | Public work certifications and licenses include the following fields: community and social service; legal; education and library occupations. | STEM work certifications and licenses include the following fields: computer occupations; scientists, engineers, and architects. | Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- Among those working in the healthcare field, White adults were the most likely to report having a work license or certification (75.0 percent), while Black or African American adults (51.4 percent) and American Indian or Alaska Native adults (49.0 percent) were the least likely to have these credentials.
- Among those working in the public services field, White adults (51.2 percent) and Black or African American adults (43.6 percent) were the most likely to report having a work license or certification.

Over 80 percent of adults with a work certification or license reported that these credentials were very useful in helping them get a job (81.6 percent), keep a job (80.1 percent), and remain marketable to employers or clients (80.9 percent).

Table 4.18: Usefulness of Most Important Work Certification or License in Getting a Job, by Gender and Race and Ethnicity: 2016

		Getting a Job		
		% Not Useful	% Somewhat Useful	% Very Useful
All Adults	All racial and ethnic groups	6.8%	11.6%	81.6%
	American Indian or Alaska Native	7.4%!	23.0%	69.6%
	Asian or Pacific Islander	6.3%!	16.7%	77.0%
	Black or African American	8.7%	11.2%	80.0%
	Hispanic or Latino	8.8%	11.7%	79.5%
	White	6.2%	11.0%	82.8%
	More than one race	6.4%!	17.3%	76.3%
Women	All racial and ethnic groups	5.4%	9.5%	85.1%
	American Indian or Alaska Native	6.7%!	17.1%!	76.2%
	Asian or Pacific Islander	4.6%!	12.1%	83.4%
	Black or African American	9.6%	9.2%	81.2%
	Hispanic or Latina	6.8%	8.3%	84.9%
	White	4.5%	9.4%	86.1%
	More than one race	4.7%!!	10.2%!	85.2%
Men	All racial and ethnic groups	8.7%	14.6%	76.6%
	American Indian or Alaska Native	8.2%!!	31.1%!	60.7%
	Asian or Pacific Islander	9.1%!	24.0%	66.9%
	Black or African American	7.4%	14.5%	78.1%
	Hispanic or Latino	12.0%	17.2%	70.8%
	White	8.4%	13.1%	78.5%
	More than one race	10.0%!	32.6%!	57.4%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016
Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

Table 4.19: Usefulness of Most Important Work Certification or License in Keeping Marketable to Employers or Clients, by Gender and Race and Ethnicity: 2016

		Keeping Marketable to Employers or Clients		
		% Not Useful	% Somewhat Useful	% Very Useful
All Adults	All racial and ethnic groups	5.7%	13.4%	80.9%
	American Indian or Alaska Native	8.0%!	16.9%	75.1%
	Asian or Pacific Islander	4.7%!	16.6%	78.7%
	Black or African American	7.5%	16.7%	75.8%
	Hispanic or Latino	8.9%	13.3%	77.8%
	White	5.0%	12.6%	82.5%
	More than one race	3.9%!	15.3%	80.8%
Women	All racial and ethnic groups	5.2%	12.0%	82.8%
	American Indian or Alaska Native	5.6%!	20.4%!	74.0%
	Asian or Pacific Islander	5.9%!	15.7%	78.5%
	Black or African American	9.4%	15.9%	74.7%
	Hispanic or Latina	7.7%	11.4%	81.0%
	White	4.0%	11.0%	85.0%
	More than one race	3.2%!!	9.3%!	87.6%
Men	All racial and ethnic groups	6.5%	15.4%	78.1%
	American Indian or Alaska Native	11.2%!!	12.2%!!	76.7%
	Asian or Pacific Islander	2.9%!!	18.1%	79.1%
	Black or African American	4.4%	18.0%	77.6%
	Hispanic or Latino	10.9%	16.5%	72.7%
	White	6.3%	14.6%	79.1%
	More than one race	5.6%!!	28.0%!	66.4%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016
Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

Table 4.20: Usefulness of Most Important Work Certification or License in Improving Your Work Skills, by Gender and Race and Ethnicity: 2016

		Improving Your Work Skills		
		% Not Useful	% Somewhat Useful	% Very Useful
All Adults	All racial and ethnic groups	10.3%	23.6%	66.0%
	American Indian or Alaska Native	15.8%!	27.5%	56.8%
	Asian or Pacific Islander	9.3%	26.6%	64.2%
	Black or African American	8.6%	21.0%	70.5%
	Hispanic or Latino	11.9%	18.8%	69.3%
	White	10.4%	24.5%	65.2%
	More than one race	9.3%!	30.1%	60.6%
Women	All racial and ethnic groups	9.2%	22.3%	68.5%
	American Indian or Alaska Native	12.1%!	30.5%	57.4%
	Asian or Pacific Islander	8.4%	26.2%	65.4%
	Black or African American	10.3%	17.3%	72.4%
	Hispanic or Latina	10.5%	19.7%	69.8%
	White	8.9%	22.9%	68.2%
	More than one race	2.3%!!	37.8%	59.9%
Men	All racial and ethnic groups	12.0%	25.5%	62.6%
	American Indian or Alaska Native	20.7%!!	23.4%!	55.9%
	Asian or Pacific Islander	10.6%!	27.1%	62.3%
	Black or African American	5.8%	26.9%	67.3%
	Hispanic or Latino	14.1%	17.4%	68.5%
	White	12.3%	26.5%	61.2%
	More than one race	24.4%!	13.5%!	62.1%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016
Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

Table 4.21: Usefulness of Most Important Work Certification or License in Keeping a Job, by Gender and Race and Ethnicity: 2016

		Keeping a Job		
		% Not Useful	% Somewhat Useful	% Very Useful
All Adults	All racial and ethnic groups	7.6%	12.3%	80.1%
	American Indian or Alaska Native	7.3%!	18.0%	74.7%
	Asian or Pacific Islander	6.6%	16.8%	76.7%
	Black or African American	11.6%	11.1%	77.3%
	Hispanic or Latino	9.2%	13.9%	76.9%
	White	6.7%	11.8%	81.5%
	More than one race	14.0%!	6.0%!	79.9%
Women	All racial and ethnic groups	6.5%	10.1%	83.4%
	American Indian or Alaska Native	5.7%!	19.2%!	75.1%
	Asian or Pacific Islander	6.9%!	13.6%	79.5%
	Black or African American	11.7%	9.5%	78.8%
	Hispanic or Latina	6.5%	12.6%	80.9%
	White	5.6%	9.4%	85.0%
	More than one race	6.7%!!	4.6%!!	88.8%
Men	All racial and ethnic groups	9.2%	15.2%	75.6%
	American Indian or Alaska Native	9.4%!!	16.5%!!	74.1%
	Asian or Pacific Islander	6.0%!	21.7%	72.3%
	Black or African American	11.5%	13.6%	74.9%
	Hispanic or Latino	13.6%	16.1%	70.4%
	White	8.2%	15.0%	76.8%
	More than one race	29.4%!	9.1%!	61.6%

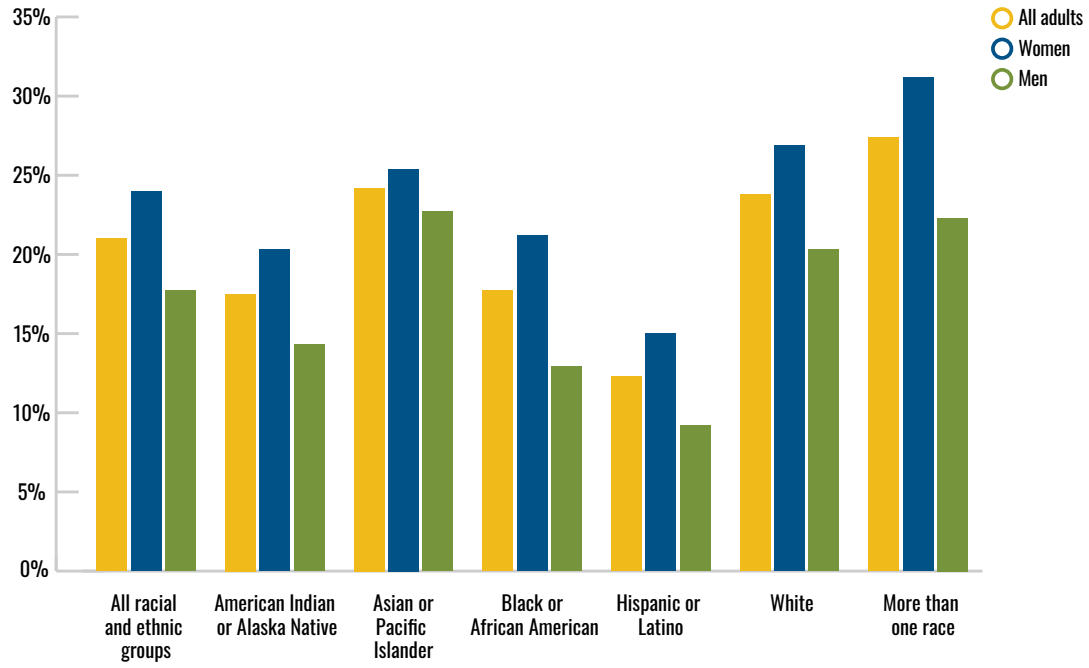
Source: U.S. Department of Education, Adult Training and Education Survey, 2016
Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- In general, more women than men reported their work certifications or licenses as more useful in getting a job, keeping a job, improving skills, and keeping them marketable.
- American Indian or Alaska Native men (60.7 percent) were the least likely to report that their work certification or license was very useful in getting a job, while White women (86.1 percent) were the most likely to report their work certification or license as very useful in getting a job.
- Men of more than one race (61.6 percent) were the least likely to report that their work certification or license was very useful in keeping a job, while women of more than one race (88.8 percent) were the most likely to report that their work certification or license was very useful in keeping a job.

Work Experience Programs

Approximately one in five (21.0 percent) adults reported having completed a work experience program.

Figure 4.3: Percentage of Adults Who Have Completed a Work Experience Program, by Gender and Race and Ethnicity: 2016

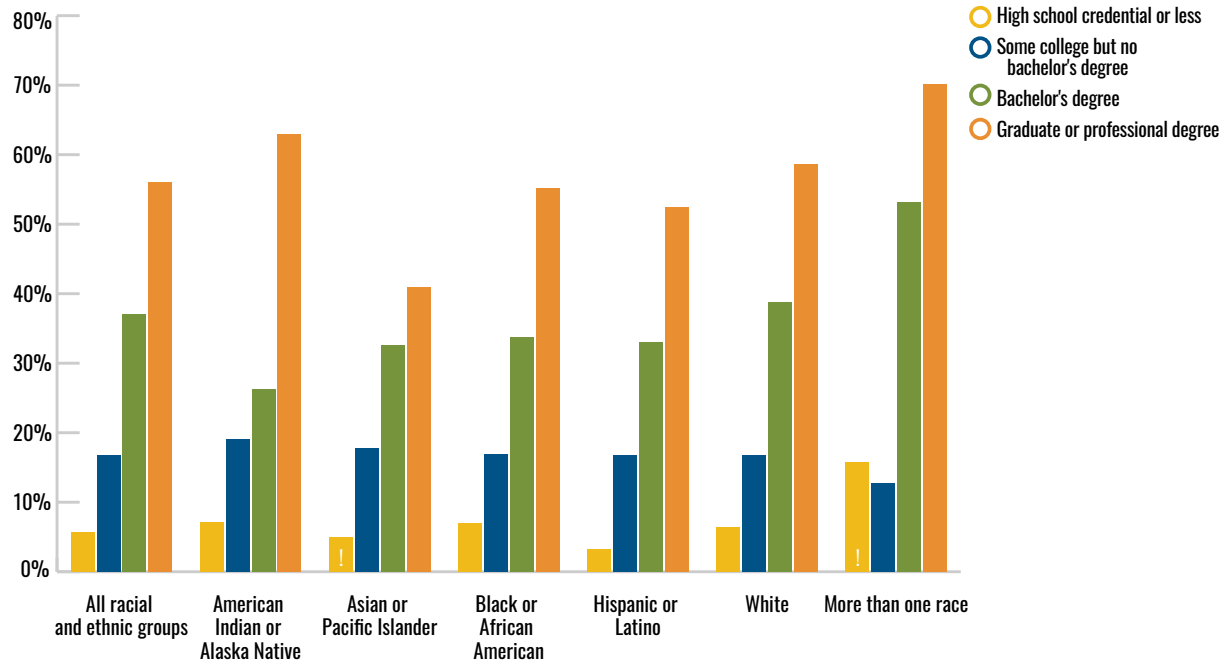


Source: U.S. Department of Education, Adult Training and Education Survey, 2016
Note: Work experience programs include internships, co-ops, practicums, clerkships, externships, residencies, clinical experiences, apprenticeships, and similar programs.

- Women (24.0 percent) were more likely than men (17.7 percent) to have completed a work experience program.
- Adults of more than one race (27.4 percent) and Asian or Pacific Islander adults (24.2 percent) were the most likely to have completed a work experience program, while Hispanic or Latino adults (12.3 percent) were the least likely.
- Women of more than one race (31.2 percent) and White women (26.9 percent) were the most likely to have completed a work experience program, while Hispanic or Latino men (9.2 percent) were the least likely.

Adults with higher levels of education were more likely to have completed a work experience program. While only 5.7 percent of adults whose highest credential was a high school credential or less have completed a work experience program, the majority of those with graduate or professional degrees have done so (56.0 percent).

Figure 4.4: Percentage of Adults Who Have Completed a Work Experience Program, by Educational Attainment and Race and Ethnicity: 2016



Source: U.S. Department of Education, Adult Training and Education Survey, 2016
Notes: Work experience programs include internships, co-ops, practicums, clerkships, externships, residencies, clinical experiences, apprenticeships, and similar programs. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Among adults who had attained a bachelor's degree, individuals of more than one race (53.2 percent) and White adults (38.7 percent) were the most likely to have completed a work experience program. American Indian or Alaska Native adults with bachelor's degrees were least likely to have completed these programs (26.2 percent).
- Among adults who had attained a graduate or professional degree, individuals of more than one race (70.1 percent) and American Indian or Alaska Native adults (63.0 percent) were the most likely to have completed a work experience program. Asian or Pacific Islander adults with an advanced degree were least likely to have completed these programs (41.0 percent).

Women (64.6 percent) were slightly more likely than men (63.2 percent) to report their work experience program was very useful in getting a job. Men (39.8 percent) were more likely than women (34.6 percent) to report their work experience program was very useful in increasing their pay.

Table 4.22: Usefulness of Work Experience Programs, by Gender and Race and Ethnicity: 2016

		Getting a Job			Improving Your Work Skills			Increasing Your Pay		
		% Not Useful	% Somewhat Useful	% Very Useful	% Not Useful	% Somewhat Useful	% Very Useful	% Not Useful	% Somewhat Useful	% Very Useful
All Adults	All racial and ethnic groups	12.3%	23.6%	64.1%	7.1%	27.4%	65.6%	38.4%	25.0%	36.7%
	American Indian or Alaska Native	11.6%	25.5%	63.0%	10.3%!	19.1%	70.5%	38.3%	21.0%	40.7%
	Asian or Pacific Islander	11.9%	26.2%	61.9%	8.4%	32.9%	58.6%	38.4%	23.7%	37.9%
	Black or African American	15.0%	22.6%	62.4%	11.2%	26.1%	62.7%	39.2%	23.2%	37.6%
	Hispanic or Latino	12.4%	27.0%	60.6%	7.7%	25.7%	66.7%	37.7%	23.6%	38.7%
	White	11.8%	22.9%	65.3%	6.2%	27.2%	66.5%	38.2%	25.7%	36.1%
	More than one race	18.9%!	27.5%	53.6%	6.1%!	34.2%	59.7%	45.7%	20.5%	33.8%
Women	All racial and ethnic groups	12.6%	22.8%	64.6%	7.3%	25.7%	67.0%	41.0%	24.4%	34.6%
	American Indian or Alaska Native	15.5%	22.3%	62.1%	15.3%!	16.2%	68.5%	48.5%	22.5%!	29.0%
	Asian or Pacific Islander	13.9%	26.7%	59.4%	10.1%	31.8%	58.1%	40.2%	23.9%	35.9%
	Black or African American	15.4%	22.5%	62.1%	11.2%	27.7%	61.2%	41.6%	22.0%	36.4%
	Hispanic or Latina	13.5%	27.1%	59.5%	9.1%	24.9%	66.0%	41.0%	24.6%	34.4%
	White	11.6%	21.9%	66.5%	6.0%	25.1%	68.9%	40.9%	24.9%	34.2%
	More than one race	20.8%!	19.7%!	59.6%	5.5%!	27.6%	66.9%	36.2%	21.2%!	42.6%
Men	All racial and ethnic groups	11.9%	24.9%	63.2%	6.8%	29.9%	63.3%	34.3%	25.9%	39.8%
	American Indian or Alaska Native	5.0%!!	30.7%	64.3%	2.2%!!	23.9%!	74.0%	20.8%!	18.5%!	60.7%
	Asian or Pacific Islander	9.4%	25.5%	65.1%	6.3%!	34.4%	59.3%	36.1%	23.4%	40.5%
	Black or African American	14.0%	22.8%	63.2%	11.3%	22.6%	66.1%	33.7%	26.2%	40.2%
	Hispanic or Latino	10.3%	26.9%	62.8%	5.0%	27.0%	68.0%	31.6%	21.9%	46.6%
	White	12.2%	24.3%	63.5%	6.7%	30.0%	63.0%	34.2%	26.9%	39.0%
	More than one race	15.1%!	43.5%	41.4%	7.1%!!	46.2%	46.7%	65.3%	18.9%	15.8%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016
Notes: Work experience programs include internships, co-ops, practicums, clerkships, externships, residencies, clinical experiences, apprenticeships, and similar programs. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- Among women who completed work experience programs, White women (66.5 percent) were the most likely to report the program as very useful in helping them get a job. Asian or Pacific Islander women were least likely (59.4 percent) to report this.
- Men of more than one race (15.8 percent) and American Indian or Alaska Native women (29.0 percent) were the least likely of any group to report their work experience program as very useful in increasing their pay. American Indian or Alaska Native men (60.7 percent) were most likely to report this.

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INVITED ESSAY

Career and Technical Education in the Learning Economy: Toward a Promise of Racial Equity

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Career and Technical Education in the Learning Economy: Toward a Promise of Racial Equity

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In the early twenty-first century, economic growth and education scholars have begun to move beyond the concepts of an industrial or knowledge economy toward that of a learning economy—a society in which the capability for all individuals to learn is critical to the economic success of individuals, firms, regions, and national economies (Soares and Perna 2014).

In a learning economy, career and technical education (CTE) has the potential to transform postsecondary education by increasing equity and responding to skill gaps in the workforce by integrating academic and work-based learning. Of the 11.8 million students participating in CTE programs in 2017–18,[1] 5.8 million were persons of color and 5.3 million were economically disadvantaged (U.S. Department of Education 2020). If access to and participation in CTE programs for historically marginalized students continues to increase, CTE can have a substantial, measurable impact on closing equity gaps by bringing these individuals into the learning economy.

CTE programs in specialized skilled trades, applied sciences, modern technology, and career preparation operate at the intersection of formal education and experiential learning and, when done well, provide learners with the academic, technical, and employability skills needed for success in their careers and lives. An implicit stigma associated with CTE's roots in vocational education, however, means that CTE must continue to develop strong pathways to success for its learners, leveraging classroom education with hands-on learning in high-demand fields with opportunities for continued learning and credential attainment.

Learning in Times of Technological Change

At certain times in economic history, this mix of academic and work-based learning has shifted, with one type of learning having a greater impact on people's lives. We are now in such a time. As new knowledge and technology take hold in industries and the economy as a whole, workplace-based learning becomes a powerful driver of optimizing human capital, especially when coupled with formal education. Economists refer to this phenomenon as "synchronous technological change" (Soares and Taylor 2018).

As new knowledge and technology take hold in industries and the economy as a whole, workplace-based learning becomes a powerful driver of optimizing human capital, especially when coupled with formal education.

Some examples of synchronous technological change are electrification, which transformed manufacturing and household production in the early twentieth century, and mechanization, which transformed manufacturing and agriculture in the nineteenth century. Today, the nation's economic life is being disrupted by synchronous technological change driven by information technology, which is transforming multiple economic sectors (e.g., health care, manufacturing, and logistics) simultaneously. History teaches us that this type of multisector synchronous change is accompanied by a sharp rise in the need to blend academic and applied learning—to connect principles of a discipline with technical and employability skills.

The rise in demand for this blend of academic and work-based learning has surfaced in the relative rise in demand for experienced workers, the increase in demand for applied learning experiences like internships, the emergence of credentials like badges that purport to validate ever-smaller units of learning, competency-based education, and interest in interoperable learning records. Each of these components is visible in robust twenty-first-century career and technical education approaches.

1 Includes secondary, postsecondary, and adult learners enrolled in CTE programs in 2017–18.

The promise of CTE in a learning economy is that it can help colleges, universities, and employers to integrate knowledge creation with job creation, and academic teaching with applied learning, in order to create sustainable human capital development systems that promote individual competence, social mobility, and global competitiveness. With regard to social mobility, especially for marginalized groups, CTE must build robust experiences that create pathways for building knowledge and skills foundations for both immediate economic opportunity and long-term career mobility.

The Promise of CTE

The attributes of CTE are aligned with the demands of a learning economy. Fundamentally, CTE provides academic content and technical knowledge and skills to prepare individuals for further education and careers in current or emerging professions (Von Zastrow 2019). Unlike a more traditional degree that is almost entirely campus- or classroom-based, CTE encompasses competency-based, work-based, or other applied learning, all alongside academic learning. This educational training culminates in learners earning industry-recognized credentials, certificates, or postsecondary degrees. CTE implementation is diverse, including both credit and non-credit programs of study. When well designed, earned credentials are stackable along academic pathways through embedded articulation processes—non-credit to credit, certificate to two-year degree, and associate to bachelor's degree—affording continuous educational progression via multiple points of entry and exit, and subsequently, opportunities for career advancement.

With regard to social mobility, especially for marginalized groups, CTE must build robust experiences that create pathways for building knowledge and skills foundations for both immediate economic opportunity and long-term career mobility.

Broadly speaking, CTE has 16 areas of career focus, often referred to as clusters. These career clusters include agriculture, food, and natural resources; business, management, and administration; health science; information technology; and science, technology, engineering, and mathematics—to name just five. Across all 16 clusters, there are a wide range of in-demand, high-paying occupations both now and in 10-year projections, including jobs like web developers, electricians, HVAC mechanics and installers, radiologic technicians, paralegals and legal assistants, and computer network support specialists (U.S. Bureau of Labor Statistics, n.d.).

During their selected program, CTE participants contribute to employers and the workforce while earning their degree. Through the application of specialized, experiential learning, students gain real-world skills and earn wages while in school. The ability to learn and earn a living at the same time is critical to many students. The Bureau of Labor Statistics reports that in October 2019 roughly 60 percent of students ages 16 to 24 who were enrolled at two-year colleges were in the labor force (U.S. Bureau of Labor Statistics 2020a). This reality of working while enrolled in school often serves as a significant barrier to college completion, which disproportionally affects racially marginalized learners. Nonacademic determinants of success, like family financial responsibilities, contribute to the entrenched academic gaps observed between Black and Hispanic students and their White counterparts.

However, when occupational engagement is intentionally embedded within educational training and aligned with career pursuits—as is the case with CTE—what would ordinarily serve as a barrier to college completion becomes a facilitator to academic and career success. Considering the importance of earning wages to the livelihood and well-being of many students of color, to learn and earn simultaneously may not only improve individual learner outcomes but could also increase equity in higher education for communities of color, one of the most disenfranchised populations in educational systems. In this way, CTE dually broadens equitable access to educational and workforce opportunities.

Still, in order to be a true engine of equity for marginalized learners, CTE must evolve past the stigma associated with vocational education. Historically, vocational education served as a secondary pathway that targeted students with lower levels of college readiness. Theoretically, this academic trajectory prepared learners for the workforce following high school. In practice, however, this system was often used to inequitably discriminate against marginalized populations, over-assigning communities of color to vocational curriculum tracks (Lewis and Cheng 2006; Williams and Asche 1992). Further, the

quality of vocational curricula was typically inferior to that of traditional liberal arts instruction, speaking again to differential access to learning and social development. Perhaps most disheartening was that there was no true economic security or upward mobility within many of these vocational clusters. Jobs were typically low skill, low pay, and vertically stagnant, thus thwarting those already disenfranchised.

Despite a checkered history, CTE enrollment has recently started to increase, with more developed CTE pathway programs across secondary and postsecondary levels and substantial funding commitments made to this educational sector. Guided by mandates of the recently passed Strengthening Career and Technical Education for the 21st Century Act (also known as Perkins V), CTE programs now better align K–12 school systems, postsecondary institutions, and the workforce. As part of this alignment, CTE programs are oriented toward high-wage, high-demand, and/or high-skill careers. Many in workforce policy also call for CTE programs to advance opportunity and access to career programs, with special consideration for priority populations (e.g., individuals with disabilities or individuals from economically disadvantaged families). With the progress made in Perkins V and the diversity of career clusters, CTE is progressing toward fulfillment of its original vision: a gateway into diverse pathways for academic, career, and lifelong success.

With the progress made in Perkins V and the diversity of career clusters, CTE is progressing toward fulfillment of its original vision: a gateway into diverse pathways for academic, career, and lifelong success.

Given the new design parameters described above, in a learning economy, CTE could prove to be a game changer in optimizing the nation's human capital by creating academic and applied learning pathways that adapt to the needs of marginalized populations while yielding better education and employment outcomes.

Workforce and Equity Implications of CTE

The American workforce and our global competitiveness are reliant on education that gives learners academic, technical, and employability skills to address immediate, pervasive market needs. According to the Georgetown University Center on Education and the Workforce, 30 million jobs in the United States pay an average of $55,000 per year and do not require bachelor's degrees (Carnevale, Strohl, and Ridley 2017)—and many of them remain unfilled due to skills gaps. CTE is an immediate response to these workforce shortages, and the job opportunities it provides can be a pathway to success for communities of color, particularly when CTE programs that meet immediate needs also provide a foundation for further learning.

Still, while CTE has improved in recent years, participation rates in individual career clusters indicate that it continues to struggle with equity, opportunity, and access. Black and Hispanic learners tend to be overrepresented in service-oriented professions such as health sciences or education and training, which have lower wages, and underrepresented in high-tech, high-demand industries such as information technology or STEM fields (Libassi 2018) with higher wages. Disparities in the nature of CTE program participation and related course enrollment can have lasting economic effects in terms of earnings and job stability; in fact, there is a profound relationship between CTE discipline of study and career and wage expectations given historic labor market trends (U.S. Bureau of Labor Statistics 2020b). At the very least, racially marginalized learners should be equally represented across all CTE programs, rather than underrepresented in the most highly demanded and highest-paying clusters or overrepresented in the lowest.

These disparities speak to the need for more research into participation and into the assortment of program offerings available in communities. It is not enough to merely offer CTE programs to diverse learners. Instead, higher education must examine students' access to and selection of CTE programs of study, experiences during participation, and resultant academic and workforce outcomes—all with disaggregation by race and ethnicity among other characteristics of interest. Uneven and inconsistent access to CTE programs translates to widened opportunity gaps and wealth disparities, inequities that customarily manifest along racial, ethnic, and socioeconomic lines. CTE can be a source of equity in higher education and employment outcomes but not if the career clusters remain segregated.

The Landscape of Career and Technical Education Reimagined: Transformative Industry-Higher Education Partnerships

CTE can be an agent of opportunity and access for learners, but it can also work toward closing the skills gap faced by many employers. According to the U.S. Department of Education, jobs requiring so-called *middle skills* outnumber the adults in the workforce who possess them, presenting a barrier to American economic competitiveness. Concerns of employers continue to grow as they try to overcome the shortage of educated, technically literate workers (Clagett 2015). Analysts projected this skills gap being a substantial obstacle to cultivating a qualified workforce; deficiencies of 3 million workers with associate degrees or higher and 5 million workers with technical certificates and credentials were expected by 2020. Industry-higher education partnerships can increase the number of workers with in-demand skills, but these partnerships must be *intentional, sustainable, and clearly defined*.

Intentional. The best partnerships are designed to benefit learners, employers, and higher education. Learners gain skills for well-paying jobs, employers get needed workers, and higher education increases equitable outcomes. Promises to all three stakeholder groups can be kept by intentionally building programs that meet the following criteria:

- If learners aren't being hired by the sponsoring employer, ask the employer what else the program should cover. The benefit of the partnership is the ability to ask these questions directly.
- If learners aren't taking the jobs offered by the employer, again, ask why. Perhaps the internship wasn't what they expected or the pay isn't what they hoped. In either case, clear communication at the start can better align expectations between learners and employers.
- If students of color aren't enrolling or succeeding at the same rate as White students, investigate the pipeline problem. Industry-higher education partnerships are typically small enough that feedback can be collected easily.

One example of an intentionally designed program is in Newport News, Virginia. Northrop Grumman has developed two workplace-based postsecondary-education programs by partnering with community colleges, apprenticeship groups, and cooperative education programs. Through the intentional design of these programs, which focus on the design, build, overhaul, and repair of cutting-edge naval ships, all stakeholders benefit:

- Learners receive broad support during their education and subsequent job opportunities. Northrop Grumman employs students after graduation and provides them with an average starting salary of $31,200. Northrop Grumman also provides tuition reimbursement to those students who continue toward a bachelor's degree.
- Community colleges such as Thomas Nelson Community College and Tidewater Community College in the Hampton Roads area of Virginia also benefit from Northrop Grumman's expertise in curriculum development.
- Northrop Grumman has a pipeline of skilled employees. Thousands of apprentice school graduates still work at Northrop Grumman. The program serves the colleges' and company's shared goals of filling a void in the workforce and ensuring that students have employment opportunities after graduation (Soares 2010).

Sustainable. As mentioned above, these partnerships tend to be on a small scale—perhaps hundreds of students each year. On the one hand, the size allows for the programs to be responsive to stakeholder groups. On the other hand, some of these partnerships can fail to take root, missing an opportunity to make a noticeable difference for stakeholders over time and at scale. To foster sustainability, alliances between college stakeholders and local businesses need to be deeply embedded within operational processes and institutional practices. Going beyond just advisory groups or committee meetings, industry and higher education should both have a stake in the game, whether through executive leadership, funding, shared resources, or governance structures.

One example of a program that is fostering sustainability is the Joint Engineering Leadership Development Program (JELDP) at Washington University in St. Louis and University of Missouri–St. Louis (UMSL), which also partners with local community colleges and Boeing to create a variety of pathways to engineering credentials and jobs. JELDP's philosophy is that students' most engaging, meaningful learning experiences often take place outside of the classroom. All JELDP courses are in the evenings, allowing for internships, co-ops, and work-based learning experiences during the day. These real-world experiences better prepare students for successful engineering careers. This program also helps Boeing address the company's need for exceptional and diverse engineering talent. The partnership of a public four-year university, private four-year institution, community college, and major employer developed a regional talent ecosystem that is sustainable and more deeply rooted because of the multiple stakeholders (BHEF 2019).

Clearly defined. When properly formed, community college and industry partnerships benefit the diverse constituent groups served: students earn postsecondary credentials that equip them for skilled work and high pay, local businesses fill pipelines with qualified workers, and regional economies are afforded a competitive edge within the larger market space (Soares and Steigleder 2012). However, unclear expectations can hinder these efforts, as industry expects higher education to move faster, higher education hopes for more funding, or students expect a different type of education. From the start, communicating the responsibilities of each stakeholder is critical.

In one example, to address Arizona's need for an increased number of trained specialty nurses, the Greater Phoenix Chamber Foundation organized the Hospital Workforce Collaborative (HWC) with nine regional hospitals, in partnership with Maricopa County Community College District (MCCCD). The state expects a 23 percent growth in demand for specialized nursing, with over 20,500 new openings projected by 2025. The challenge of meeting this need is compounded by the high costs of recruiting and training new nurses, as hospitals can spend up to $170,000 per new nursing hire. The HWC, in partnership with MCCCD, identified and defined six specialty areas where training and retaining nurses was most pressing for the state. With $5.8 million in support from the state of Arizona, MCCCD expanded its nursing curriculum to meet the future needs of the nursing workforce. HWC and MCCCD estimate they now have the potential to graduate 300 students through this program by 2021, doubling the current number of nursing students in the region. Additionally, this industry-higher education partnership also has plans to increase new programs and multiple tracts for upskilling incumbent working nurses to better meet workforce needs (U.S. Chamber of Commerce Foundation 2020).

Ultimately, in order for a partnership to flourish, it must have multiple roots. In order to be sustainable, partnerships must be contextualized to the needs of the local market and community. While there are trends and best practices, no two ecosystems are identical and all efforts must be tailored. Community colleges and CTE programs have a long history of serving their communities, but such service has not always been in direct partnership with local industry. Today, partnerships among education and industry are core to effective CTE programming, and local implementation of these collaborative approaches can strengthen the entire system's structure.

Toward Visions of Promise for Career and Technical Education

A learning economy requires a nation to engage all of its human capital in order to maintain its global competitiveness. With the potential of serving over 10 million individuals, quality CTE programs can nurture career aspirations for learners and workforce development within communities by developing academic, technical, and employability skills in participants. In order to do so, however, CTE needs to be more than an alternative to a four-year degree; instead, it must be a genuine career pathway into high-skill, high-demand fields with the opportunity to pursue further learning. Done intentionally and rigorously, CTE programs can increase equity in higher education, social mobility for communities of color, and hiring for business and industry. Equity within CTE also translates to reduced disparities in workforce outcomes, where CTE can serve as a gateway to the middle class for many students of color who would otherwise not be afforded such opportunity. Increased participation of students of color within CTE pathways directly fuels workforce pipelines, positively impacting local and national economies. Amplified access and inclusion of racially marginalized and other underserved groups innately strengthens the system as a whole.

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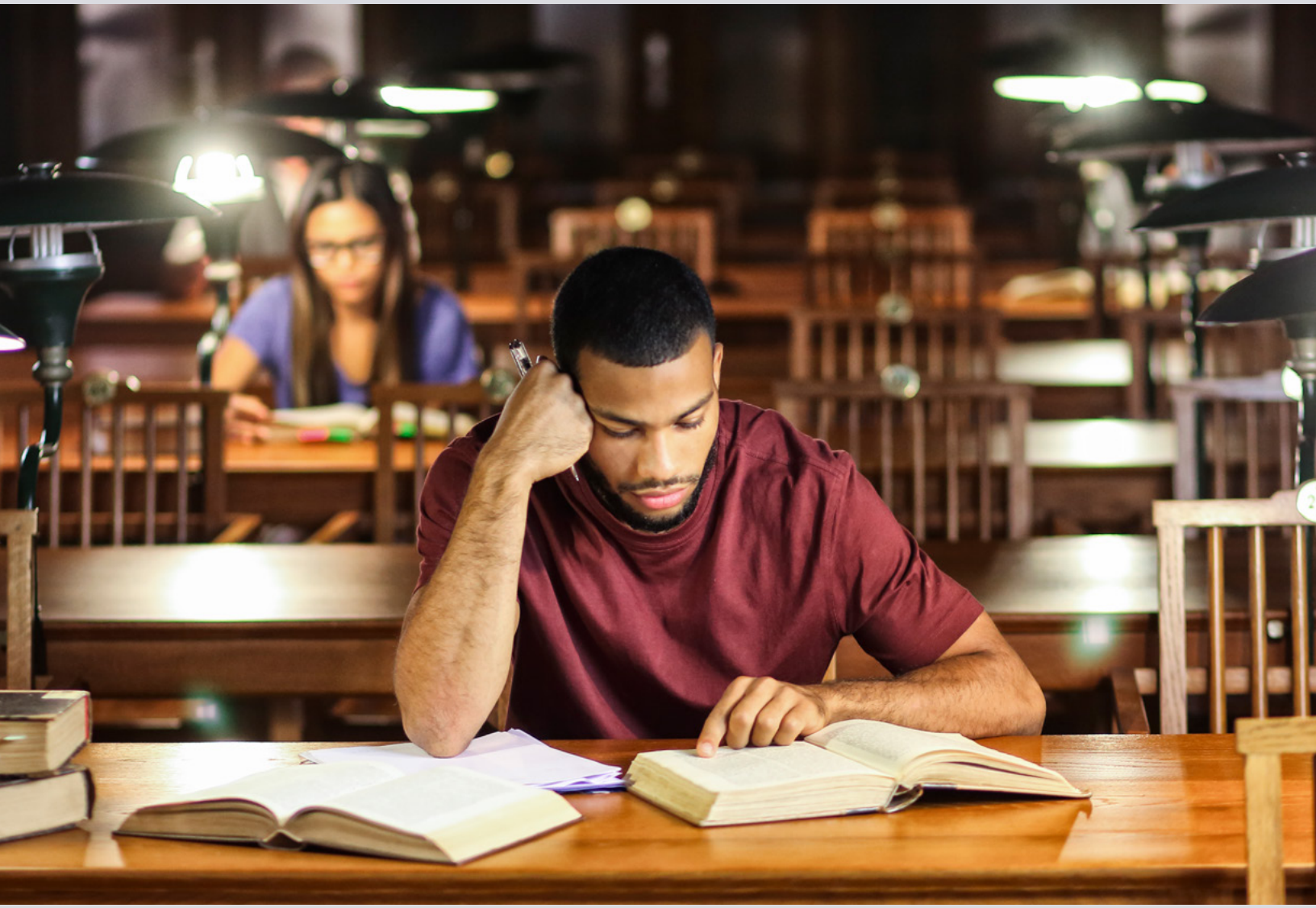
CHAPTER 5

Undergraduate Debt and Student Loan Payment



INTRODUCTION

More education generally corresponds to higher earnings. For example, the median annual earnings of adults who have attained a bachelor's degree as their highest degree earned are nearly $23,000 higher than those who have only attained a high school credential (Espinosa et al. 2019). The earnings premium makes it possible for many borrowers to pay off their education loans, without which they might not have been able to pay for college. However, too many students accumulate levels of debt that they struggle to repay. Sometimes this occurs because they do not complete their programs or earn credentials that do not pay off in the labor market.

Undergraduate borrowing patterns differ dramatically across racial and ethnic groups. Black or African American students tended to borrow more than others earning similar credentials; Asian and Hispanic or Latino students tended to borrow less. Once they left college, students also had very different repayment experiences. Asian borrowers tended to repay most loans successfully. Despite higher rates of participation in income-driven repayment plans that limit monthly payment amounts, Black or African American borrowers were more likely than others to experience repayment problems. They had higher default rates, were more likely to require forbearance because of financial hardship, and were more likely to be delinquent on their payments. They were also less successful than others in paying down their loan principal. Among Black or African American students who began college in 2003–04, both associate and bachelor's degree recipients who borrowed owed more on average than their original loan amount 12 years later.

The data reported here do not explain the causes of the variation in outcomes across racial and ethnic groups. However, as evidenced in *Race and Ethnicity in Higher Education: A Status Report* (2019) and other chapters in this report, race and ethnicity continue to have great influence in access, success, and outcomes of students in postsecondary education, especially for Black or African American students. For example, Black or African American students tend to come from lower socioeconomic backgrounds and enter college with lower levels of academic preparation than those from other groups, particularly White and Asian students. Black or African American students across all levels of postsecondary education are more likely than all other groups to enroll in for-profit institutions, where outcomes are lower and borrowing tends to be higher. Earnings of Black or African American college graduates are lower than those of members of other groups with similar levels of education. These data reveal the effects of racist systemic barriers that inhibit the advancement of the Black or African American community.

In every racial and ethnic group and for every degree or credential type, students who completed at for-profit institutions had the highest forbearance and delinquency rates and were most likely to default. For-profit associate and bachelor's degree holders had higher average monthly federal loan payments than those from other sectors.

Understanding differences in borrowing patterns and in repayment success across different groups of students and institution types can help stakeholders develop and implement student loan policies and practices that can mitigate inequities in borrowing and repayment experiences.

This chapter examines how students pay for college and their student loan repayment. The chapter includes evidence on the shares of students who go into default, forbearance, and delinquency. These terms are defined by the Federal Student Aid office within the U.S. Department of Education as the following:

Deferment: Deferment is a temporary period of time in which a borrower's loan payment is postponed. During deferment, the following loans do not accrue interest: Direct Subsidized Loans, the subsidized portion of Direct Consolidation Loans, Subsidized Federal Stafford Loans, the subsidized portion of FFEL Consolidation Loans, and Federal Perkins Loans. All other federal student loans continue to accrue interest during deferment (Federal Student Aid, n.d.b).

Forbearance: Forbearance is a temporary period of time in which a borrower's monthly loan payments stop or are reduced. For many borrowers, interest continues to accrue during forbearance, resulting in the borrower having to repay more (Federal Student Aid, n.d.c).

Delinquency: Loans become delinquent, or past due, after the first day that borrowers miss a payment, and remain delinquent until the borrower pays the past amount due or moves into deferment or forbearance or changes their repayment plan. Loan servicers report delinquencies of 90 days or more to major national credit bureaus, which can negatively affect a borrower's credit rating (Federal Student Aid, n.d.d).

Default: Default occurs when borrowers fail to repay their loan. Most borrowers move into default when no payment is made in more than 270 days. Defaulting on a federal student loan can have serious effects, including loss of eligibility for future federal student aid, wage garnishing, and inability to purchase homes, rent an apartment, and even get a job (Federal Student Aid, n.d.a).

KEY FINDINGS

- Undergraduate borrowing patterns varied considerably by race and ethnicity. In each type of program and within sectors, Black or African American students generally borrowed more than others; Asian and Hispanic or Latino students accumulated lower than average levels of debt. Black or African American students also borrowed more than other students with similar incomes.
- Among bachelor's degree recipients with federal loans, the proportion of borrowers participating in income-driven repayment (IDR) plans in 2017 ranged from 14.3 percent of Asian borrowers to 33.4 percent of Black or African American borrowers. Black or African American participation rates were also higher than those of other groups among associate degree and certificate recipients.
- Average monthly loan payments for borrowers who began college in 2011–12 and completed bachelor's degrees ranged from $174 for Asian graduates of public four-year institutions to $277 for Black or African American graduates of for-profit institutions. Among associate degree recipients, the range was from $111 for Hispanic or Latino graduates of public two-year institutions to $202 for Black or African American graduates of for-profit institutions.
- In 2017, average monthly loan payments for borrowers who began college in 2011–12 and completed certificates ranged from $85 for Hispanic or Latino graduates of public two-year institutions to $116 for Black or African American graduates of for-profit institutions and $135 for those of more than one race in that sector. Among those who left college without a degree or certificate, the range was from $87 for American Indian or Alaska Native borrowers to $164 for Asian borrowers.
- Twelve years after they first enrolled, 22.6 percent of Black or African American bachelor's degree recipients who began college in 2003–04 and borrowed had defaulted, compared with 7.9 percent overall and just 2.5 percent of Asian borrowers.

- Among associate degree recipients, the highest default rates within 12 years were 47.5 percent among for-profit Black or African American graduates and 38.5 percent among public two-year Black or African American graduates, compared with 12.4 percent of White associate degree recipients from public two-year institutions.
- More than half of Black or African American certificate completers (55.2 percent) had defaulted within 12 years, as had 47.7 percent of Hispanic or Latino borrowers and 36.7 percent of White borrowers. Twelve years after beginning college, default rates among non-completers ranged from 28.5 percent of Asian borrowers to 63.5 percent of Black or African American borrowers.
- Six years after beginning college, forbearance rates among borrowers who began college in 2011–12 and completed a credential ranged from 29.3 percent of Asian borrowers to 63.7 percent of Black or African American borrowers and 70.7 percent of American Indian or Alaska Native borrowers. Among non-completers, forbearance rates ranged from 73.5 percent of Asian borrowers to 96.3 percent of Black or African American borrowers.
- Among those who completed credentials, the share of borrowers who had been delinquent on a loan within six years of beginning college ranged from 21.4 percent of Asian borrowers to 51.7 percent of Hispanic or Latino borrowers and 61.9 percent of Black or African American borrowers. Delinquency rates were higher among non-completers.
- Twelve years after beginning college in 2003–04, 84.9 percent of Black or African American borrowers with bachelor's degrees had entered a forbearance—compared with 46.0 percent overall and 34.6 percent of Asian borrowers. Among Hispanic or Latino borrowers, 52.0 percent entered a forbearance; among White borrowers, 40.4 percent entered a forbearance.
- The majority of Black or African American borrowers (64.7 percent) and of Hispanic or Latino borrowers (69.8 percent) who started college in 2011–12 and earned associate degrees at public two-year colleges—where the majority of students do not borrow—were delinquent within six years of enrolling, compared with 50.4 percent of White borrowers. In the for-profit sector, these figures were 85.6 percent for Black or African American borrowers, 73.8 percent for Hispanic or Latino borrowers, and 66.9 percent for White borrowers.
- On average, 12 years after beginning college in 2003–04, students who completed bachelor's degrees owed 60.3 percent of the original amount they had borrowed. These amounts owed ranged from 45.6 percent for Asian borrowers and 53.5 percent for White borrowers to 69.7 percent for Hispanic or Latino borrowers and 105.5 percent for Black or African American borrowers. Remaining balances were also highest for Black or African American borrowers among associate degree recipients, certificate recipients, and non-completers.

UNDERGRADUATE DEBT

The following material on undergraduate debt is excerpted from "How Students Finance Undergraduate Study," chapter 7 of *Race and Ethnicity in Higher Education: A Status Report*, published in 2019 by ACE.

The data presented here provide information on the average amount borrowed per borrower and per student. The average amount borrowed per borrower includes only those students who took out loans to finance their education. The average amount borrowed per student includes all students, regardless of whether or not they took out loans to finance their education.

Bachelor's Degree Recipients

The share of 2015–16 bachelor's degree recipients who borrowed for their undergraduate education ranged from 58.7 percent of Asian students to 86.4 percent of Black or African American students and 89.6 percent of Native Hawaiian or other Pacific Islander students.

Table 5.1: Total Borrowing: Bachelor's Degree Recipients, by Race and Ethnicity: 2015–16

	Share of Total	% Who Borrowed	Average Amount Borrowed per Borrower	Median Amount Borrowed per Borrower	Average Amount Borrowed per Student	% Independent	% Completing at Public Four-Year	% Completing at Private Nonprofit Four-Year	% Completing at For-Profit
All racial and ethnic groups	100.0%	68.9%	$29,669	$27,000	$20,432	45.6%	59.8%	27.9%	8.9%
American Indian or Alaska Native	0.7%	76.2%	$26,380	$24,000	$20,103	63.3%	59.9%	14.5%!	11.7%!
Asian	6.6%	58.7%	$25,510	$22,307	$14,968	40.8%	63.0%	28.8%	7.2%
Black or African American	12.0%	86.4%	$34,010	$32,523	$29,390	58.0%	53.7%	24.8%	18.3%
Hispanic or Latino	15.0%	67.3%	$25,524	$23,500	$17,183	49.6%	61.2%	21.5%	12.4%
Native Hawaiian or other Pacific Islander	0.4%	89.6%	$26,515	$29,000	$23,756	66.7%	53.6%	13.9%!	25.2%!
White	58.5%	70.3%	$30,119	$27,000	$21,184	42.8%	60.3%	29.7%	6.6%
More than one race	3.0%	73.7%	$29,906	$27,958	$22,053	43.0%	61.5%	27.3%	8.8%
International students	3.9%	‡	‡	‡	‡	‡	59.7%	37.3%	2.3%

Source: U.S. Department of Education, National Postsecondary Student Aid Study, 2016
Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | Table 5.1 is Table 7.12 in the 2019 publication.

- The Black or African American bachelor's degree recipients who borrowed had median debt of $32,523 and average debt of $34,010, the highest of any group. This compares with a median of $22,307 and an average of $25,510 for Asian students, the lowest of any group.

- Fifty-eight percent of Black or African American bachelor's degree recipients were independent, compared with 40.8 percent of Asian students. Around 18 percent of Black or African American students graduated from for-profit institutions, compared with 7.2 percent of Asian students.
- Debt levels for Hispanic or Latino bachelor's degree recipients were lower than those for White students.

Although some of the differences in the debt levels accrued by bachelor's degree recipients were associated with the sectors from which they earned their degrees, the debt levels of Black or African American graduates stood out even within sectors.

Table 5.2: Total Borrowing upon Completion of a Bachelor's Degree, by Sector and Race and Ethnicity: 2015–16

		% Who Borrowed	Average Amount Borrowed per Borrower	Median Amount Borrowed per Borrower	Average Amount Borrowed per Student
Public Four-Year	All racial and ethnic groups	66.6%	$27,079	$25,703	$18,041
	American Indian or Alaska Native	79.4%	$24,367	$22,168	$19,353
	Asian	56.5%	$20,658	$20,020	$11,664
	Black or African American	83.7%	$30,613	$29,750	$25,617
	Hispanic or Latino	63.4%	$22,322	$20,000	$14,146
	Native Hawaiian or other Pacific Islander	84.8%	‡	‡	‡
	White	68.6%	$28,079	$26,020	$19,259
	More than one race	74.6%	$28,680	$27,140	$21,409
Private Nonprofit Four-Year	All racial and ethnic groups	68.7%	$31,435	$27,000	$21,598
	American Indian or Alaska Native	72.9%	‡	‡	‡
	Asian	57.0%	$29,145	$25,250	$16,626
	Black or African American	88.6%	$36,093	$35,693	$31,987
	Hispanic or Latino	74.5%	$25,612	$25,000	$19,091
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	70.6%	$31,925	$27,000	$22,551
	More than one race	67.0%	$29,995	$27,000	$20,100
For-Profit	All racial and ethnic groups	86.1%	$40,583	$42,544	$34,923
	American Indian or Alaska Native	87.2%	$40,010	$38,474	$34,907
	Asian	88.9%	$43,186	$44,000	$38,371
	Black or African American	90.9%	$42,046	$45,000	$38,216
	Hispanic or Latino	84.6%	$37,962	$39,812	$32,107
	Native Hawaiian or other Pacific Islander	95.9%	$27,039!	$22,250!!	$25,943!
	White	85.1%	$41,134	$42,650	$34,990
	More than one race	89.5%	$38,560	$39,558	$34,517

Source: U.S. Department of Education, National Postsecondary Student Aid Study, 2016
Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%. | Table 5.2 is Table 7.13 in the 2019 publication.

- The share of students earning bachelor's degrees from public four-year colleges and universities who borrowed ranged from 56.5 percent of Asian students to 83.7 percent of Black or African American students.
- Among bachelor's degree recipients at public four-year institutions, Black or African American borrowers had debts averaging $30,613; this compared with $28,079 for the 68.6 percent of White students who borrowed, $22,322 for the 63.4 percent of Hispanic or Latino students who borrowed, and $20,658 for the 56.5 percent of Asian students who borrowed.
- Borrowing rates were higher and less varied in the for-profit sector. The average debt per bachelor's degree recipient ranged from $32,107 for Hispanic or Latino students to $38,216 for Black or African American students and a slightly higher $38,371 for Asian students.

Independent bachelor's degree recipients were more likely than dependent bachelor's degree recipients to have debt. The median debt levels for independent borrowers upon completion was $32,014, compared with $25,536 for dependent graduates in 2015–16. Average debt levels per student were $17,472 for dependent bachelor's degree recipients and $23,961 for independent bachelor's degree recipients.

Table 5.3: Total Borrowing: Bachelor's Degree Recipients, by Dependency Status and Race and Ethnicity: 2015–16

		% Who Borrowed	Average Amount Borrowed per Borrower	Median Amount Borrowed per Borrower	Average Amount Borrowed per Student
Dependent Students	All racial and ethnic groups	65.7%	$26,585	$25,536	$17,472
	American Indian or Alaska Native	79.2%	$19,345	$20,292!	$15,325
	Asian	55.1%	$21,995	$19,750	$12,122
	Black or African American	85.7%	$29,661	$28,850	$25,418
	Hispanic or Latino	64.8%	$22,142	$20,250	$14,358
	Native Hawaiian or other Pacific Islander	87.9%	$20,445!	$22,000!!	$17,973
	White	67.6%	$27,583	$26,000	$18,653
	More than one race	73.1%	$27,072	$26,188	$19,798
Independent Students	All racial and ethnic groups	72.6%	$32,996	$32,014	$23,961
	American Indian or Alaska Native	74.5%	$30,722	$26,682!	$22,875
	Asian	63.8%	$29,913	$26,510	$19,094
	Black or African American	86.9%	$37,111	$38,923	$32,261
	Hispanic or Latino	69.8%	$28,721	$26,528	$20,058
	Native Hawaiian or other Pacific Islander	90.4%	$29,405	$33,000	$26,589
	White	74.0%	$33,220	$32,000	$24,569
	More than one race	74.5%	$33,598	$33,649	$25,047

Source: U.S. Department of Education, National Postsecondary Student Aid Study, 2016
Notes: ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%. | Table 5.3 is Table 7.14 in the 2019 publication.

- Among both dependent and independent bachelor's degree recipients, Black or African American students accrued the largest debts.
- Native Hawaiian or other Pacific Islander students borrowed at rates similar to those of Black or African American students but borrowed less.
- Average debt per Black or African American graduate was $25,418 among dependent students and $32,261 among independent students.
- Asian and Hispanic or Latino debt levels, for both dependent and independent graduates, were lower than the overall averages.

Even within income quartiles, Black or African American students had higher rates of borrowing and higher cumulative debt levels than other bachelor's degree recipients.

Table 5.4: Total Borrowing: Bachelor's Degree Recipients, by Income and Race and Ethnicity: 2015–16

		% Who Borrowed	Average Amount Borrowed per Borrower	Median Amount Borrowed per Borrower	Average Amount Borrowed per Student
Income Quartile 1 (Lowest)	All racial and ethnic groups	74.1%	$24,836	$25,000	$18,407
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	55.2%	$18,976	$17,781	$10,467
	Black or African American	93.5%	$28,994	$28,910	$27,110
	Hispanic or Latino	62.5%	$20,781	$19,500	$12,994
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	81.2%	$25,490	$26,000	$20,694
	More than one race	84.8%	$26,127	$24,451	$22,159
Income Quartile 2	All racial and ethnic groups	69.5%	$26,186	$25,515	$18,188
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	55.0%	$20,601	$19,000	$11,329
	Black or African American	82.8%	$29,905	$28,809	$24,764
	Hispanic or Latino	67.2%	$21,658	$19,500	$14,547
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	75.7%	$27,314	$26,000	$20,669
	More than one race	76.7%	$29,423	$30,000	$22,582

		% Who Borrowed	Average Amount Borrowed per Borrower	Median Amount Borrowed per Borrower	Average Amount Borrowed per Student
Income Quartile 3	All racial and ethnic groups	68.2%	$27,137	$26,000	$18,506
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	66.4%	$21,705	$22,242	$14,421
	Black or African American	77.6%	$29,390	$29,000	$22,817
	Hispanic or Latino	69.2%	$24,203	$21,500	$16,744
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	70.6%	$28,167	$26,400	$19,885
	More than one race	72.1%	$24,390	$22,250	$17,576
Income Quartile 4 (Highest)	All racial and ethnic groups	57.3%	$27,515	$25,106	$15,774
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	44.3%	$28,024	$22,539	$12,415
	Black or African American	79.3%	$31,871	$28,000	$25,278
	Hispanic or Latino	60.5%	$23,073	$20,311	$13,961
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	59.1%	$27,903	$26,000	$16,500
	More than one race	63.2%	$28,909	$27,000	$18,275

Source: U.S. Department of Education, National Postsecondary Student Aid Study, 2016
Notes: ‡ Estimate suppressed. Reporting standards not met. | Table 5.4 is Table 7.15 in the 2019 publication.

- Among bachelor's degree recipients in the second quartile of the household income distribution, 82.8 percent of Black or African American graduates borrowed an average of $29,905, yielding an average debt per student of $24,764.
- Approximately 67 percent of Hispanic or Latino graduates in the second income quartile borrowed an average of $21,658, yielding an average debt per student of $14,547.
- Across each income quartile, Asian bachelor's degree recipients borrowed at the lowest rates and borrowed on average the least (with the exception of those in the highest income quartile).

Associate Degree Recipients

Among students who received an associate degree in 2015–16, almost half borrowed an average of $18,500, with a median debt among borrowers of $15,000 at graduation. Black or African American students and American Indian or Alaska Native students had the highest rates of borrowing (67.2 percent each).

Table 5.5: Total Borrowing: Associate Degree Recipients, by Race and Ethnicity: 2015–16

	% Who Borrowed	Average Amount Borrowed per Borrower	Median Amount Borrowed per Borrower	Average Amount Borrowed per Student	% Independent	% Completed at Public Two-Year Institution	% Completed at For-Profit Institution
All racial and ethnic groups	48.0%	$18,501	$15,005	$8,889	64.3%	82.3%	11.2%
American Indian or Alaska Native	67.2%	$18,225	$14,713	$12,254	76.3%	84.1%	14.0%!
Asian	29.6%	$17,459	$15,013	$5,170	60.4%	87.3%	8.2%
Black or African American	67.2%	$22,303	$19,482	$14,986	76.8%	71.5%	20.4%
Hispanic or Latino	36.3%	$15,778	$12,000	$5,719	55.9%	83.5%	10.9%
Native Hawaiian or other Pacific Islander	47.3%	‡	‡	‡	46.3%	82.1%	15.9%!
White	50.9%	$17,794	$14,250	$9,063	64.1%	84.0%	9.3%
More than one race	51.0%	$21,795	$20,199	$11,113	65.4%	84.4%	9.4%
International students	7.9%!	‡	‡	‡	70.2%	87.2%	4.3%!

Source: U.S. Department of Education, National Postsecondary Student Aid Study, 2016
Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | Table 5.5 is Table 7.8 in the 2019 publication.

- Black or African American students had the highest median debt ($19,482), the highest average debt per borrower ($22,303), and the highest average debt per student ($14,986).
- These higher debt levels could be partly attributed to the fact that 76.8 percent of Black or African American associate degree recipients were independent students, compared with 64.3 percent overall (and 55.9 percent of Hispanic or Latino students).
- Roughly one-fifth (20.4 percent) of Black or African American graduates earned their degrees at for-profit institutions, where tuition prices and debt levels are much higher than at public two-year colleges.

Students who earned their associate degrees at for-profit institutions were much more likely to borrow and borrow considerably larger amounts than those who earned similar degrees at public two-year colleges.

Table 5.6: Total Borrowing: Associate Degree Recipients, by Sector and Race and Ethnicity: 2015–16

		% Who Borrowed	Average Amount Borrowed per Borrower	Median Amount Borrowed per Borrower	Average Amount Borrowed per Student
Public Two-Year	All racial and ethnic groups	40.4%	$15,486	$11,811	$6,264
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	23.0%	$12,771	$11,433!	$2,931
	Black or African American	57.3%	$18,581	$14,334	$10,652
	Hispanic or Latino	27.7%	$11,624	$6,750	$3,221
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	44.6%	$15,451	$12,000	$6,889
	More than one race	44.8%	$19,392	$1,700	$8,690
For-Profit	All racial and ethnic groups	87.4%	$26,231	$24,676	$22,928
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	79.6%	$27,913	$22,111	$22,220
	Black or African American	92.9%	$30,210	$29,690	$28,075
	Hispanic or Latino	85.1%	$22,854	$20,588	$19,444
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	87.3%	$24,985	$23,346	$21,807
	More than one race	83.4%	$28,816	$28,761	$24,022

Source: U.S. Department of Education, National Postsecondary Student Aid Study, 2016
Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | Table 5.6 is Table 7.9 in the 2019 publication.

- Among 2015–16 associate degree graduates, 87.4 percent from the for-profit sector had education debt averaging $26,231, with a median of $24,676; 40.4 percent of graduates at public two-year institutions had education debt averaging $15,486, with a median of $11,811.
- The relatively large share of Black or African American students who graduated from for-profit institutions (20.4 percent of Black or African American students compared with 11.2 percent overall) contributed to this group's high debt levels. Yet, even within sectors, Black or African American associate degree recipients were more likely to accrue debt and had the highest average and median debt levels.
- At public two-year colleges, the average debt per associate degree recipient was around $3,000 for both Asian and Hispanic or Latino students, $6,900 for White students, and $10,700 for Black or African American students. In the for-profit sector the average debt per Black or African American student was $28,075.
- The average debt of $19,444 per Hispanic or Latino student was the lowest of the four largest racial and ethnic groups at for-profit institutions.

Table 5.7: Total Borrowing per Borrower and per Student: Associate Degree Recipients, by Dependency Status and Race and Ethnicity: 2015–16

		% Who Borrowed	Average Amount Borrowed per Borrower	Average Amount Borrowed per Student
Dependent Students	All racial and ethnic groups	34.7%	$12,087	$4,197
	American Indian or Alaska Native	‡	‡	‡
	Asian	19.9%	$12,542	$2,502
	Black or African American	48.7%	$12,975	$6,324
	Hispanic or Latino	28.5%	$12,206	$3,475
	Native Hawaiian or other Pacific Islander	‡	‡	‡
	White	38.0%	$11,628	$4,415
	More than one race	39.0%	$13,175	$5,179
Independent Students	All racial and ethnic groups	55.4%	$20,728	$11,490
	American Indian or Alaska Native	81.7%	$18,540	$15,156
	Asian	36.0%	$19,250	$6,921
	Black or African American	72.8%	$24,189	$17,601
	Hispanic or Latino	42.4%	$17,672	$7,488
	Native Hawaiian or other Pacific Islander	‡	‡	‡
	White	58.2%	$20,050	$11,669
	More than one race	57.0%	$24,930	$14,251

Source: U.S. Department of Education, National Postsecondary Student Aid Study, 2016
Note: ‡ Estimate suppressed. Reporting standards not met. | Table 5.7 is Table 7.10 in the 2019 publication.

- Independent associate degree recipients were more likely to borrow than dependent degree recipients (55.4 percent compared with 34.7 percent). They also, on average, borrowed more ($20,728 compared with $12,087 in 2015–16).
- Within both dependent and independent student groups, Black or African American associate degree recipients were more likely than those from other racial and ethnic groups to borrow and they borrowed more.
- Asian dependent and independent associate degree recipients were least likely to borrow (19.9 percent and 36.0 percent) than other groups.
- Among dependent students who borrowed, White associate degree recipients had the lowest average debt level in 2015–16 at $11,628. Among independent students who borrowed, Hispanic or Latino associate degree recipients had the lowest average debt level at $17,672.

Although dependent Black or African American students tended to have lower family incomes than those from other groups, even within income quartiles, Black or African American associate degree recipients accrued more debt than did other student groups. Sample sizes permit comparisons across groups only within the lower two income quartiles.

Table 5.8: Total Borrowing: Associate Degree Recipients, by Family Income and Race and Ethnicity: 2015–16

		% Who Borrowed	Average Amount Borrowed per Borrower	Median Amount Borrowed per Borrower
Income Quartile 1	All racial and ethnic groups	33.2%	$12,216	$10,875
	American Indian or Alaska Native	‡	‡	‡
	Asian	23.2%	‡	‡
	Black or African American	48.8%	$13,178	$9,500!
	Hispanic or Latino	18.8%	$9,970	$8,692!
	Native Hawaiian or other Pacific Islander	‡	‡	‡
	White	43.3%	$11,685	$10,875
	More than one race	‡	‡	‡
Income Quartile 2	All racial and ethnic groups	33.1%	$11,497	$10,250
	American Indian or Alaska Native	‡	‡	‡
	Asian	‡	‡	‡
	Black or African American	57.5%	$11,654	$9,500!
	Hispanic or Latino	28.3%	$12,809	$10,250
	Native Hawaiian or other Pacific Islander	‡	‡	‡
	White	35.3%	$10,404	$9,000
	More than one race	‡	‡	‡

Source: U.S. Department of Education, National Postsecondary Student Aid Study, 2016
Notes: Sample sizes permit comparisons across groups only within the lower two income quartiles. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | Table 5.8 is Table 7.11 in the 2019 publication.

- Among students from the lowest income quartile, the share of 2015–16 associate degree recipients graduating with debt ranged from 18.8 percent of Hispanic or Latino students, who borrowed an average of $9,970, to 48.8 percent of Black or African American students, who borrowed an average of $13,178.
- Among students from the lower-middle income quartile, the share of associate degree recipients graduating with debt ranged from 28.3 percent of Hispanic or Latino students, who borrowed an average of $12,809, to 57.5 percent of Black or African American students, who borrowed an average of $11,654.

REPAYMENT PLANS

Federal student loan borrowers can choose from a range of repayment plans. If they do not choose a specific repayment plan, they will be placed in the standard 10-year repayment plan in which monthly payments are fixed at the level that allows the loan to be repaid within 10 years. There are several other repayment plan options for students, some of which include:

- Graduated repayment plan: Payments start out lower than under the standard plan but increase every two years, allowing the loan to be repaid within 10 years.
- Extended repayment plan: Payments may be fixed or graduated; loans will be repaid within 25 years.
- Revised Pay as You Earn (REPAYE): The required monthly payment is 10 percent of the borrower's discretionary income for those whose income exceeds 150 percent of the poverty line. Remaining balances will be forgiven after 20 years if all of the loans were for undergraduate study and after 25 years if any were for graduate school.
- Pay as You Earn (PAYE): The required monthly payment is 10 percent of the borrower's discretionary income for those whose income exceeds 150 percent of the poverty line, but never more than it would be under the standard 10-year plan. Remaining balances will be forgiven after 20 years.
- Income-Based Repayment (IBR): The required monthly payment is 10 or 15 percent of the borrower's discretionary income for those whose income exceeds 150 percent of the poverty line, but never more than it would be under the standard 10-year plan. Remaining balances will be forgiven after 20 or 25 years.

In June 2013, 62.6 percent of Federal Direct Loan borrowers in repayment were enrolled in the standard 10-year repayment plan, which requires level monthly payments for 10 years or until the debt is retired, whichever comes first. These borrowers held 38.5 percent of the outstanding debt.

Four years later, in June 2017, these numbers had declined to 47.5 percent of borrowers and 25.5 percent of outstanding debt. By June 2019, 42.9 percent of borrowers holding 21.4 percent of the outstanding debt were in this repayment plan.

Over these years, more and more borrowers have enrolled in income-driven repayment (IDR) plans, which limit their monthly payments to an affordable share of their incomes. In June 2013, 10.6 percent of borrowers holding 21.3 percent of the total outstanding debt participated in these plans. Those shares rose to 28.1 percent of borrowers and 45.5 percent of outstanding debt in June 2017 and to 31.0 percent of borrowers and 50.1 percent of outstanding debt in June 2019 (U.S. Department of Education, n.d.).

Table 5.9: Share of Borrowers and Outstanding Balances, by Type of Repayment Plan: 2013, 2017, and 2019

		June 2013	June 2017	June 2019
Standard Repayment Plan	% of Borrowers in Repayment Plan	62.6%	47.5%	42.9%
	% of Outstanding Debt in Repayment Plan	38.5%	25.5%	21.4%
Income-Driven Repayment Plans	% of Borrowers in Repayment Plan	10.6%	28.1%	31.0%
	% of Outstanding Debt in Repayment Plan	21.3%	45.5%	50.1%

Source: National Student Loan Data System (NSLDS)
Notes: Includes outstanding principal and interest balances of Direct Loan borrowers in repayment, deferment, and forbearance. | Data do not include loans through the Federal Family Education Loan Program.

The data below, from the *2012/17 Beginning Postsecondary Students Longitudinal Study*, report on repayment plan participation as of June 2017. Overall, 65.7 percent of borrowers who had completed a degree or certificate and 70.3 percent of those who left college without a credential were in the standard 10-year repayment plan; 19.9 percent of completers and 15.3 percent of non-completers were in IDR plans.

Among both completers and non-completers, Asian borrowers were most likely to be in the standard repayment plan (80.6 percent and 82.9 percent, respectively) and least likely to be in IDR plans (13.6 percent and 11.1 percent). Among completers, Black or African American borrowers were least likely to be in the standard plan (54.0 percent) and most likely to be in IDR (28.8 percent). Among non-completers, American Indian or Alaska Native (48.8 percent) and Hispanic or Latino (67.4 percent) borrowers were least likely to be in the standard plan; Hispanic or Latino borrowers and those of more than one race were most likely to be in IDR plans (16.0 percent and 17.5 percent, respectively).

Table 5.10: Participation in Repayment Plans, by Plan Type, College Completion, and Race and Ethnicity

	% in Standard Repayment Plan: Completed Any College Credential	% in Standard Repayment Plan: Did Not Complete College Credential	% in Income-Driven Repayment Plans: Completed Any College Credential	% in Income-Driven Repayment Plans: Did Not Complete College Credential
All racial and ethnic groups	65.7%	70.3%	19.9%	15.3%
American Indian or Alaska Native	62.9%	48.8%	20.8%!	15.4%!!
Asian	80.6%	82.9%	13.6%	11.1%!
Black or African American	54.0%	73.0%	28.8%	15.2%
Hispanic or Latino	64.2%	67.4%	20.0%	16.0%
Native Hawaiian or other Pacific Islander	72.0%	‡	9.6%!!	‡
White	67.7%	69.8%	18.4%	15.2%
More than one race	69.4%	69.7%	16.6%	17.5%!

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17
Notes: Data reflect students who first entered college in 2011-12 and whether they completed a college credential by 2017. Data reflect all federal student loans taken within the six-year time frame. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

Bachelor's Degree Recipients

Nearly two-thirds of all borrowers (65.4 percent) who completed bachelor's degrees—but only 47.9 percent of Black or African American borrowers—were in the standard 10-year repayment plan.

Table 5.11: Average Monthly Federal Loan Payments of Bachelor's Degree Recipients and Distribution of Borrowers Across Repayment Plans, by Sector and Race and Ethnicity

		% in Standard Repayment Plan	% in Graduated Repayment Plan	% in Income-Driven Repayment Plan	% in Alternative Repayment Plan	Average Federal Loan Monthly Payment
All Institutions	All racial and ethnic groups	65.4%	10.8%	20.6%	3.3%	$217
	Asian	79.6%	4.2%	14.3%	2.0%	$193
	Black or African American	47.9%	13.0%	33.4%	5.7%	$216
	Hispanic or Latino	63.1%	12.3%	22.2%	2.4%	$205
	White	67.7%	10.9%	18.4%	3.1%	$223
	More than one race	68.1%	8.6%	20.0%	3.3%	$218
Public Four-Year	All racial and ethnic groups	68.3%	10.4%	18.0%	3.2%	$205
	Asian	84.2%	‡	12.1%	‡	$174
	Black or African American	47.8%	13.9%	31.9%	6.4%	$200
	Hispanic or Latino	68.6%	13.7%	17.1%	‡	$193
	White	70.6%	9.9%	16.1%	3.5%	$212
	More than one race	66.5%	11.2%	20.6%	‡	$218
Private Nonprofit Four-Year	All racial and ethnic groups	62.6%	11.6%	22.4%	3.5%	$234
	Asian	73.3%	7.1%	15.8%	‡	$231
	Black or African American	46.9%	12.9%	35.5%	4.8%	$230
	Hispanic or Latino	54.7%	10.5%	29.4%	5.4%	$220
	White	65.9%	12.2%	19.2%	2.7%	$238
	More than one race	61.9%	7.3%	24.9%	‡	$221
Public Two-Year	All racial and ethnic groups	63.6%	9.6%	25.6%	1.2%	$210
	Black or African American	52.6%	‡	39.0%	‡	$203
	Hispanic or Latino	69.1%	6.1%	23.0%	‡	$224
	White	58.9%	12.5%	27.1%	‡	$215
For-Profit	All racial and ethnic groups	49.8%	11.4%	33.5%	5.3%	$259
	Black or African American	48.8%	9.9%	33.1%	8.3%	$277
	Hispanic or Latino	45.3%	15.2%	33.7%	5.8%	$225
	White	49.9%	10.8%	35.5%	3.8%	$262

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17

Notes: Data reflect students who first entered college in 2011-12 and whose highest degree earned by 2017 was a bachelor's degree. Data reflect all federal student loans taken within the six-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2017. | Sector reflects the sector of the last institution attended as of 2017, which is likely, but not necessarily, where the bachelor's degree was earned. Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | ‡ Estimate suppressed. Reporting standards not met. | Estimates for groups not separately shown were suppressed due to small sample size. | Alternative repayment plan includes a few additional repayment options not separately shown.

- Approximately one-fifth of bachelor's degree recipients with federal loans were in income-driven repayment plans (20.6 percent). Participation in this type of plan ranged from 14.3 percent of Asian borrowers to 33.4 percent of Black or African American borrowers.
- The highest participation rate in the standard 10-year repayment plan was 84.2 percent of Asian borrowers from public four-year institutions; the lowest was 45.3 percent of Hispanic or Latino borrowers from for-profit institutions.
- Black or African American borrowers had the highest rate of participation in IDR plans among bachelor's degree recipients from public and private nonprofit institutions, with 39.0 percent of Black or African American borrowers from public two-year institutions in IDR plans.
- Average monthly loan payments for borrowers who completed bachelor's degrees ranged from $174 for Asian graduates of public four-year institutions to $277 for Black or African American graduates of for-profit institutions.

Associate Degree Recipients

The share of borrowers who completed associate degrees who were in the standard 10-year repayment plan ranged from 55.6 percent of Black or African American borrowers to 85.6 percent of Asian borrowers.

Table 5.12: Average Monthly Federal Loan Payments of Associate Degree Recipients and Distribution of Borrowers Across Repayment Plans, by Sector and Race and Ethnicity

		% in Standard Repayment Plan	% in Graduated Repayment Plan	% in Income-Driven Repayment Plan	% in Alternative Repayment Plan	Average Federal Loan Monthly Payment
All Institutions	All racial and ethnic groups	64.3%	11.3%	20.4%	4.1%	$156
	Asian	85.6%	2.8%	11.0%!!	‡	$178
	Black or African American	55.6%	11.3%	26.6%	6.5%	$161
	Hispanic or Latino	61.2%	14.1%	21.7%	3.0%	$149
	White	66.4%	10.5%	19.1%	4.1%	$156
	More than one race	72.7%	15.3%	11.5%!	‡	$164
Public Four-Year	All racial and ethnic groups	75.6%	6.4%	15.3%	2.6%	$138
	Black or African American	70.6%	8.0%	21.4%	‡	$125
	Hispanic or Latino	75.2%	2.7%	19.7%	‡	$125
	White	74.4%	7.4%	14.3%	4.0%	$145
Private Nonprofit Four-Year	All racial and ethnic groups	66.6%	10.2%	23.2%	‡	$171
	Hispanic or Latino	51.4%	4.0%	44.4%	‡	$135!
	White	70.4%	13.5%	16.2%	‡	$156

		% in Standard Repayment Plan	% in Graduated Repayment Plan	% in Income-Driven Repayment Plan	% in Alternative Repayment Plan	Average Federal Loan Monthly Payment
Public Two-Year	All racial and ethnic groups	67.4%	10.9%	18.1%	3.6%	$139
	Black or African American	55.0%	17.6%	27.3%	‡	$132
	Hispanic or Latino	71.8%	5.1%	20.3%	‡	$111
	White	68.5%	10.7%	15.8%	5.0%	$143
For-Profit	All racial and ethnic groups	52.4%	16.1%	27.3%	4.3%	$186
	Black or African American	50.1%	9.6%	34.1%	6.2%	$202
	Hispanic or Latino	49.1%	25.8%	21.2%	3.9%	$174
	White	54.6%	11.7%	29.5%	4.2%	$185

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17
Notes: Data reflect students who first entered college in 2011-12 and whose highest degree earned by 2017 was an associate degree. Data reflect all federal student loans taken within the six-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2017. | Sector reflects the sector of the last institution attended as of 2017, which is likely, but not necessarily, where the associate degree was earned. Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%. | Estimates for groups not separately shown were suppressed due to small sample size. | Alternative repayment plan includes a few additional repayment options not separately shown.

- About one-fifth of associate degree recipients with federal loans were in IDR plans (20.4 percent). Participation in this type of plan was highest among Black or African American borrowers (26.6 percent).
- Borrowers from for-profit institutions were most likely to participate in IDR plans—27.3 percent overall and 34.1 percent of Black or African American borrowers from this sector.
- Average monthly loan payments for borrowers who completed associate degrees ranged from $111 for Hispanic or Latino graduates of public two-year institutions to $202 for Black or African American graduates of for-profit institutions.

Certificate Recipients

The share of borrowers who completed certificates who were in the standard 10-year repayment plan ranged from 52.5 percent of American Indian or Alaska Native borrowers to 87.1 percent of Asian borrowers.

Table 5.13: Average Monthly Federal Loan Payments of Certificate Recipients and Distribution of Borrowers Across Repayment Plans, by Sector and Race and Ethnicity

		% in Standard Repayment Plan	% in Graduated Repayment Plan	% in Income-Driven Repayment Plan	% in Alternative Repayment Plan	Average Federal Loan Monthly Payment
All Institutions	All racial and ethnic groups	68.6%	12.5%	16.7%	2.2%	$107
	American Indian or Alaska Native	52.5%	30.7%	16.8%	‡	$98
	Asian	87.1%	3.8%	9.1%	‡	$114
	Black or African American	67.5%	11.0%	19.5%	2.0%	$117
	Hispanic or Latino	67.3%	14.2%	16.0%	2.5%	$97
	White	69.5%	11.0%	17.3%	2.2%	$106
	More than one race	71.9%	17.0%	7.5%	3.7%	$149
Public Two-Year	All racial and ethnic groups	73.0%	9.2%	13.7%	4.2%	$97
	Black or African American	66.9%	21.6%	8.5%	‡	$108
	Hispanic or Latino	66.7%	7.3%	17.0%	‡	$85
	White	77.1%	6.0%	15.2%	1.7%	$97
For-Profit	All racial and ethnic groups	65.4%	14.4%	18.4%	1.8%	$107
	Black or African American	64.9%	9.0%	24.0%	2.1%	$116
	Hispanic or Latino	66.7%	16.2%	16.0%	1.1%	$100
	White	63.8%	14.0%	19.8%	2.4%	$108
	More than one race	62.2%	29.6%	4.2%	‡	$135

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17
Notes: Data reflect students who first entered college in 2011-12 and whose highest credential earned by 2017 was a certificate. Data reflect all federal student loans taken within the six-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2017. | Sector reflects the sector of the last institution attended as of 2017, which is likely, but not necessarily, where the certificate was earned. Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | ‡ Estimate suppressed. Reporting standards not met. | Estimates for groups not separately shown were suppressed due to small sample size. | Alternative repayment plan includes a few additional repayment options not separately shown.

- Roughly 17 percent of certificate recipients with federal loans were in income-driven repayment plans. Participation in this type of plan ranged from 9.1 percent of Asian borrowers to 19.5 percent of Black or African American borrowers.
- Borrowers from for-profit institutions were more likely than those from public two-year colleges to participate in IDR plans—18.4 percent overall and 24.0 percent of Black or African American borrowers from this sector.
- Average monthly loan payments for borrowers who completed certificates ranged from $85 for Hispanic or Latino graduates of public two-year institutions to $116 for Black or African American graduates of for-profit institutions and $135 for those of more than one race in that sector.

Non-completers

Borrowers who left college without a degree include students with very different amounts of time in school and levels of debt. Monthly loan payments for students who left college without a degree or certificate averaged $113 and ranged from $87 for American Indian or Alaska Native borrowers to $164 for Asian borrowers.

Table 5.14: Average Monthly Federal Loan Payments of Non-completers and Distribution of Borrowers Across Repayment Plans, by Sector and Race and Ethnicity

		% in Standard Repayment Plan	% in Graduated Repayment Plan	% in Income-Driven Repayment Plan	% in Alternative Repayment Plan	Average Federal Loan Monthly Payment
All Institutions	All racial and ethnic groups	70.3%	11.6%	15.3%	2.8%	$113
	American Indian or Alaska Native	48.8%	29.7%!	15.4%!!	‡	$87
	Asian	82.9%	5.0%!!	11.1%!	‡	$164
	Black or African American	73.0%	10.2%	15.2%	1.5%	$120
	Hispanic or Latino	67.4%	13.7%	16.0%	3.0%!	$100
	White	69.8%	11.9%	15.2%	3.2%	$112
	More than one race	69.7%	8.6%	17.5%!	4.1%!!	$111
Public Four-Year	All racial and ethnic groups	69.7%	11.3%	14.3%	4.7%	$136
	Black or African American	73.3%	5.2%!	20.4%	‡	$137
	Hispanic or Latino	75.3%	11.5%!	11.0%!	‡	$128
	White	66.5%	13.2%!	13.8%	6.5%!	$138
Private Nonprofit Four-Year	All racial and ethnic groups	72.6%	9.3%	15.1%	3.0%!	$161
	Black or African American	72.0%	11.5%!	13.6%!	2.9%!!	$136
	Hispanic or Latino	72.5%	12.9%!!	14.6%!!	‡	$108
	White	73.8%	7.8%!	15.7%	2.7%!!	$178
Public Two-Year	All racial and ethnic groups	69.7%	11.9%	16.5%	2.0%	$90
	Black or African American	71.5%	13.8%	13.3%	1.3%!!	$106
	Hispanic or Latino	68.8%	10.3%!!	18.4%	2.5%!!	$84
	White	69.8%	11.8%	16.1%	2.2%	$87
	More than one race	50.4%	9.4%!!	38.2%!	‡	$77

		% in Standard Repayment Plan	% in Graduated Repayment Plan	% in Income-Driven Repayment Plan	% in Alternative Repayment Plan	Average Federal Loan Monthly Payment
For-Profit	All racial and ethnic groups	71.0%	12.0%	14.7%	2.3%	$111
	Black or African American	74.3%	9.5%	14.5%	1.6%	$120
	Hispanic or Latino	63.2%	16.2%	16.9%	3.8%!!	$100
	White	72.0%	11.5%	14.6%	1.9%	$110
	More than one race	80.3%	10.7%!	8.1%	‡	$110

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17
Notes: Data reflect students who entered college in 2011-12 and were no longer enrolled and had not completed a credential by 2017. Data reflect all federal student loans taken within the six-year time frame. | Sector reflects the sector of the last institution attended as of 2017. Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%. | Estimates for groups not separately shown were suppressed due to small sample size. | Alternative repayment plan includes a few additional repayment options not separately shown.

- Average payments were highest ($161) for those who attended private nonprofit four-year institutions. Within this sector, White non-completers had the highest average monthly payments—$178.
- Average payments were lowest ($90) for those who attended public two-year colleges. Within this sector, Black or African American non-completers had the highest average monthly payments—$106.
- The highest average monthly payments for any group of non-completers was $178 for White borrowers who attended private nonprofit four-year institutions. Black or African American and White borrowers from public four-year institutions and Black or African American borrowers from private nonprofit four-year institutions paid between $136 and $138; other groups of non-completers had lower payments.

DEFAULT

The data reported here compare repayment outcomes across two cohorts of students: the first, six years after first enrolling in college in 2011–12, and the second, 12 years after they began college in 2003–04. These figures are sometimes difficult to interpret because of differences in the amount of time students spend in college and thus, in the amount of time they have been in repayment at the survey date. For example, very low default rates among bachelor's degree recipients six years after first enrollment are to a large extent a function of the short time most of them have been out of college. Many have not had time to default. In contrast, much larger shares of associate degree and certificate recipients and of those who left college without a credential have been in repayment for several years and thus more likely to default.

The most obvious sign of difficulty repaying student loans is default. Borrowers who default on their federal loans may have their wages or even their social security payments garnished. They will have difficulty borrowing for other purposes—such as buying a house or a car—or getting a credit card. They are likely to face barriers to employment and to renting housing. IDR plans should minimize default because they set monthly payments on the basis of borrowers' incomes.

Among students who began college in 2011–12 and completed a degree or certificate by 2017, 5.9 percent had defaulted on at least one federal loan, including 3.2 percent of those who were in an IDR plan and 7.4 percent of those in other repayment plans. In contrast, 40.7 percent of those who had not completed a credential and were no longer in college had defaulted by 2017.

Among both completers and non-completers, default rates were highest among Black or African American and American Indian or Alaska Native borrowers: 53.8 percent of Black or African American borrowers who did not complete their programs and 11.0 percent of completers defaulted; 55.5 percent of American Indian or Alaska Native borrowers who did not complete their programs defaulted.

Table 5.15: Total Share of Students Who Defaulted Within Six Years of First Beginning Postsecondary Education, by College Completion, Repayment Plans, and Race and Ethnicity

	Completed Any College Credential	Completed any College Credential: Enrolled in Income-Driven Repayment Plan	Completed any College Credential: Not Enrolled in Income Driven-Repayment Plan	Did Not Complete College Credential
All racial and ethnic groups	5.9%	3.2%	7.4%	40.7%
American Indian or Alaska Native	11.6%!!	‡	16.0%!	55.5%
Asian	1.0%!!	‡	1.3%!!	34.1%!
Black or African American	11.0%	5.8%	14.5%	53.8%
Hispanic or Latino	9.9%	5.5%!	12.3%	40.9%
Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
White	3.8%	1.7%!	4.8%	33.2%
More than one race	5.8%!	2.4%!!	7.2%!	45.7%

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17
Notes: Data reflect students who first entered college in 2011-12 and whether they completed a college credential by 2017. Data reflect all federal student loans taken within the six-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2017. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

Bachelor's Degree Recipients

Only 1.2 percent of borrowers who began college in 2011–12 and earned bachelor's degrees defaulted within six years of beginning college. The highest default rate was 2.9 percent among Black or African American bachelor's degree recipients. Following borrowers who began college in 2003–04 and earned bachelor's degrees 12 years after they first enrolled in college shows larger differences across racial and ethnic groups. Among Black or African American borrowers, 22.6 percent had defaulted, compared with 7.9 percent overall and just 2.5 percent of Asian borrowers.

Table 5.16: Six-Year and 12-Year Default Rates of Bachelor's Degree Recipients, by Race and Ethnicity

	% Ever Defaulted Within Six Years of First Enrollment: 2012 Cohort	% Ever Defaulted Within 12 Years of First Enrollment: 2004 Cohort
All racial and ethnic groups	1.2%	7.9%
American Indian or Alaska Native	‡	‡
Asian	‡	2.5%!
Black or African American	2.9%	22.6%
Hispanic or Latino	1.5%!	11.8%
Native Hawaiian or other Pacific Islander	‡	‡
White	0.9%	5.7%
More than one race	‡	12.7%!

Sources: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17 | U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:04/09, and 2015 Federal Student Aid Supplement

Notes: Data for the 2012 cohort reflect students who first entered college in 2011-12 and whose highest degree earned by 2017 was a bachelor's degree. Data reflect all federal student loans taken within the six-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2017. | Data for the 2004 cohort reflect students who first entered college in 2003-04 and whose highest degree earned by 2009 was a bachelor's degree. Data reflect all federal student loans taken through 2015, a 12-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2009. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

Associate Degree Recipients

Among associate degree recipients, 6.2 percent of those who began college in 2011–12 and graduated from public two-year colleges and 20.1 percent of those who graduated from for-profit institutions defaulted within six years of beginning college.

Table 5.17: Six-Year and 12-Year Default Rates of Associate Degree Recipients, by Race and Ethnicity

		% Ever Defaulted Within Six Years of First Enrollment: 2012 Cohort	% Ever Defaulted Within 12 Years of First Enrollment: 2004 Cohort
All Institutions	All racial and ethnic groups	8.8%	21.9%
	Asian	‡	32.1%!
	Black or African American	11.9%	33.2%
	Hispanic or Latino	12.0%!	20.1%!
	White	7.4%	17.4%
	More than one race	1.0%!!	41.4%!
Public Two-Year	All racial and ethnic groups	6.2%	17.6%
	Black or African American	13.1%!	38.5%
	Hispanic or Latino	4.4%!!	6.7%!!
	White	5.0%!	12.4%
For-Profit	All racial and ethnic groups	20.1%	33.6%
	Black or African American	21.1%	47.5%!
	Hispanic or Latino	25.8%!	‡
	White	19.5%	30.1%!

Sources: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17 | U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:04/09, and 2015 Federal Student Aid Supplement

Notes: Data for the 2012 cohort reflect students who first entered college in 2011-12 and whose highest degree earned by 2017 was an associate degree. Data reflect all federal student loans taken within the six-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2017. | Data for the 2004 cohort reflect students who first entered college in 2003-04 and whose highest degree earned by 2009 was an associate degree. Data reflect all federal student loans taken through 2015, a 12-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2009. | Sector reflects the sector of the last institution attended as of 2017, which is likely, but not necessarily, where the associate degree was earned. Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%. | Estimates for groups not separately shown were suppressed due to small sample size.

- The highest default rates six years after beginning college were 25.8 percent among for-profit Hispanic or Latino graduates and 21.1 percent among for-profit Black or African American graduates.
- The racial and ethnic patterns after 12 years in the 2003–04 beginning cohort were similar to those among bachelor's degree recipients. Among Black or African American borrowers, 33.2 percent had defaulted compared with 21.9 percent overall.
- The default rate was almost as high among Asian borrowers with associate degrees as among Black or African American borrowers. In contrast, 17.4 percent of White borrowers and 20.1 percent of Hispanic or Latino had defaulted within 12 years of beginning college.

Certificate Recipients

Among certificate recipients who began college in 2011–12, 21.1 percent defaulted within six years of beginning college. Among Black or African American borrowers and those of more than one race, the default rate was 30.4 percent.

Table 5.18: Six-Year and 12-Year Default Rates of Certificate Recipients, by Race and Ethnicity

	% Ever Defaulted Within Six Years of First Enrollment: 2012 Cohort	% Ever Defaulted Within 12 Years of First Enrollment: 2004 Cohort
All racial and ethnic groups	21.1%	44.3%
American Indian or Alaska Native	16.3%!!	‡
Asian	‡	‡
Black or African American	30.4%	55.2%
Hispanic or Latino	21.4%	47.7%
Native Hawaiian or other Pacific Islander	‡	‡
White	16.9%	36.7%
More than one race	30.4%	‡

Sources: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17 | U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:04/09, and 2015 Federal Student Aid Supplement

Notes: Data for the 2012 cohort reflect students who first entered college in 2011-12 and whose highest credential earned by 2017 was a certificate. Data reflect all federal student loans taken within the six-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest credential attained by 2017. | Data for the 2004 cohort reflect students who first entered college in 2003-04 and whose highest credential earned by 2009 was a certificate. Data reflect all federal student loans taken through 2015, a 12-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest credential attained by 2009. | ‡ Estimate suppressed. Reporting standards not met. | !! Interpret with caution. Ratio of standard error is > 50%.

- The next highest default rate was among Hispanic or Latino borrowers who completed certificates, at 21.4 percent; smaller shares of other groups of borrowers defaulted within six years.
- More than half of Black or African American certificate completers (55.2 percent) who began college in 2003–04 had defaulted within 12 years, as had 47.7 percent of Hispanic or Latino borrowers and 36.7 percent of White borrowers.

Non-completers

Table 5.19: Six-Year and 12-Year Default Rates of Non-completers, by Race and Ethnicity

	% Ever Defaulted Within Six Years of First Enrollment: 2012 Cohort	% Ever Defaulted Within 12 Years of First Enrollment: 2004 Cohort
All racial and ethnic groups	40.7%	44.5%
American Indian or Alaska Native	55.5%	‡
Asian	34.1%!	28.5%
Black or African American	53.8%	63.5%
Hispanic or Latino	40.9%	45.4%
Native Hawaiian or other Pacific Islander	‡	‡
White	33.2%	37.3%
More than one race	45.7%	55.2%

Sources: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17 | U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:04/09, and 2015 Federal Student Aid Supplement

Notes: Data reflect students who first entered college in 2011–12 and were no longer enrolled and had not completed a credential by 2017. Data reflect all federal student loans taken within the six-year time frame. | Data reflect students who first entered college in 2003–04 and were no longer enrolled and had not completed a credential by 2009. Data reflect all federal student loans taken through 2015, a 12-year time frame. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Six years after beginning college, default rates were high for non-completers from all racial and ethnic groups who had started college in 2011–12: 55.5 percent of American Indian or Alaska Native borrowers had defaulted on at least one federal loan, as had 53.8 percent of Black or African American borrowers, 45.7 percent of those of more than one race, 40.9 percent of Hispanic or Latino borrowers, 34.1 percent of Asian borrowers, and 33.2 percent of White borrowers.
- Twelve years after beginning college, 44.5 percent of those who started college in 2003–04 and borrowed before leaving college without a degree or certificate had defaulted. Default rates ranged from 28.5 percent of Asian borrowers, 37.3 percent of White borrowers, and 45.4 percent of Hispanic or Latino borrowers to 55.2 percent of those of more than one race and 63.5 percent of Black or African American borrowers.

FORBEARANCE AND DELINQUENCY

Default is not the only measure of struggling with loan repayment. Many borrowers who are not enrolled in IDR plans find that they cannot afford their monthly payments. Borrowers facing financial hardship can apply for deferment or forbearance. Borrowers who return to college have their existing loans deferred, but forbearance is always a sign of financial difficulties. Some borrowers simply do not make the required payments and become delinquent on their loans. A payment that is more than 30 days late is likely to be reported to credit agencies. More than 270 days of delinquency constitutes a default.

Six years after beginning college in 2011–12, 49.1 percent of borrowers who had completed a degree or certificate had entered forbearance on a loan. Forbearance rates ranged from 29.3 percent of Asian borrowers, 38.2 of Native Hawaiian or other Pacific Islander borrowers, and 44.0 percent of White borrowers to 59.6 percent of Hispanic or Latino borrowers, 63.7 percent of Black or African American borrowers, and 70.7 percent of American Indian or Alaska Native borrowers.

Forbearance rates were much higher for non-completers, with 91.1 percent overall receiving this temporary suspension of payments. Forbearance rates ranged from 73.5 percent of Asian borrowers who had not completed their programs to 96.3 percent of Black or African American borrowers.

About 42 percent of borrowers who completed a credential had been delinquent on a loan within six years of beginning college in 2011–12. This included 21.4 percent of Asian borrowers, 51.7 percent of Hispanic or Latino borrowers, and 61.9 percent of Black or African American borrowers.

Among non-completers, 72.6 percent were delinquent on loan payments. This included 47.2 percent of Asian borrowers, 75.4 percent Black or African American borrowers, 80.3 percent of Hispanic or Latino borrowers, and 86.4 percent of American Indian or Alaska Native borrowers.

Table 5.20: Six-Year Forbearance and Default Rates Among College Completers and Non-completers, by Race and Ethnicity

		% Ever Had Forbearance	% Ever Had Delinquency
Completed Any Credential	All racial and ethnic groups	49.1%	41.6%
	American Indian or Alaska Native	70.7%	60.9%
	Asian	29.3%	21.4%
	Black or African American	63.7%	61.9%
	Hispanic or Latino	59.6%	51.7%
	Native Hawaiian or other Pacific Islander	38.2%!	27.5%!
	White	44.0%	35.3%
	More than one race	49.0%	42.4%
Did Not Complete College Credential	All racial and ethnic groups	91.1%	72.6%
	American Indian or Alaska Native	94.1%	86.4%
	Asian	73.5%	47.2%
	Black or African American	96.3%	75.4%
	Hispanic or Latino	94.0%	80.3%
	Native Hawaiian or other Pacific Islander	‡	‡
	White	88.0%	69.7%
	More than one race	91.7%	71.0%

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17
Notes: Data reflect students who first entered college in 2011-12 and whether or not they completed a credential by 2017. Data reflect all federal student loans taken within the six-year time frame. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

Bachelor's Degree Recipients

Despite low default rates, many bachelor's degree recipients experienced forbearance (37.5 percent) or delinquency (31.6 percent) within six years of beginning college in 2011–12. These events were most frequent among Black or African American borrowers—49.2 percent and 51.2 percent, respectively.

Table 5.21: Six-Year and 12-Year Forbearance and Delinquency Rates of Bachelor's Degree Recipients, by Race and Ethnicity

		% Ever Had Forbearance Within Six Years of First Enrollment: 2012 Cohort	% Ever Had Delinquency Within Six Years of First Enrollment: 2012 Cohort	% Ever Had Forbearance Within 12 Years of First Enrollment: 2004 Cohort
All Institutions	All racial and ethnic groups	37.5%	31.6%	46.0%
	Asian	27.4%	19.4%	34.6%
	Black or African American	49.2%	51.2%	84.9%
	Hispanic or Latino	42.3%	37.1%	52.0%
	White	35.2%	28.0%	40.4%
	More than one race	37.8%	31.9%	52.9%
Public Four-Year	All racial and ethnic groups	34.1%	27.7%	46.1%
	Asian	25.5%	15.0%	36.3%
	Black or African American	39.6%	47.3%	87.0%
	Hispanic or Latino	40.0%	33.2%	49.7%
	White	32.5%	24.0%	40.4%
	More than one race	39.1%	32.3%	53.5%
Private Nonprofit Four-Year	All racial and ethnic groups	40.2%	33.9%	44.4%
	Asian	34.1%	24.6%	32.1%
	Black or African American	59.2%	49.5%	81.5%
	Hispanic or Latino	44.8%	41.3%	57.3%
	White	37.1%	31.0%	39.5%
	More than one race	34.6%	29.3%	49.4%
For-Profit	All racial and ethnic groups	56.9%	63.8%	58.8%
	Black or African American	74.0%	78.2%	‡
	Hispanic or Latino	58.7%	65.6%	‡
	White	49.4%	58.1%	51.3%

Sources: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17 | U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:04/09, and 2015 Federal Student Aid Supplement

Notes: Data for the 2012 cohort reflect students who first entered college in 2011-12 and whose highest degree earned by 2017 was a bachelor's degree. Data reflect all federal student loans taken within the six-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2017. | Data for the 2004 cohort reflect students who first entered college in 2003-04 and whose highest degree earned by 2009 was a bachelor's degree. Data reflect all federal student loans taken through 2015, a 12-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2009. | Sector reflects the sector of the last institution attended as of 2017, which is likely, but not necessarily, where the bachelor's degree was earned. Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Estimates for groups not separately shown were suppressed due to small sample size. | ‡ Estimate suppressed. Reporting standards not met.

- Within 12 years of beginning college in 2003–04, 84.9 percent of Black or African American borrowers have required a forbearance—compared with 46.0 percent overall and 34.6 percent of Asian borrowers. Among Hispanic or Latino borrowers, 52.0 percent required a forbearance within 12 years of beginning college.
- Bachelor's degree recipients from for-profit institutions were most likely to experience these repayment issues within six years of beginning college in 2011–12. For example, 49.4 percent of White graduates of for-profit institutions had a forbearance, compared with 35.2 percent of White borrowers overall; 65.6 percent of Hispanic or Latino graduates of for-profit institutions had a delinquency, compared with 37.1 percent of Hispanic or Latino students overall. Black or African American borrowers were outliers in their repayment experiences, even within sectors, with higher rates of forbearance and delinquency than any other group.

Associate Degree Recipients

Many associate degree recipients experienced forbearance (61.1 percent) or delinquency (52.5 percent) within six years of starting college in 2011–12. These events were most frequent among Black or African American borrowers—73.0 percent and 67.3 percent, respectively.

Table 5.22: Six-Year and 12-Year Forbearance and Delinquency Rates of Associate Degree Recipients, by Race and Ethnicity

		% Ever Had Forbearance Within Six Years of First Enrollment: 2012 Cohort	% Ever Had Delinquency Within Six Years of First Enrollment: 2012 Cohort	% Ever Had Forbearance Within 12 Years of First Enrollment: 2004 Cohort
All Institutions	All racial and ethnic groups	61.1%	52.5%	62.3%
	Asian	22.6%!	19.9%!	38.1%!
	Black or African American	73.0%	67.3%	89.0%
	Hispanic or Latino	61.4%	55.4%	72.3%
	White	59.0%	48.6%	54.3%
	More than one race	60.9%	53.1%	74.3%
Public Two-Year	All racial and ethnic groups	63.7%	54.5%	53.5%
	Black or African American	77.6%	64.7%	88.0%
	Hispanic or Latino	75.9%	69.8%	61.2%
	White	59.6%	50.4%	48.1%
For-Profit	All racial and ethnic groups	77.9%	71.2%	68.3%
	Black or African American	81.6%	85.6%	95.8%
	Hispanic or Latino	83.1%	73.8%	‡
	White	78.2%	66.9%	55.8%

Sources: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17 | U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:04/09, and 2015 Federal Student Aid Supplement

Notes: Data for the 2012 cohort reflect students who first entered college in 2011-12 and whose highest degree earned by 2017 was an associate degree. Data reflect all federal student loans taken within the six-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2017. | Data for the 2004 cohort reflect students who first entered college in 2003-04 and whose highest degree earned by 2009 was an associate degree. Data reflect all federal student loans taken through 2015, a twelve-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2009. | Sector reflects the sector of the last institution attended as of 2017. Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Estimates for groups not separately shown were suppressed due to small sample size. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Among borrowers who started college in 2011–12, forbearance (77.9 percent) and delinquency (71.2 percent) were more common among for-profit graduates within six years than among those from public two-year colleges (63.7 percent and 54.5 percent, respectively.)

- Within six years of starting college in 2011–12, Black or African American and Hispanic or Latino borrowers in the public two-year and for-profit sectors were more likely than White borrowers to require a forbearance or be delinquent in their payments. For example, 64.7 percent of Black or African American borrowers and 69.8 percent of Hispanic or Latino borrowers who earned associate degrees at public two-year colleges were delinquent, compared with 50.4 percent of White borrowers. In the for-profit sector, these figures were 85.6 percent for Black or African American borrowers, 73.8 percent for Hispanic or Latino borrowers, and 66.9 percent for White borrowers.
- The patterns in repayment success among associate degree recipients 12 years after starting college in 2003–04 were similar to those among bachelor's degree recipients. Among Black or African American borrowers, 89.0 percent have required a forbearance, compared with 62.3 percent overall and 38.1 percent of Asian borrowers.
- Outcomes for Hispanic or Latino borrowers were much closer to the overall averages than those for Black or African American borrowers: 72.3 percent of Hispanic or Latino borrowers had a forbearance 12 years after starting college in 2003–04.

Certificate Recipients

Among certificate recipients, 70.7 percent were delinquent, and 83.4 percent had a forbearance within six years of beginning college in 2011–12. Black or African American borrowers had higher than average frequencies of each of these outcomes (84.3 percent and 92.2 percent, respectively). Borrowers of more than one race were also more likely than average to experience these outcomes.

Table 5.23: Six-Year and 12-Year Forbearance and Delinquency Rates of Certificate Recipients, by Race and Ethnicity

	% Ever Had Forbearance Within Six Years of First Enrollment: 2012 Cohort	% Ever Had Delinquency Within Six Years of First Enrollment: 2012 Cohort	% Ever Had Forbearance Within 12 Years of First Enrollment: 2004 Cohort
All racial and ethnic groups	83.4%	70.7%	59.2%
American Indian or Alaska Native	81.3%	74.9%	‡
Asian	56.0%	42.2%!	‡
Black or African American	92.2%	84.3%	70.8%
Hispanic or Latino	86.1%	72.9%	54.5%
Native Hawaiian or other Pacific Islander	‡	‡	‡
White	79.1%	63.9%	55.0%
More than one race	87.7%	79.3%	‡

Sources: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:12/17 | U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:04/09, and 2015 Federal Student Aid Supplement

Notes: Data for the 2012 cohort reflect students who first entered college in 2011-12 and whose highest credential earned by 2017 was a certificate. Data reflect all federal student loans taken within the six-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest credential attained by 2017. | Data for the 2004 cohort reflect students who first entered college in 2003-04 and whose highest credential earned by 2009 was a certificate. Data reflect all federal student loans taken through 2015, a 12-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest credential attained by 2009. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Patterns for Hispanic or Latino students were close to the overall average: 72.9 percent were delinquent and 86.1 percent had forbearance within six years of starting college in 2011–12. Asian and White borrowers were less likely than others to have these outcomes.
- Black or African American certificate recipients also had worse repayment experiences than others 12 years out, with 70.8 percent having received forbearance, compared with 59.2 percent overall.

REDUCING DEBT BALANCES

Another measure of repayment is the extent to which borrowers reduce their loan balances over time. The amount owed may increase if borrowers do not make payments large enough to cover accruing interest or if there are penalties.

Table 5.24: Ratio of Amount Still Owed to Amount Borrowed 12 Years After First Beginning Postsecondary Education, by Award Level and Race and Ethnicity

		Average	25th Percentile	Median (50th Percentile)	75th Percentile
Bachelor's Degree Recipients	All racial and ethnic groups	60.3%	0.0%	61.0%	104.0%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	45.6%	0.0%	33.0%	93.0%
	Black or African American	105.5%	96.0%	115.0%	126.0%
	Hispanic or Latino	69.7%	32.0%!	80.0%	109.0%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	53.5%	0.0%	51.0%	94.0%
	More than one race	71.2%	23.0%!	81.0%	123.0%
Associate Degree Recipients	All racial and ethnic groups	78.5%	31.0%	93.0%	121.0%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	40.1%!	0.0%	31.0%!!	76.0%
	Black or African American	117.3%	102.0%	123.0%	134.0%
	Hispanic or Latino	91.4%	83.0%	101.0%	122.0%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	68.8%	7.0%!!	78.0%	115.0%
	More than one race	80.1%	37.0%!!	89.0%	126.0%

		Average	25th Percentile	Median (50th Percentile)	75th Percentile
Certificate Recipients	All racial and ethnic groups	62.1%	0.0%	68.0%	113.0%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	‡	‡	‡	‡
	Black or African American	83.6%	23.0%!!	103.0%	122.0%
	Hispanic or Latino	47.5%	0.0%	12.0%!!	107.0%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	58.0%	0.0%	59.0%	102.0%
	More than one race	‡	‡	‡	‡
Did Not Complete College Credential Total	All racial and ethnic groups	69.4%	0.0%	79.0%	113.0%
	American Indian or Alaska Native	‡	‡	‡	‡
	Asian	50.0%	0.0%	45.0%!	101.0%
	Black or African American	94.9%	59.0%	106.0%	126.0%
	Hispanic or Latino	63.8%	0.0%	72.0%	107.0%
	Native Hawaiian or other Pacific Islander	‡	‡	‡	‡
	White	62.2%	0.0%	63.0%	109.0%
	More than one race	60.4%	0.0%	70.0%	105.0%

Source: U.S. Department of Education, Beginning Postsecondary Students Longitudinal Study, BPS:04/09, and 2015 Federal Student Aid Supplement
Notes: Data for the 2004 cohort reflect students who first entered college in 2003-04 and their highest credential earned by 2009. Data reflect all federal student loans taken through 2015, a 12-year time frame. As a result, loan outcomes may reflect loans taken for additional enrollment beyond the highest degree attained by 2009. | ‡ Estimate suppressed. Reporting standards not met. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error to estimate is >50%.

- On average, 12 years after beginning college, students who began college in 2003–04 and completed bachelor's degrees owed 60.3 percent of the amount they had borrowed. These average amounts owed ranged from 45.6 percent for Asian borrowers and 53.5 percent for White borrowers to 69.7 percent for Hispanic or Latino borrowers, 71.2 percent for those of more than one race, and 105.5 percent for Black or African American borrowers. The median remaining balance overall was 61.0 percent, ranging from 33.0 percent for Asian borrowers to 115.0 percent for Black or African American borrowers.
- Twelve years after beginning college, associate degree recipients still owed an average of 78.5 percent of the total amount they had borrowed. Remaining balances ranged from 40.1 percent of the amount Asian students had borrowed to 117.3 percent of the original amount for Black or African American borrowers. The median remaining balance overall was 93.0 percent; Black or African American borrowers had the highest median remaining balance of any group at 123.0 percent.
- Twelve years after beginning college, certificate recipients still owed an average of 62.1 percent of the total amount they had borrowed, with a median of 68.0 percent. The average for Black or African American borrowers was 83.6 percent and the median was 103.0 percent.
- Twelve years after beginning college, borrowers who did not complete a credential still owed an average of 69.4 percent of the total amount they had borrowed, with a median of 79.0 percent. The average for Black or African American borrowers was 94.9 percent and the median was 106.0 percent.

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INVITED ESSAY

The Racialization of the Student Debt Crisis

Fenaba R. Addo

The Racialization of the Student Debt Crisis

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Surprisingly, the idea that we are in the midst of a student debt crisis remains a controversial one, even with the average debt for a four-year degree at $29,000 in 2018 (College Board 2019a). Those who argue against a student debt crisis posit that this amount is a relatively small burden to bear when compared with the expected lifetime incomes of college graduates, which continue to outpace the earnings of all groups with less accumulated schooling across race and ethnicity. And, of course, the media tend to highlight the stories of the small percentage of borrowers with over $100,000[1] of debt; in most cases, the student accumulated this debt during graduate school. These average figures, however, mask concentrations of debt, most notably held by more economically vulnerable populations, such as those who have not completed their degrees (Hillman 2014). Moreover, failure to disaggregate the borrower population in these conversations ignores substantial portions of our society whose student loan experience is quite different: Black borrowers and their families are accumulating more debt on average and their struggles with repayment result in some of the highest default rates (Baum 2019).

Thankfully, the conversation about the racial disparity in student debt has moved from a relatively small group of academics and policymakers to the national political stage. On June 18, 2018, 62 members of Congress representing 29 states sent a letter to Secretary of Education Betsy DeVos. It had a clear message: the federal student loan program disproportionately impacted students of color, and the current structure and actions of the department have failed to protect these borrowers (Warren et al. 2018). Then, in early 2019, Senators Kamala Harris (CA), Doug Jones (AL), Catherine Cortez Masto (NV), and Elizabeth Warren (MA) asked for stakeholder input on how to address racial disparities in student debt (Jones et al. 2019). As the 2020 election campaign cycle kicked into full gear, racial disparities in student debt and the need for policy-based solutions have become central talking points among politicians, policymakers, and the media.

How Did We Get Here? Racial Wealth Inequality and College Affordability

As state funding for public education declined, students and their families have had to cover an increasing share of college costs. Rising aggregate student debt reflects this reality, as does the increase in the number of students enrolling in postsecondary education. Meanwhile, economic inequality has dramatically increased. Stagnant wages and earnings that failed to keep pace with inflation at the lower ends of the income distribution have made it impossible to draw from resources that do not exist. Focusing solely on income differentials, however, provides an incomplete picture of the household balance sheet and the relationship between higher education and familial resources. It also masks vast racial disparities among American households, given that wealth differentials are much greater than income disparities. For example, in 2016, the median income of White households was $61,200, compared with $35,400 for Black households. However, the median net wealth (total assets minus total debts) of White households was $171,000, compared with $17,600 for Black households (Dettling et al. 2017). This tenfold difference in net wealth holdings is important because familial wealth is a key determinant of postsecondary success when measured by students' ability to attend college, complete their studies, and depart with a reduced debt burden. A debt-financed higher education system in a society with extreme wealth inequality means those with fewer resources are more likely to take on debt to access postsecondary education.

A debt-financed higher education system in a society with extreme wealth inequality means those with fewer resources are more likely to take on debt to access postsecondary education.

1 According to the College Board, in 2019, 10 percent of borrowers held 43 percent of the outstanding loan debt (College Board 2019b).

There has been a growing awareness within both academic and policy circles of these links between racial disparities in student loan debt and greater societal racial wealth inequality (Morgan and Steinbaum 2018; Steinbaum 2019; McKay and Kingsbury 2019; Mishory, Huelsman, and Kahn 2019). Black families and their children turn to student loans to cover the cost of college attendance, expected family contributions, and any remaining unmet need. In a 2016 study, Addo, Houle, and Simon found that as parental wealth increased, student loan debt decreased. When disaggregated by race, however, the inverse association held for White families but did not for Black families. In other words, Black parental wealth was not associated with the amount of debt their children accumulated. Between 1989 to 2013, a period of increasing Black-White wealth inequality that included the Great Recession, Seamster and Charron-Chénier (2017) found that racial disparities in student loan debt grew. In their analysis, both the proportion of Black households that carried loans as well as the student loans' share of total household debt grew faster than White households. Fishman (2018) found that low-income and low-wealth Black students whose families have Parent PLUS[2] loans had more average debt than their White counterparts. All of these studies highlight one important, overarching finding: Black students and their families take on more debt for their postsecondary education in pursuit of what has become an increasingly expensive investment.

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Student Debt and Black-White Differences in Repayment Outcomes

In addition to racial disparities in student loan debt accumulation, mounting evidence—including in this report—also shows racial disparities in student loan debt repayment rates, with Black borrowers having the highest default rates (Hillman 2014; Miller 2017; Scott-Clayton 2018b). Studies have shown default rates for Black borrowers exceeded those of White borrowers, independent of whether they completed their studies (Scott-Clayton 2018a). Paydown rates of White borrowers are more than two times greater than those of Black borrowers (Houle and Addo 2019). Ten years post-graduation, Black borrowers owed 51 percent of their initial loan debt, and 21 percent had some experience with nonpayment either through loan deferment or forbearance. Compare these percentages with White borrowers who owed 16 percent of their initial debt, and 4 percent experienced nonpayment (Lochner and Monge-Naranjo 2014).

It was also the case that family and parental resources explained only a portion of racial differences in default rates, signifying that postsecondary experiences and the socioeconomic status of young adults also matter (Houle and Addo 2019; Scott-Clayton 2018b). Divergences in labor markets and life circumstances upon leaving school lead Black young adults to repay their loans more slowly than their White counterparts. Black college graduates also have higher rates of unemployment and underemployment than White college graduates (Jones and Schmitt 2014). And for those who find jobs, Black college graduates still must contend with discriminatory labor market practices (Gaddis 2015), which make them more likely to receive lower pay and attract fewer opportunities for career advancements relative to their White college graduate counterparts.

Another critical piece for understanding racial student debt disparities is financial assistance from family. Fewer Black students receive financial help from family, and the overall amounts received are smaller, on average. It is important to note, however, that while in absolute terms, White adult children receive more financial support from their parents, Black parents tend to give more financial assistance as a share of their available resources to their children (Nam et al. 2015).

The consequences of student debt repayment issues can reverberate throughout an individual's life. Households with student debt are at greater risk of adverse financial outcomes such as trouble paying bills and issues with default and delinquency (Bricker and Thompson 2016), which can lead to wage garnishment and poor credit that make future borrowing more

2 A Parent PLUS loan is a loan that parents of dependent undergraduates students can use to help pay for college or career school. Compared with the amount students can borrow, which is capped, parents can borrow up to the total costs of attendance (COA). PLUS loans can help pay for education expenses not covered by other financial aid.

expensive or impossible. If borrowers are having difficulty repaying their loans or require a longer time horizon, these circumstances also impact their ability to accumulate wealth. Individuals who can start accumulating assets earlier acquire more wealth, and the young adults paying down debt in the years after college are unlikely to catch up or surpass the young adults that were able to accumulate savings, purchase a home, or begin saving for retirement during that time. Given the racialized nature of the student debt crisis, White young adult borrowers can often pay down their debt faster, start accumulating wealth sooner, and build upon a wealth foundation that is essentially nonexistent for Black borrowers.

Given the racialized nature of the student debt crisis, White young adult borrowers can often pay down their debt faster, start accumulating wealth sooner, and build upon a wealth foundation that is essentially nonexistent for Black borrowers.

How Do We Assist Black Families with Student Debt?

As college tuition continues to increase, families and students will remain accountable for overall college costs, but steps can be taken to ease the burden. At a minimum, financial education and counseling are critical for navigating the complex, decentralized system of student aid. For example, receiving assistance with completing the FAFSA form increases the likelihood families will submit the application, students will enroll, and that they persist from one year to the next (Bettinger et al. 2012; Social Programs That Work 2017). Credit markets and predatory lenders must also be regulated to protect vulnerable borrowers.

As colleges and universities expand access to serve today's students, they must also commit to meeting their academic and financial needs. Doing so means more than providing direct grant or loan aid to cover tuition and books, especially if the students are low income, first generation, or face high tuition costs. Proposals to increase the amount of federal aid institutions receive to cover the lack of growth in state aid, such as Deming's (2017) federal matching grant proposal that ties assistance to college completion, are promising. Colleges and universities should also ask the following questions when creating their financial aid offers:

- Do students receive enough to cover all their expenses?
- Can they afford housing?
- Is food insufficiency a concern?
- Will students be more likely to burden themselves in other ways to avoid accumulating debt, such as overloading their courses in an attempt to reduce their time in school, or working time-consuming jobs while trying to complete their studies?

Repayment systems must also be designed to serve all borrowers. For example, income-based repayment programs restrict repayment to 10 to 20 percent of a borrower's discretionary income and discharge any remaining debts after a 20–25-year repayment window. Currently, though, these programs are restricted to federal loan borrowers; Black borrowers are more likely to hold private education loans. Income-based repayment programs also rely on borrowers' knowledge of the program and capability to determine which plan best suits their needs. Income-based repayment is not the default loan repayment system—borrowers must complete an application, and applicants must reapply every year, causing a lag in the system that cannot adjust automatically to a person's life circumstances. These seemingly minor structural factors have massive implications, including a reduced probability that the intended beneficiaries are aware of these programs and will use and benefit from the system.

As colleges and universities expand access to serve today's students, they must also commit to meeting their academic and financial needs.

Conclusion

Growing political and societal attention to Black-White disparities in student debt has shed light on the inherent inequities in a system that has provided opportunities but also failed to deliver to all students. As Jackson and Reynolds wrote in their 2013 article, loans are "imperfect" tools for college accessibility; they create financial risks for young people and are "contradictory" to reducing racial inequality. For some students and their families, borrowing for college may be worth the risks, but the associated costs are not uniformly distributed throughout the college-attending population.

In addition to bringing attention to the racial divide in student debt, the senators' letter mentioned in the introduction also suggests that the Department of Education contributed to this growing inequality. This acknowledgment highlights the need for policy-based solutions to address this growing societal injustice. Recent attention to philanthropic acts, such as billionaire Robert Smith's pledge to eliminate the student loan debt of the 2019 graduating class at Morehouse College and the debt of their parents (Morehouse College 2019), is important because it validates concerns and mounting evidence that student debt may have long-term negative effects in the lives of college graduates. However, reliance on piecemeal private solutions to address a structural problem are not enough; rather, big, bold solutions are needed. So as politicians continue to debate whether debt cancellation should be for all borrowers, or as researchers argue for universal tuition-free college, real policy change still must be the focus—not just theoretical arguments. Debt-based economic fragility does not need to be the defining characteristic of this generation of Black college students.

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CHAPTER 6

Postsecondary Faculty and Staff

INTRODUCTION

The racial and ethnic diversity of college and university administrators, faculty, and staff has not grown at a pace comparable to that of the student body. In 2015–16, approximately 45 percent of all undergraduate and 32 percent of all graduate students were people of color[1] (Espinosa et al. 2019). However, as the data presented in this chapter show, faculty and key staff remain largely White. In fall 2017, 71.0 percent of part-time faculty and 72.6 percent of full-time faculty were White. This pattern continued across senior administrators, mid-level professionals, and nearly all full-time and part-time staff positions. The largest shares of people of color occupied service and maintenance, and office and administrative support occupations. This means that college students of color are much more likely to encounter staff who look like them outside of the classroom and boardroom.

Race and Ethnicity in Higher Education: A Status Report (2019) included an overview of full-time faculty by academic rank and tenure. This chapter builds upon data presented in the 2019 report and provides a comprehensive overview of higher education professionals, including full-time and part-time faculty, academic department heads, senior administrators, professional staff, and support staff.

KEY FINDINGS

- About one-fifth of all graduate assistants, full-time faculty,[2] and part-time faculty[3] identified as people of color in fall 2017.
- Among full-time faculty, American Indian or Alaska Native, Black or African American, Hispanic or Latino, and Native Hawaiian or other Pacific Islander faculty were more likely than White faculty to be instructors, lecturers, and faculty with no academic rank.[4]
- Black or African American part-time faculty were nearly twice as likely as all part-time faculty to be at for-profit colleges.
- Within each postsecondary sector,[5] the majority of full-time faculty were White. Over one-quarter of all full-time faculty at for-profit institutions were people of color, the largest share of any sector. By race and ethnicity, the share of Black or African American full-time faculty at for-profit institutions was double that at public and private nonprofit four-year institutions. A similar pattern emerged among part-time faculty.
- The largest proportion of people of color by discipline was in area, ethnic, cultural, gender, and group studies. In this discipline, people of color represented nearly 56 percent of all full-time faculty, but 49.1 percent of academic department heads.
- Nearly all academic department heads in natural resources and conservation were White (98.3 percent); this was much higher than their share among all full-time faculty in this discipline (84.1 percent). In fact, this was the largest difference across all disciplines (14.2 percentage points).

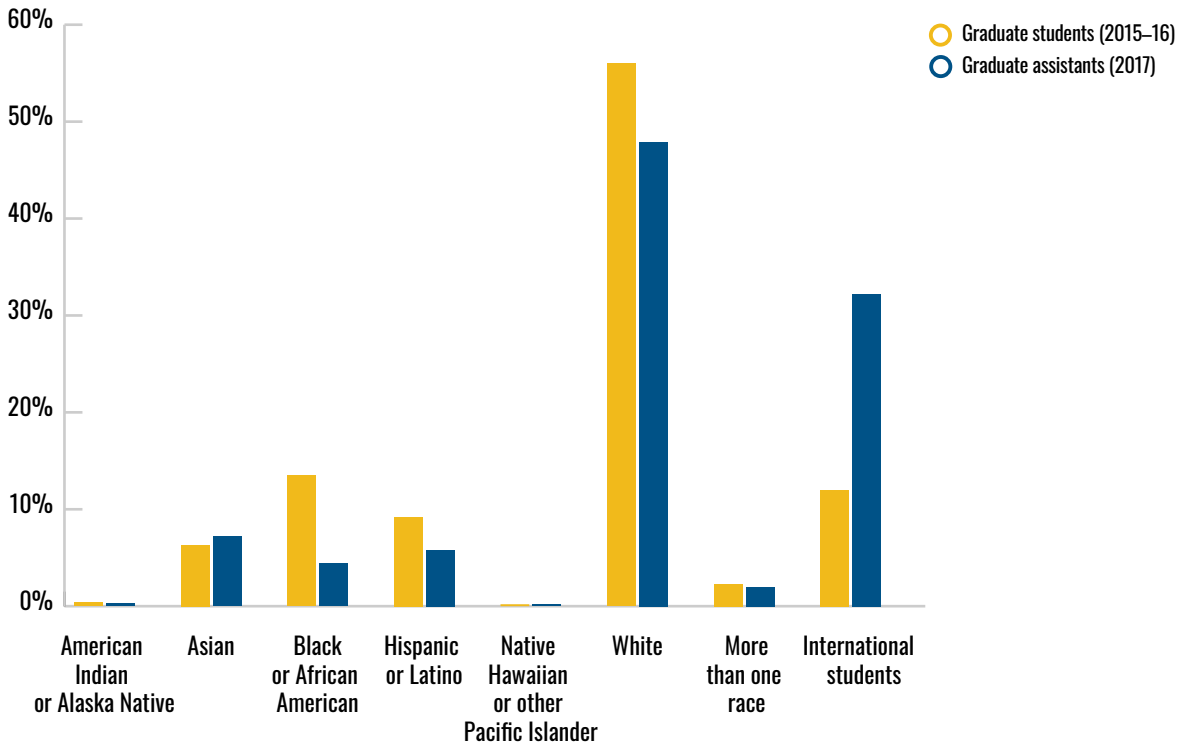
1 The term people of color includes the following groups: American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or other Pacific Islander, and individuals of more than one race.
2 Full-time faculty are those individuals reported to the Integrated Postsecondary Education Data System (IPEDS) as full-time instructional staff with faculty status.
3 Part-time faculty are those individuals reported to IPEDS as part-time instructional staff.
4 IPEDS instructs institutions to report full-time instructional staff with faculty status as having no academic rank if their institution operates without standard academic ranks (e.g., full professor, associate professor, assistant professor).
5 Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. For more information, please refer to the report's methods section.

- The share of Black or African American and Hispanic or Latino full-time and part-time staff was higher among service positions than other groups, while the share of Asian and international[6] staff was higher in computer, engineering, and science occupations.
- Overall, nearly 30 percent of all full-time staff were people of color in 2017. The proportion of people of color among full-time staff new hires was slightly higher, at 32.7 percent.
- People of color accounted for 22.9 percent of all professional roles and 14.7 percent of all administrative positions. In comparison, more than 30 percent of clerical, technical, and service staff identified as people of color.

GRADUATE ASSISTANTS

Of the over 350,000 graduate assistants in fall 2017, 47.9 percent were White, 32.2 percent were international students, 7.2 percent were Asian, 5.8 percent were Hispanic or Latino, 4.4 percent were Black or African American, 2.0 percent were of more than one race, 0.3 percent were American Indian or Alaska Native, and 0.2 percent were Native Hawaiian or other Pacific Islander. While international students were 32.2 percent of all graduate assistants in 2017, they accounted for 12.0 percent of graduate students in 2015–16. This was the largest gap between all groups, at 20.2 percentage points.

Figure 6.1: Graduate Students and Graduate Assistants, by Race and Ethnicity



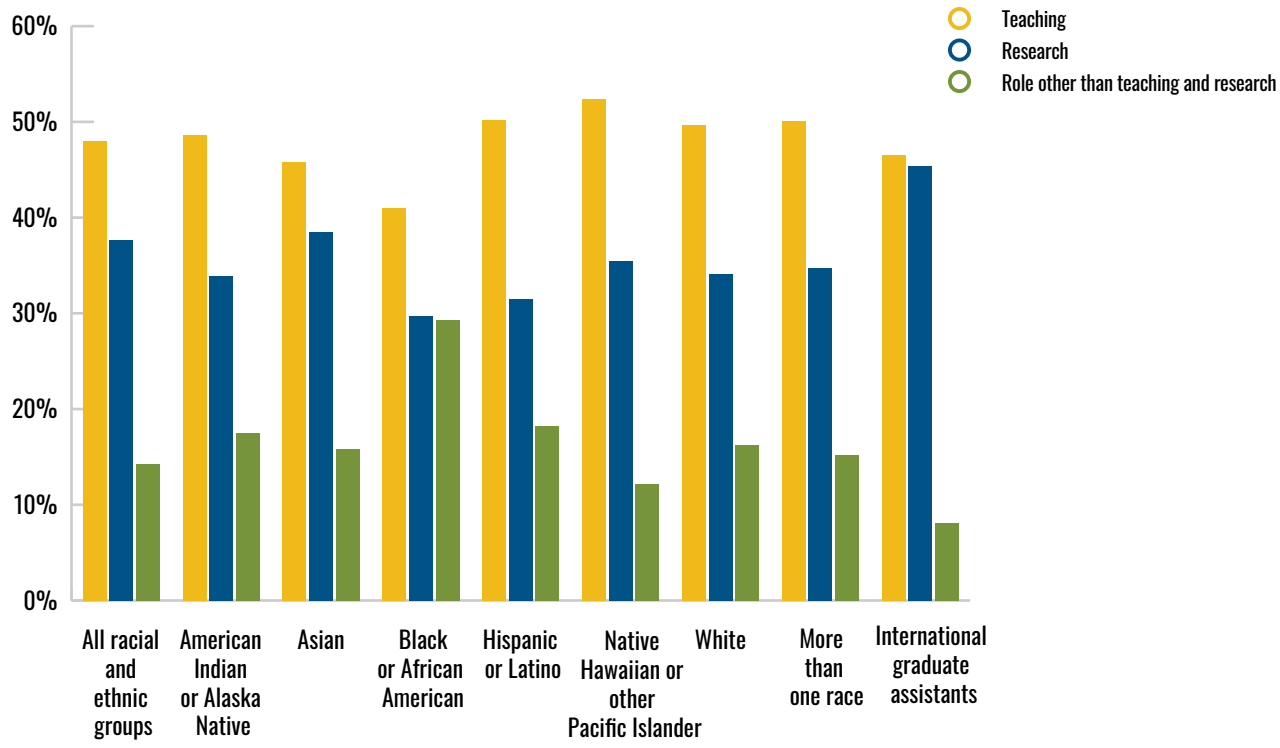
Sources: U.S. Department of Education, National Postsecondary Student Aid Study, 2016 | U.S. Department of Education, Integrated Postsecondary Education Data System, 2017

6 The National Center for Education Statistics (NCES) defines a nonresident alien as "a person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely." In this chapter, nonresident aliens are labeled as international faculty and staff.

Graduate Assistants, by Classification

Nearly half of all graduate assistants were in teaching roles (48.0 percent), followed by research (37.7 percent). An additional 14.3 percent had a role other than teaching and research. A similar pattern emerged across all groups, with teaching roles being the most prominent for graduate assistants across all groups.

Figure 6.2: Graduate Assistants, by Classification and Race and Ethnicity: Fall 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017

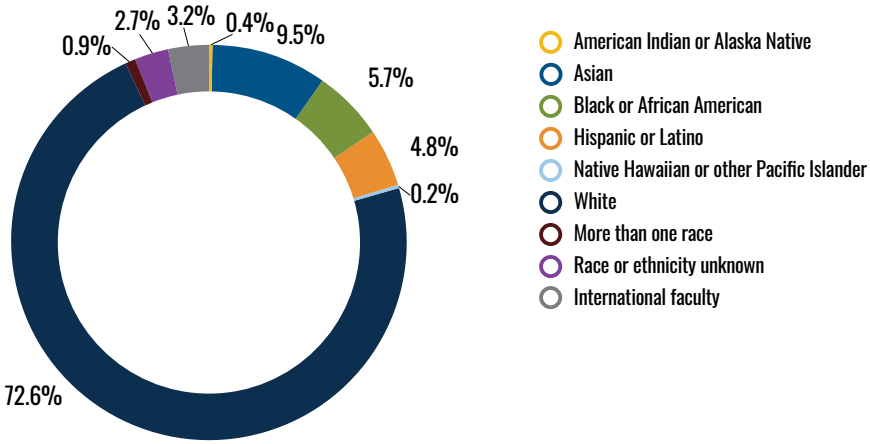
- Over half of all graduate assistants who were Native Hawaiian or other Pacific Islander (52.4 percent), Hispanic or Latino (50.2 percent), and of more than one race (50.1 percent) held teaching graduate assistantships. Comparatively, 41.0 percent of Black or African American graduate assistants held teaching roles, the lowest share of any group.
- Nearly three in 10 Black or African American graduate assistants had assistantships with a role other than teaching and research[7] (29.3 percent), much higher than that of any other group.
- A higher share of international graduate assistants held research assistantships than any other group (45.4 percent). They were also the least likely to hold an assistantship in a role other than teaching and research (8.1 percent).

7 Assistantships with a role other than teaching and research include those that assist faculty with academic tasks, such as an administrative assistantship.

FULL-TIME FACULTY

In fall 2017, the majority of the nearly 711,000 full-time faculty were White (72.6 percent), 21.5 percent were faculty of color, 3.2 percent were international, and 2.7 percent were of unknown racial and ethnic backgrounds.[8]

Figure 6.3: Full-Time Faculty, by Race and Ethnicity: Fall 2017



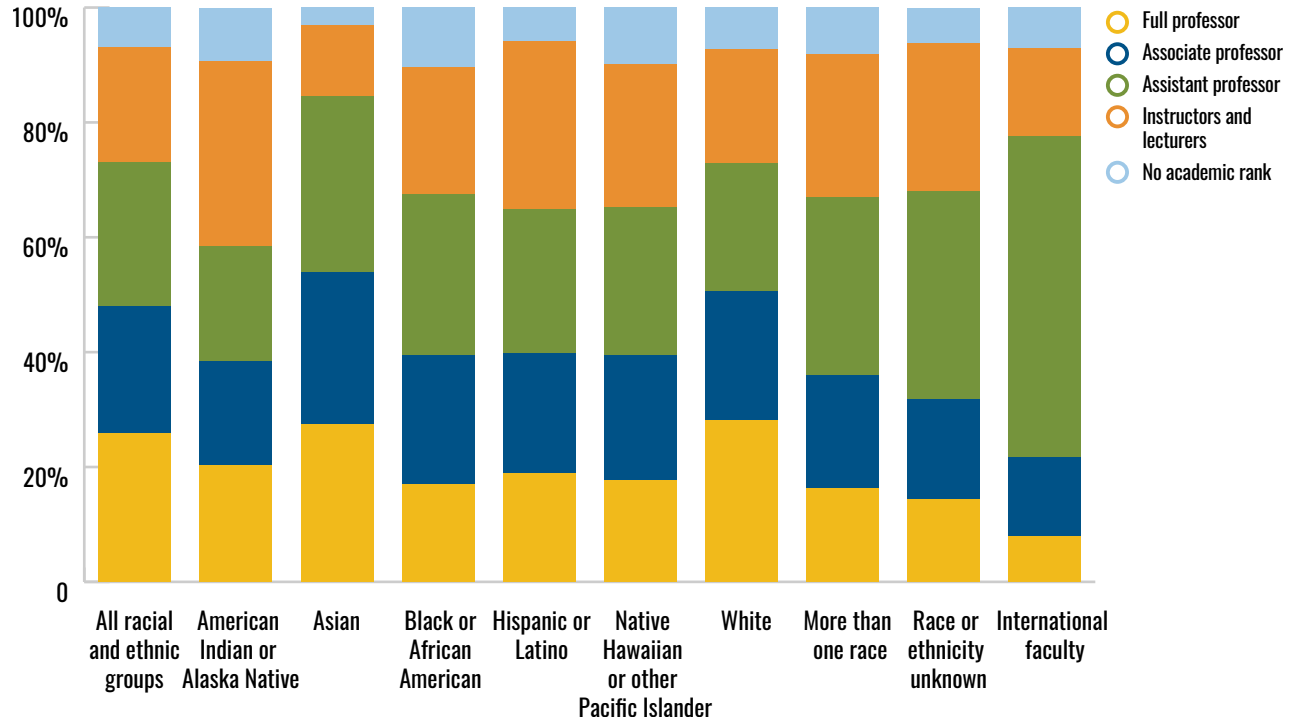
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Note: Data reflect full-time instructional staff with faculty status at all Title IV eligible, degree-granting institutions.

8 Race and ethnicity unknown is included among the racial and ethnic categories within IPEDS data, which are used in this chapter of the report. As a result, tables and figures include this group alongside other racial and ethnic categories.

Full-Time Faculty, by Academic Rank

Academic rank is a status designation given to full-time faculty by their institution. The Integrated Postsecondary Education Data System Human Resources survey allows institutions to report their full-time faculty according to five ranks: professor, associate professor, assistant professor, instructor, and lecturer. Among those with professor titles, generally, each upward step in rank represents a promotion and an increase in salary (Tien and Blackburn 1996). Of all full-time faculty in the fall of 2017, 25.8 percent were full professors, 22.2 percent were associate professors, 25.1 percent were assistant professors, 19.9 percent were instructors and lecturers, and 7.0 percent held no academic rank.

Figure 6.4: Full-Time Faculty Across Faculty Rank, by Race and Ethnicity: Fall 2017

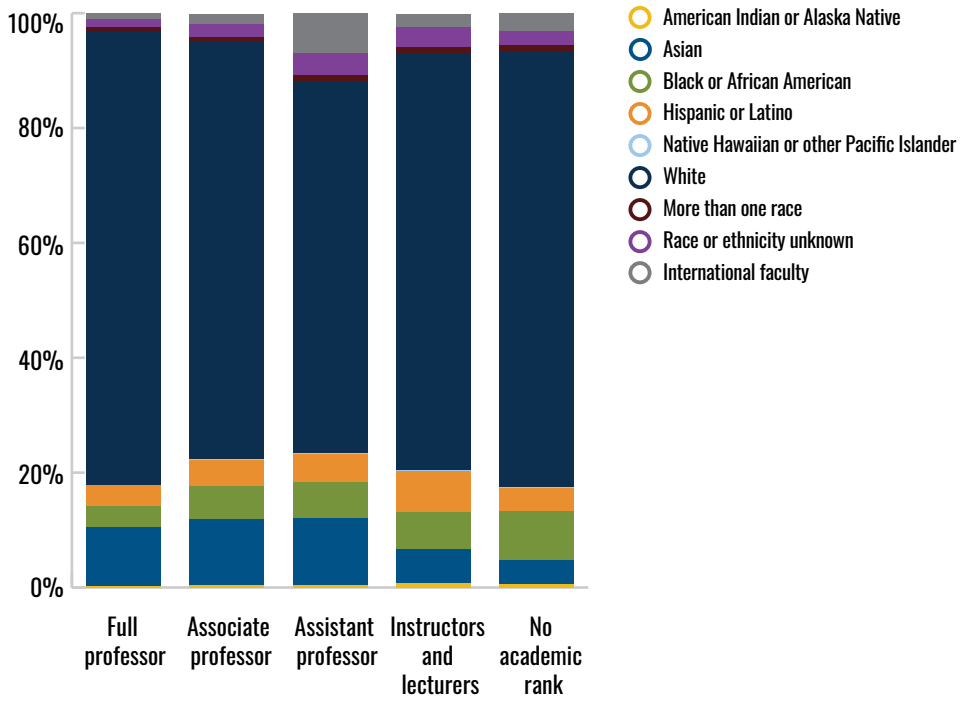


Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Note: Data reflect full-time instructional staff with faculty status at all Title IV eligible, degree-granting institutions.

- Nearly 30 percent of all White (28.2 percent) and Asian (27.4 percent) full-time faculty held the rank of full professor, the most of any group.
- American Indian or Alaska Native full-time faculty were most concentrated at the rank of instructor and lecturer (32.1 percent), more so than any other group.
- Black or African American (10.4 percent), Native Hawaiian or other Pacific Islander (9.9 percent), and American Indian or Alaska Native (9.4 percent) full-time faculty were more likely than all other groups to hold no academic rank.
- Over one-third of all American Indian or Alaska Native faculty (41.5 percent), Hispanic or Latino faculty (35.2 percent), Native Hawaiian or other Pacific Islander faculty (34.8 percent), faculty of more than one race (33.0 percent), and Black or African American faculty (32.5 percent) were instructors, lecturers, and faculty with no academic rank. In contrast, 27.2 percent of White and 15.5 percent of Asian full-time faculty held these positions.

The total share of full-time faculty who were White was highest among full professors (79.1 percent). The total share of full-time faculty who were people of color was highest among assistant professors (24.4 percent).

Figure 6.5: Full-Time Faculty, by Faculty Rank and Race and Ethnicity: Fall 2017



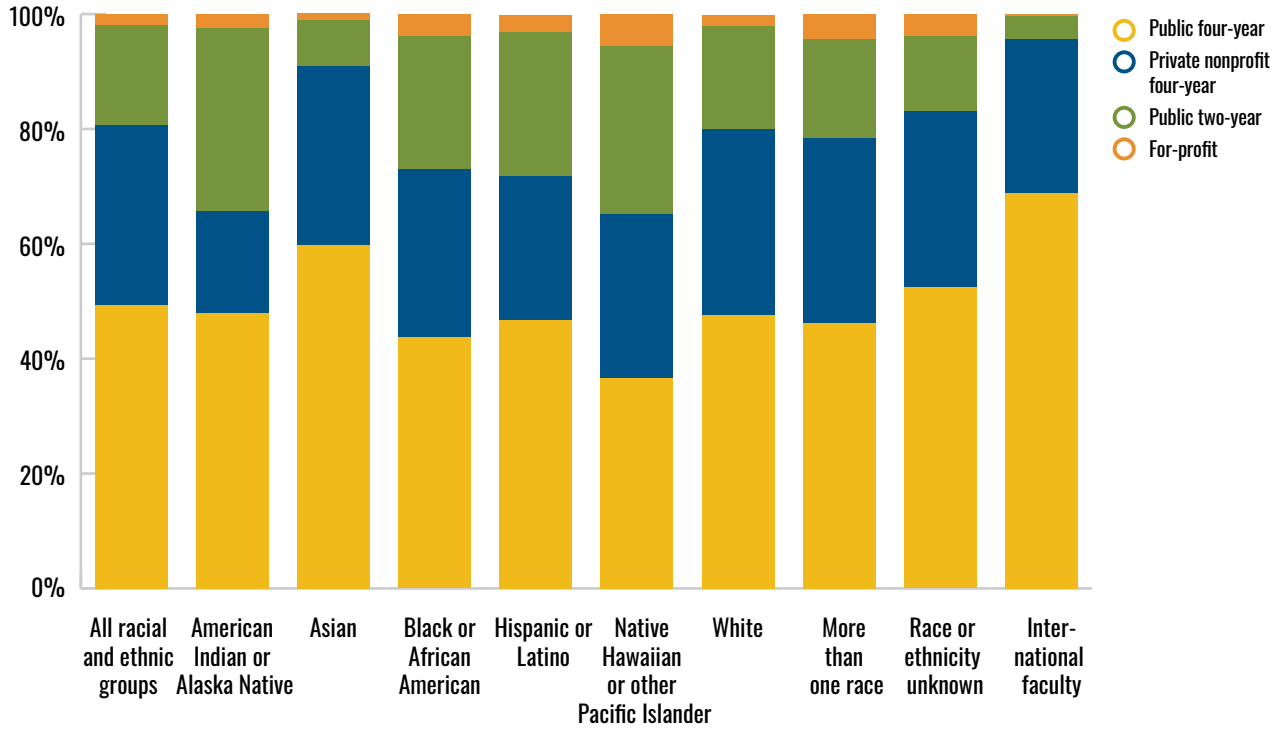
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Note: Data reflect full-time instructional staff with faculty status at all Title IV eligible, degree-granting institutions.

- Asian full-time faculty held between 10.1 and 11.6 percent of all full, associate, and assistant professor positions, but held only 6.0 percent of all instructor and lecturer positions.
- Black or African American faculty held 8.6 percent of all full-time positions without academic rank, but only 3.8 percent of all full-time full professor positions.
- Hispanic or Latino faculty held 7.1 percent of all full-time instructor and lecturer positions, but less than 5 percent of all assistant (4.8 percent), associate (4.6 percent), and full professor (3.5 percent) positions.
- International full-time faculty held 7.0 percent of all assistant professor positions, but only 1.9 percent of associate professors and 1.0 percent of full professor positions.

Full-Time Faculty, by Sector

Nearly 50 percent of all full-time faculty in fall 2017 were employed at public four-year institutions. Private nonprofit four-year institutions employed 31.4 percent of full-time faculty, public two-year institutions employed 17.3 percent, and for-profit institutions employed just 2.0 percent.

Figure 6.6: Full-Time Faculty Across Sectors, by Race and Ethnicity: 2017

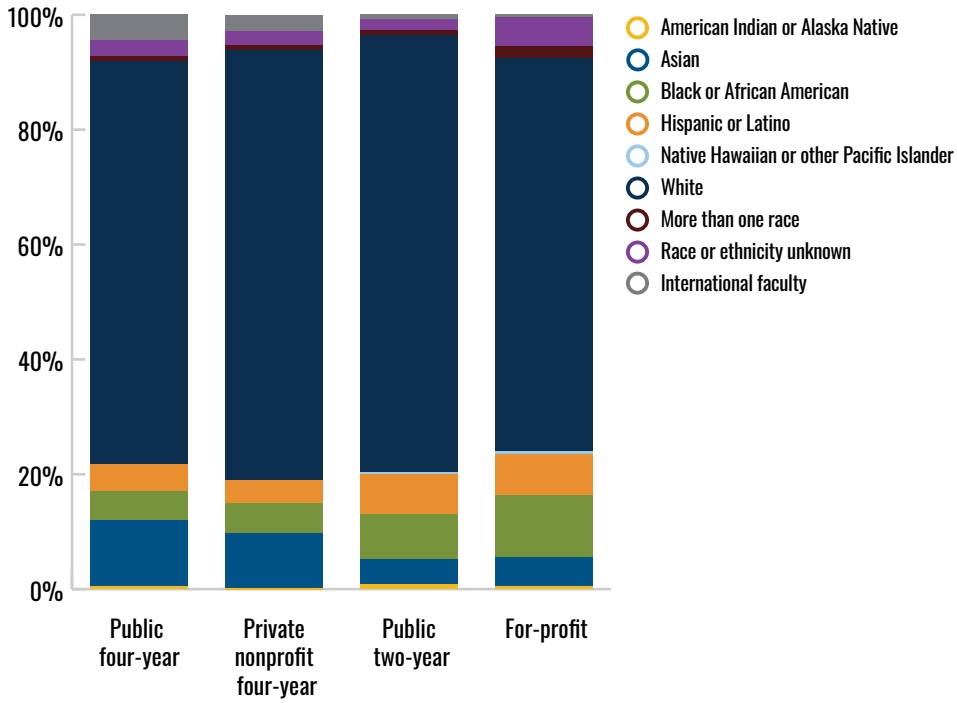


Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect full-time instructional staff with faculty status at public four-year institutions, private nonprofit four-year institutions, public two-year institutions, and for-profit institutions. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- Over half of all international faculty (68.9 percent) and Asian faculty (59.8 percent) were at public four-year institutions. In contrast, Native Hawaiian or other Pacific Islander (36.7 percent) and Black or African American (43.7 percent) full-time faculty were the least likely to be employed at public four-year institutions.
- While nearly one-third of all full-time faculty were employed at private nonprofit four-year institutions, only 17.6 percent of American Indian or Alaska Native and 25.1 percent of Hispanic or Latino full-time faculty were at these institutions—the lowest percentages of any group.
- American Indian or Alaska Native full-time faculty were nearly four times as likely to be at public two-year institutions as Asian full-time faculty (32.0 percent and 8.1 percent, respectively). Roughly one-quarter of Native Hawaiian or other Pacific Islander (29.1 percent), Hispanic or Latino (25.0 percent), and Black or African American (23.1 percent) full-time faculty were also employed at public two-year institutions.
- A larger share of Native Hawaiian or other Pacific Islander full-time faculty were at for-profit institutions (5.7 percent) than any other group. Black or African American (3.9 percent) and Hispanic or Latino (3.1 percent) full-time faculty were both more likely to be employed in the for-profit sector than either White (1.9 percent) or Asian (1.1 percent) full-time faculty.

Within each sector, the majority of full-time faculty were White, with public two-year (76.1 percent) and private nonprofit four-year institutions (74.7 percent) having the most White full-time faculty. A larger share of full-time faculty at for-profit institutions were people of color (26.0 percent) than in any other sector.

Figure 6.7: Full-Time Faculty Within Sectors, by Race and Ethnicity: Fall 2017



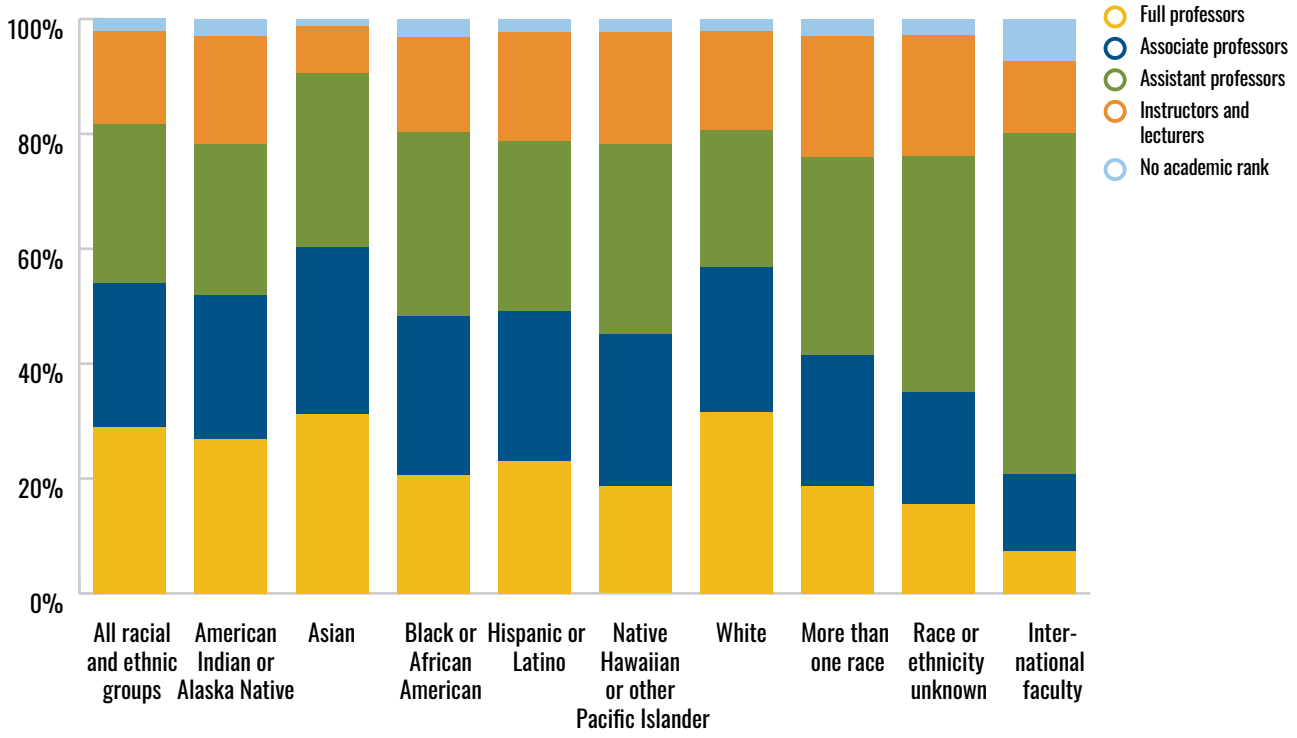
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect full-time instructional staff with faculty status at public four-year institutions, private nonprofit four-year institutions, public two-year institutions, and for-profit institutions. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- Black or African American faculty held 10.8 percent of all full-time faculty positions at for-profit institutions, more than double the share of full-time faculty positions they held at either public four-year (5.1 percent) or private nonprofit four-year (5.3 percent) institutions.
- Asians held 11.6 percent of all full-time faculty positions at public four-year institutions, but only 4.5 percent of full-time faculty positions at public two-year institutions.
- Hispanic or Latino faculty held 7.0 percent of all full-time faculty positions at public two-year institutions and 7.3 percent of all full-time faculty positions at for-profit institutions, but only 3.9 percent of those same positions at private nonprofit four-year institutions and 4.6 percent at public four-year institutions.
- American Indians or Alaska Natives held 0.8 percent of all full-time faculty positions at public two-year institutions—twice the share of full-time faculty positions they held at public four-year institutions (0.4 percent) and quadruple the share they held at private nonprofit four-year institutions (0.2 percent).

Full-Time Faculty, by Rank and Sector

At public four-year institutions in fall 2017, full professors made up 29.0 percent of all full-time faculty, while associate professors made up 25.0 percent, assistant professors made up 27.6 percent, instructors and lecturers made up 16.2 percent, and those with no rank made up 2.3 percent.

Figure 6.8: Full-Time Faculty at Public Four-Year Institutions, by Faculty Rank and Race and Ethnicity: Fall 2017

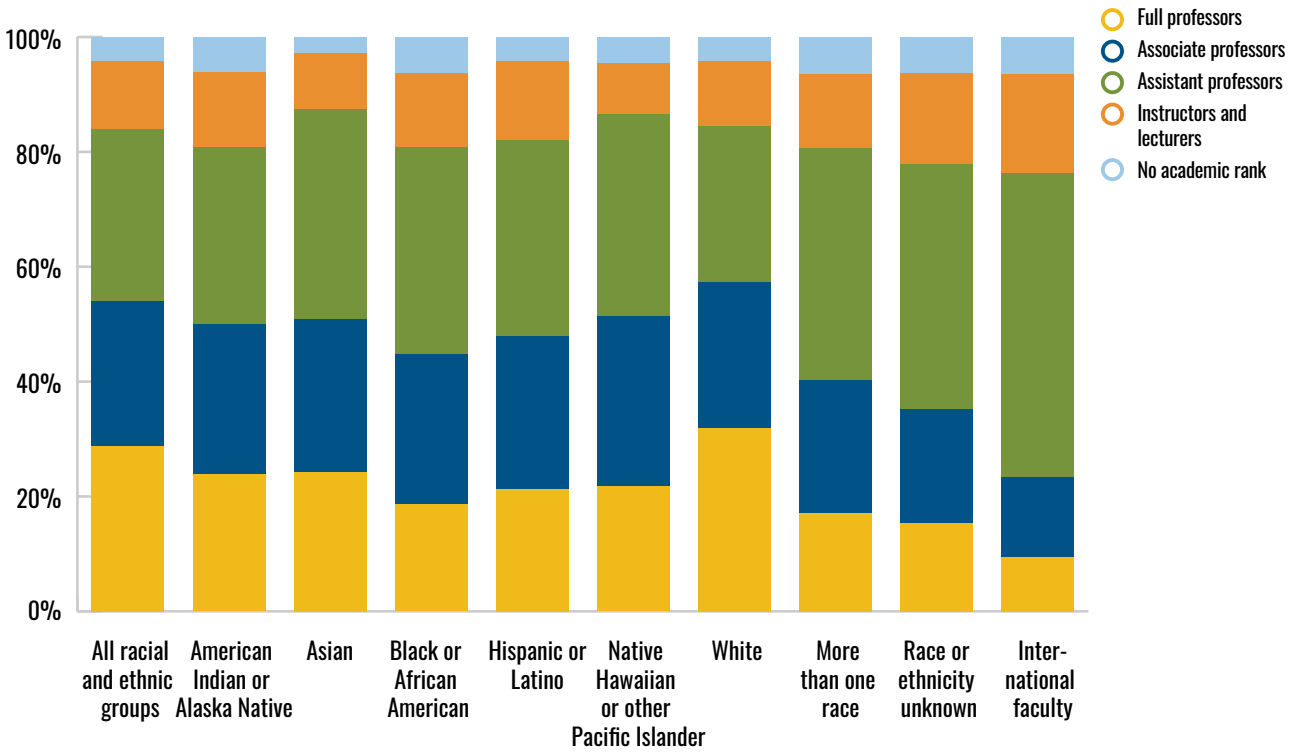


Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect full-time instructional staff with faculty status. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- At public four-year institutions, 31.6 percent of White full-time faculty and 31.2 percent of Asian full-time faculty were full professors, the most of any group. Only 20.6 percent of Black or African American and 18.6 percent of Native Hawaiian or other Pacific Islander full-time faculty were full professors.
- Among Whites, Asians, and American Indians or Alaska Natives the share of full-time faculty that were full professors was larger than the share of full-time faculty that were assistant professors. Across all other groups, the share of full-time faculty that were assistant professors was larger than the share that were full professors.
- Asians were the least likely to be instructors and lecturers (8.1 percent). In contrast, approximately 19 percent of Native Hawaiian or other Pacific Islander, Hispanic or Latino, and American Indian or Alaska Native full-time faculty were instructors and lecturers.
- Rank for international full-time faculty was greatly different than that of domestic full-time faculty. Over half of all international full-time faculty were assistant professors (59.3 percent), and only 7.4 percent were full professors.

Among full-time faculty at private nonprofit four-year institutions in fall 2017, 28.8 percent were full professors, 25.2 percent were associate professors, 30.0 percent were assistant professors, 11.7 percent were instructors and lecturers, and 4.3 percent held no academic rank.

Figure 6.9: Full-Time Faculty at Private Nonprofit Four-Year Institutions, by Faculty Rank and Race and Ethnicity: Fall 2017

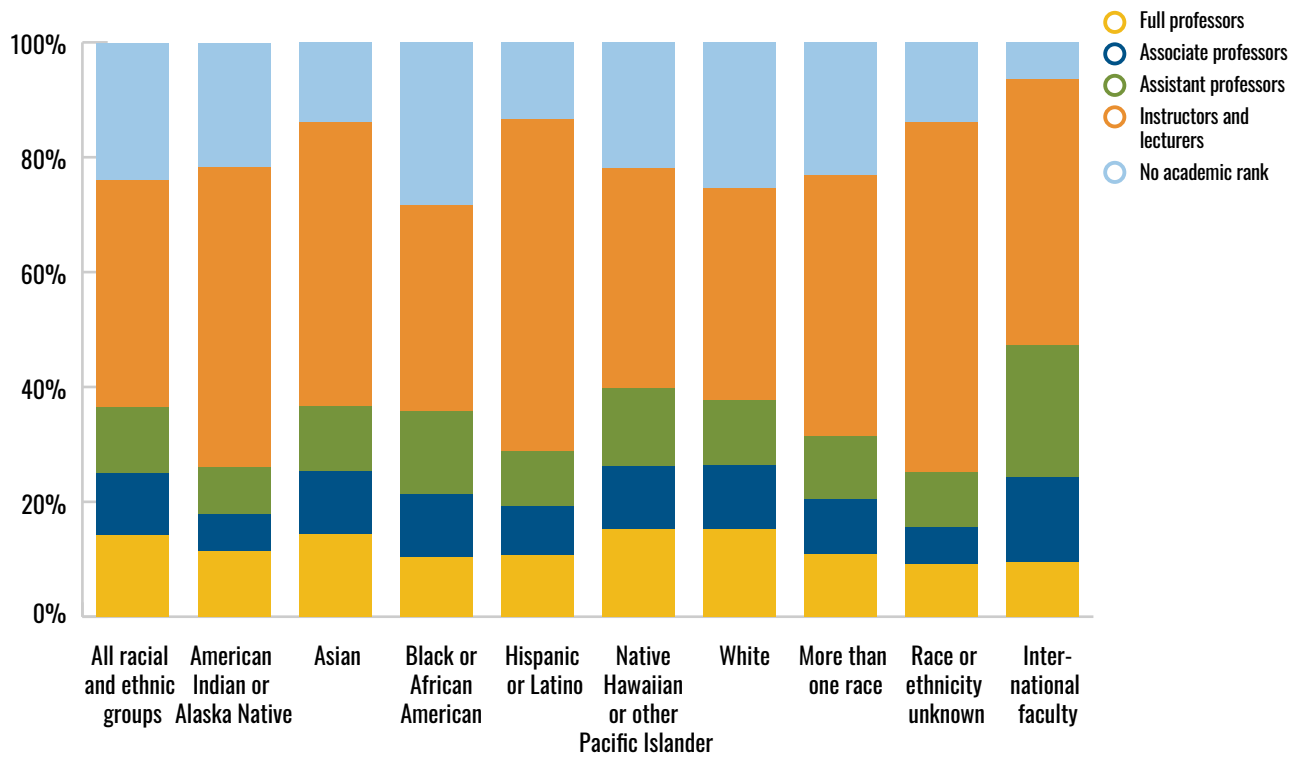


Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect full-time instructional staff with faculty status. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- Across all groups other than Whites, the share of full-time faculty that were assistant professors was larger than the share that were full professors.
- Slightly less than one-third of White faculty at private nonprofit four-year institutions were full professors (31.9 percent), compared with 18.6 percent of all Black or African American faculty.
- International faculty were the most likely to be assistant professors (53.0 percent), followed by faculty of more than one race (40.4 percent). White faculty were the least likely to be assistant professors (27.1 percent).
- Native Hawaiians or other Pacific Islanders (8.9 percent) and Asians (9.6 percent) were the least likely to be instructors and lecturers. In contrast, 17.1 percent of international full-time faculty and 13.8 percent of Hispanic or Latino full-time faculty were instructors and lecturers.

Among full-time faculty at public two-year institutions in fall 2017, only 14.2 percent were full professors, 10.8 percent were associate professors, 11.4 percent were assistant professors, 39.6 percent were instructors and lecturers, and 23.9 percent held no academic rank.

Figure 6.10: Full-Time Faculty at Public Two-Year Institutions, by Faculty Rank and Race and Ethnicity: Fall 2017

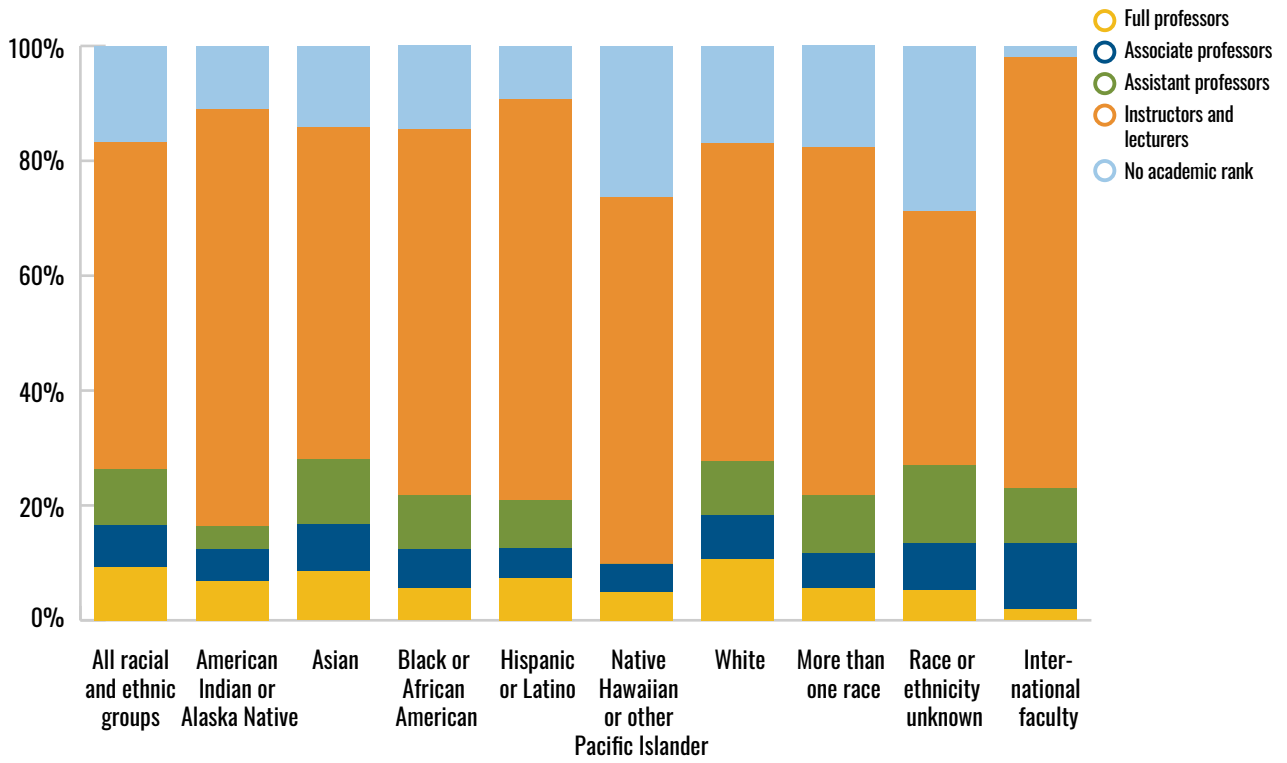


Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect full-time instructional staff with faculty status. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- Among full-time faculty at public two-year institutions, Native Hawaiians or other Pacific Islanders and Whites were more likely to be full professors (15.2 percent each) than any other group.
- International faculty were the most likely to be assistant professors (23.1 percent), followed by Black or African American faculty (14.3 percent). Around 8 percent of American Indians or Alaska Natives were assistant professors, the lowest share of any group.
- At public two-year institutions, Black or African American faculty were the most likely to hold full-time faculty positions without rank (28.4 percent).
- More than half of Hispanic or Latino (57.9 percent) and American Indian or Alaska Native (52.2 percent) full-time faculty were instructors and lecturers.
- American Indian or Alaska Native (73.9 percent) and Hispanic or Latino (71.2 percent) faculty were the most likely to be instructors, lecturers, and faculty with no academic rank.

Similar to public two-year institutions, the majority of full-time faculty at for-profit institutions in fall 2017 were instructors, lecturers, and faculty with no academic rank (73.7 percent). Only 9.3 percent were full professors, 7.3 percent were associate professors, and 9.6 percent were assistant professors.

Figure 6.11: Full-Time Faculty at For-Profit Institutions, by Faculty Rank and Race and Ethnicity: Fall 2017



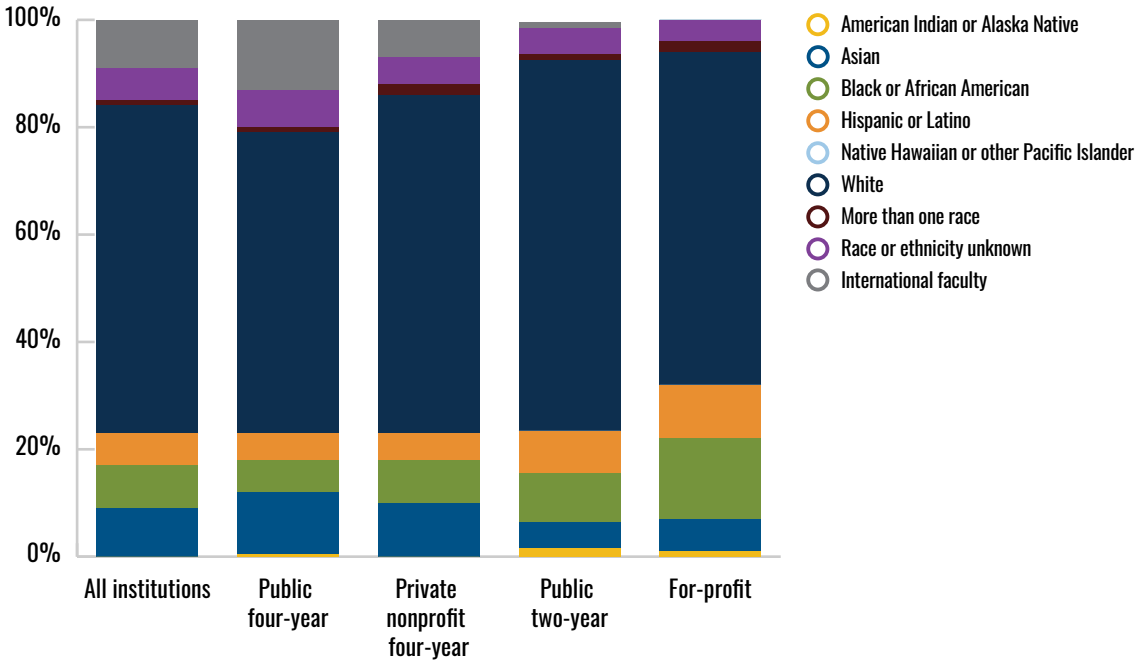
Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect full-time instructional staff with faculty status. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- White faculty were the most likely of any group to be full professors (10.7 percent). In comparison, only 5.5 percent of Black or African American and 4.9 percent of Native Hawaiian or other Pacific Islander faculty were full professors.
- International faculty were more likely than domestic faculty to be associate professors, with 11.5 percent of international faculty holding these positions.
- Nine in 10 Native Hawaiians or other Pacific Islanders were instructors, lecturers, and faculty with no academic rank (90.2 percent). This was the highest of any group, followed by American Indians or Alaska Natives (83.6 percent). In contrast, 72.3 percent of White and 72.0 percent of Asian full-time faculty were instructors, lecturers, and faculty with no academic rank.

New Hires of Full-Time Faculty, by Sector

Among the more than 51,000 new hires[9] with full-time faculty status in 2017, 60.7 percent were White, 24.5 percent were people of color, 8.7 percent were international, and 6.0 percent had unknown racial and ethnic backgrounds. For-profit institutions had a much higher share of new hires who were people of color (34.1 percent) than any other sector.

Figure 6.12: New Hires of Full-Time Faculty Within Sectors, by Race and Ethnicity: Fall 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data for All Institutions reflect new hires with faculty status at all Title IV eligible, degree-granting institutions. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- The proportion of Black or African American full-time faculty new hires at for-profit institutions was more than double that of public four-year institutions (15.3 percent and 6.3 percent, respectively).
- The same pattern held for Hispanic or Latino faculty, who constituted 10.0 percent of full-time faculty new hires at for-profit institutions, but only about 5 percent of all new hires at public and private nonprofit four-year institutions.
- The share of Asian new hires was higher at public and private nonprofit four-year institutions (10.4 percent each) than among public two-year (4.9 percent) and for-profit institutions (5.8 percent).
- The representation of international faculty among new hires was highest at public four-year institutions (12.8 percent). In contrast, only 1.0 percent of full-time faculty new hires at public two-year institutions and 0.5 percent at for-profit institutions were international.

9 New hires are individuals who were hired in full-time, permanent positions, including those who were first-time hires and those who returned after a break in employment at their institution between November 1, 2016 and October 31, 2017. New hires do not include individuals returning from sabbatical or those who work on a contract less than nine months (NCES, n.d.).

Full-Time Faculty, by Select Discipline

This chapter utilizes data from the College and University Professional Association for Human Resources (CUPA-HR), which conducts several annual surveys of individuals employed at institutions of higher education across the country. Data presented on faculty across select disciplines[10] come from CUPA-HR's 2018–19 academic year survey of faculty. The *Faculty in Higher Education Annual Report* includes data for over 258,700 full-time faculty at more than 700 institutions. It also includes additional information on the over 9,900 of those faculty identified as department heads (Bichsel et al. 2019).

Although roughly one-fifth of all full-time faculty were people of color,[11] within disciplines the shares ranged from 11.3 percent in philosophy and religious studies to 55.6 percent in area, ethnic, cultural, gender, and group studies in 2018–19.

Table 6.1: Full-Time Faculty, by Select Discipline and Race and Ethnicity: 2018–19

	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Agriculture, Agriculture Operations, and Related Sciences	10.3%	2.7%	3.4%	81.3%	2.4%
Architecture and Related Services	8.4%	4.1%	5.9%	79.0%	2.7%
Area, Ethnic, Cultural, Gender, and Group Studies	10.2%	23.6%	12.2%	44.3%	9.6%
Biological and Biomedical Sciences	12.7%	2.7%	3.9%	79.5%	1.2%
Business, Management, Marketing, and Related Support Services	15.7%	5.2%	3.0%	74.6%	1.4%
Communication, Journalism, and Related Programs	6.1%	5.9%	3.8%	82.4%	1.8%
Communications Technologies/Technicians and Support Services	5.9%	8.7%	1.4%	81.9%	2.1%
Computer and Information Sciences and Support Services	23.0%	4.0%	3.2%	67.8%	2.1%
Education	5.2%	8.9%	5.2%	78.8%	1.9%
Engineering	28.8%	3.2%	4.0%	62.6%	1.3%
Engineering Technologies and Engineering-Related Fields	11.9%	5.0%	3.9%	77.8%	1.3%
English Language and Literature/Letters	3.4%	5.2%	3.4%	86.1%	1.8%
Family and Consumer Sciences/Human Sciences	10.9%	7.8%	3.7%	75.8%	1.9%
Foreign Languages, Literatures, and Linguistics	7.7%	2.5%	20.2%	67.9%	1.7%
Health Professions and Related Clinical Sciences	9.6%	5.3%	4.0%	79.6%	1.4%
History	4.2%	5.4%	4.3%	84.6%	1.5%
Homeland Security, Law Enforcement, Firefighting, and Related Protective Services	4.4%	7.3%	4.0%	82.4%	2.0%
Legal Professions and Studies	4.4%	8.3%	3.7%	81.9%	1.8%
Liberal Arts and Sciences, General Studies, and Humanities	3.9%	6.3%	4.6%	83.1%	2.2%
Library Science	7.6%	4.4%	2.8%	83.4%	1.8%
Mathematics and Statistics	15.5%	3.7%	3.3%	76.4%	1.1%

10 The CUPA-HR faculty survey utilizes two-digit classification of instructional programs (CIP) codes from IPEDS to classify faculty into discipline. The 2018–19 survey provided institutions a list of 34 CIP codes. Institutions were instructed to not report on faculty from disciplines outside of the provided CIP codes.

11 People of color include individuals who identified as Asian, Black or African American, Hispanic or Latino, or an ethnicity other than White.

	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Multi/Interdisciplinary Studies	9.3%	6.9%	4.0%	78.3%	1.5%
Natural Resources and Conservation	7.9%	1.9%	4.0%	84.1%	2.1%
Parks, Recreation, Leisure, and Fitness Studies	5.0%	3.9%	2.8%	87.0%	1.2%
Personal and Culinary Services	3.2%	6.3%	3.2%	84.9%	2.4%
Philosophy and Religious Studies	3.7%	3.0%	2.9%	88.7%	1.7%
Physical Sciences	14.5%	3.0%	3.5%	77.7%	1.2%
Psychology	5.3%	4.9%	4.4%	83.4%	1.9%
Public Administration and Social Service Professions	7.1%	12.7%	5.2%	72.5%	2.5%
Science Technologies/Technicians	16.0%	8.0%	4.0%	70.0%	2.0%
Social Sciences	8.4%	5.6%	4.6%	79.6%	1.8%
Theology and Religious Vocations	2.5%	4.7%	3.4%	87.7%	1.6%
Transport/Materials Moving	6.0%	3.7%	4.8%	84.6%	0.9%
Visual and Performing Arts	4.7%	3.5%	3.9%	86.0%	1.8%

Source: Bichsel, Jacqueline, Jingyun Li, Jasper McChesney, and Adam Pritchard. 2019. *Faculty in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for Tenure-Track, Non-Tenure Teaching, and Non-Tenure Research Faculty: Academic Department Heads; and Adjunct Faculty for the 2018–19 Academic Year.* Knoxville, TN: CUPA-HR.
Notes: Totals may not add up to 100 percent due to rounding. | The CUPA-HR faculty survey utilizes two-digit classification of instructional programs (CIP) codes from IPEDS to classify faculty into discipline. The 2018–19 survey provided institutions a list of 34 CIP codes. Institutions were instructed to not report on faculty from disciplines outside of the provided CIP codes.

- The disciplines with the highest share of Asian faculty in 2018–19 were engineering (28.8 percent) and computer and information sciences and support services (23.0 percent).
- Across all disciplines, the proportion of Black or African American faculty was highest in area, ethnic, cultural, gender, and group studies (23.6 percent) and public administration and social service professions (12.7 percent).
- Foreign languages, literatures, and linguistics (20.2 percent) and area, ethnic, cultural, gender, and group studies (12.2 percent) had the highest shares of Hispanic or Latino faculty across all disciplines.
- Philosophy and religious studies was the least diverse discipline, with 88.7 percent of all faculty in this field identifying as White.

In 2018–19, the proportion of women of color faculty was highest in area, ethnic, cultural, gender, and group studies (32.7 percent) and lowest in theology and religious vocations (2.4 percent) and transport/materials moving (1.1 percent). The share of men of color was highest in engineering (30.7 percent); computer and information sciences and support services (23.6 percent); and area, cultural, gender, and group studies (23.4 percent). The share of men of color was lowest in personal and culinary services (5.6 percent); family and consumer sciences/human sciences (5.4 percent); and English language and literature/letters (5.2 percent).

Table 6.2: Full-Time Faculty, by Select Discipline, Gender, and Race and Ethnicity: 2018–19

	Women					Men				
	Asian	Black or African American	Hispanic or Latina	White	Other Race or Ethnicity	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Agriculture, Agriculture Operations, and Related Sciences	2.8%	0.6%	1.4%	27.7%	0.9%	7.5%	2.1%	2.0%	53.5%	1.5%
Architecture and Related Services	3.5%	1.0%	1.6%	27.6%	1.4%	5.0%	2.8%	4.3%	51.6%	1.2%
Area, Ethnic, Cultural, Gender, and Group Studies	7.3%	12.3%	7.2%	30.4%	5.9%	3.0%	11.5%	5.1%	13.5%	3.8%
Biological and Biomedical Sciences	4.9%	1.3%	1.9%	34.5%	0.6%	7.8%	1.2%	2.0%	45.2%	0.6%
Business, Management, Marketing, and Related Support Services	5.4%	2.4%	1.1%	27.5%	0.6%	10.2%	2.8%	2.0%	47.1%	0.8%
Communication, Journalism, and Related Programs	3.3%	3.7%	2.2%	41.3%	1.0%	2.8%	2.2%	1.5%	41.1%	0.8%
Communications Technologies/ Technicians and Support Services	0.7%	4.5%	0.3%	24.0%	0.7%	5.2%	4.2%	1.0%	57.8%	1.4%
Computer and Information Sciences and Support Services	5.8%	1.4%	0.8%	17.5%	0.6%	17.2%	2.4%	2.4%	50.4%	1.6%
Education	3.7%	6.0%	3.4%	53.2%	1.4%	1.6%	2.7%	1.7%	25.8%	0.5%
Engineering	4.7%	0.7%	1.0%	11.6%	0.3%	24.1%	2.5%	3.0%	51.0%	1.0%
Engineering Technologies and Engineering-Related Fields	2.8%	1.0%	0.7%	11.3%	0.2%	8.9%	3.5%	3.3%	67.3%	1.2%
English Language and Literature/ Letters	2.4%	3.4%	1.9%	48.4%	0.9%	1.1%	1.8%	1.5%	37.7%	0.8%
Family and Consumer Sciences/ Human Sciences	8.4%	6.7%	2.3%	56.7%	1.4%	2.5%	1.1%	1.4%	19.1%	0.5%
Foreign Languages, Literatures, and Linguistics	5.6%	1.1%	12.6%	40.9%	0.9%	2.1%	1.4%	7.6%	26.9%	0.8%
Health Professions and Related Clinical Sciences	4.4%	4.2%	2.5%	54.8%	1.0%	5.3%	1.2%	1.5%	24.8%	0.4%
History	2.1%	2.1%	1.9%	31.8%	0.6%	2.2%	3.3%	2.4%	52.8%	0.9%
Homeland Security, Law Enforcement, Firefighting, and Related Protective Services	2.0%	3.3%	1.2%	34.0%	1.0%	2.4%	3.8%	2.8%	48.5%	1.0%
Legal Professions and Studies	2.0%	5.3%	1.7%	36.8%	1.1%	2.3%	2.9%	2.0%	45.1%	0.7%
Liberal Arts and Sciences, General Studies, and Humanities	2.2%	3.5%	2.6%	42.1%	1.5%	1.8%	2.7%	2.0%	40.9%	0.6%

	Women					Men				
	Asian	Black or African American	Hispanic or Latina	White	Other Race or Ethnicity	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Library Science	4.0%	3.0%	1.8%	58.4%	1.2%	3.6%	1.4%	1.0%	25.0%	0.6%
Mathematics and Statistics	5.1%	1.3%	1.2%	28.8%	0.5%	10.4%	2.4%	2.2%	47.4%	0.7%
Multi/Interdisciplinary Studies	4.0%	4.2%	1.9%	38.3%	0.6%	5.3%	2.7%	2.1%	40.0%	0.9%
Natural Resources and Conservation	2.0%	0.8%	1.7%	29.2%	1.0%	5.9%	1.1%	2.3%	54.9%	1.0%
Parks, Recreation, Leisure, and Fitness Studies	1.8%	2.0%	1.4%	40.1%	0.6%	3.2%	1.9%	1.5%	46.9%	0.6%
Personal and Culinary Services	1.6%	4.0%	2.4%	39.7%	1.6%	1.6%	2.4%	0.8%	45.2%	0.8%
Philosophy and Religious Studies	1.2%	0.9%	0.7%	24.9%	0.5%	2.5%	2.0%	2.2%	63.8%	1.2%
Physical Sciences	4.2%	0.8%	1.1%	22.8%	0.5%	10.4%	2.0%	2.4%	55.0%	0.8%
Psychology	3.4%	3.3%	2.4%	45.9%	1.1%	1.9%	1.6%	2.0%	37.6%	0.8%
Public Administration and Social Service Professions	4.1%	8.7%	3.4%	47.0%	1.9%	3.0%	4.0%	1.8%	25.5%	0.6%
Science Technologies/Technicians	*	*	*	*	*	*	*	*	*	*
Social Sciences	3.8%	2.7%	2.1%	32.8%	0.9%	4.6%	2.9%	2.4%	46.9%	0.8%
Theology and Religious Vocations	0.9%	0.9%	0.4%	18.5%	0.3%	1.6%	3.8%	3.0%	69.2%	1.4%
Transport/Materials Moving	0.3%	0.3%	0.6%	13.7%	0.0%	5.7%	3.4%	4.3%	70.9%	0.9%
Visual and Performing Arts	2.8%	1.4%	1.5%	36.5%	0.8%	1.8%	2.2%	2.4%	49.6%	1.0%

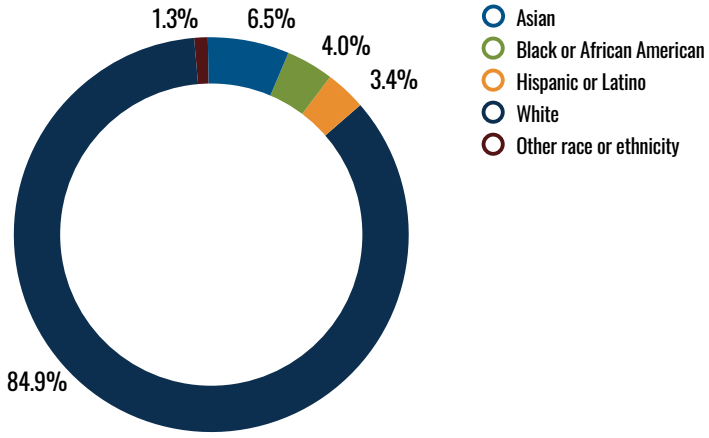
Source: Bichsel, Jacqueline, Jingyun Li, Jasper McChesney, and Adam Pritchard. 2019. *Faculty in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for Tenure-Track, Non-Tenure Teaching, and Non-Tenure Research Faculty: Academic Department Heads: and Adjunct Faculty for the 2018–19 Academic Year.* Knoxville, TN: CUPA-HR.
Notes: * Values omitted for rows where the total N of full-time faculty is less than 50. | Totals may not add up to 100 percent due to rounding. | The CUPA-HR faculty survey utilizes two-digit classification of instructional programs (CIP) codes from IPEDS to classify faculty into discipline. The 2018–19 survey provided institutions a list of 34 CIP codes. Institutions were instructed to not report on faculty from disciplines outside of the provided CIP codes.

- The proportion of Black or African American women (12.3 percent) and Black or African American men (11.5 percent) full-time faculty was highest in area, ethnic, cultural, gender, and group studies. The largest gender gap among Black or African American full-time faculty occurred in family and consumer sciences/human sciences, where women represented 6.7 percent of all full-time faculty and men represented only 1.1 percent in this discipline (a difference of 5.6 percentage points).
- Asian men represented 24.1 percent of all full-time faculty in engineering and 17.2 percent of computer and information sciences and support service faculty; in contrast, Asian women represented only 4.7 percent and 5.8 percent of faculty in these fields, respectively.
- The proportion of Hispanic or Latina women (12.6 percent) and Hispanic or Latino men (7.6 percent) was higher in foreign languages, literatures, and linguistics than other disciplines. The largest gender gap among Hispanic or Latino full-time faculty was also in this discipline: 5.0 percentage points.
- White women represented the majority of faculty in library science (58.4 percent); family and consumer sciences/human sciences (56.7 percent); health professions and related clinical sciences (54.8 percent); and education (53.2 percent).

Academic Department Heads, by Select Discipline

The majority of all academic department heads were White (84.9 percent), 6.5 percent were Asian, 4.0 percent were Black or African American, 3.4 percent were Hispanic or Latino, and 1.3 percent were from some other racial or ethnic background.

Figure 6.13: Academic Department Heads, by Race and Ethnicity: 2018–19



Source: Bichsel, Jacqueline, Jingyun Li, Jasper McChesney, and Adam Pritchard. 2019. *Faculty in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for Tenure-Track, Non-Tenure Teaching, and Non-Tenure Research Faculty: Academic Department Heads; and Adjunct Faculty for the 2018–19 Academic Year.* Knoxville, TN: CUPA-HR.
Notes: Totals may not add up to 100 percent due to rounding. | The CUPA-HR faculty survey utilizes two-digit classification of instructional programs (CIP) codes from IPEDS to classify faculty into discipline. The 2018–19 survey provided institutions a list of 34 CIP codes. Institutions were instructed to not report on faculty from disciplines outside of the provided CIP codes.

In nine disciplines, over 90 percent of all academic department heads were White in 2018–19. People of color represented nearly half of all academic department heads in area, ethnic, cultural, gender, and group studies (49.1 percent). This was the highest representation across all disciplines.

Table 6.3: Academic Department Heads, by Select Discipline and Race and Ethnicity: 2018–19

	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Agriculture, Agriculture Operations, and Related Sciences	8.8%	2.5%	1.3%	86.3%	1.3%
Architecture and Related Services	*	*	*	*	*
Area, Ethnic, Cultural, Gender, and Group Studies	1.8%	25.5%	10.9%	50.9%	10.9%
Biological and Biomedical Sciences	4.7%	1.9%	2.1%	90.6%	0.7%
Business, Management, Marketing, and Related Support Services	15.4%	3.7%	2.6%	77.7%	0.6%
Communication, Journalism, and Related Programs	1.7%	4.7%	2.0%	90.0%	1.7%
Communications Technologies/Technicians and Support Services	*	*	*	*	*
Computer and Information Sciences and Support Services	20.8%	4.5%	4.0%	68.8%	2.0%
Education	3.9%	7.6%	4.8%	82.8%	1.0%

	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Engineering	20.7%	4.6%	2.3%	71.3%	1.1%
Engineering Technologies and Engineering-Related Fields	3.4%	5.6%	0.0%	89.9%	1.1%
English Language and Literature/Letters	2.6%	2.6%	2.3%	91.6%	1.0%
Family and Consumer Sciences/Human Sciences	1.8%	3.5%	5.3%	89.5%	0.0%
Foreign Languages, Literatures, and Linguistics	5.2%	1.7%	15.9%	76.5%	0.7%
Health Professions and Related Clinical Sciences	4.8%	4.9%	2.9%	85.6%	1.8%
History	2.8%	2.1%	2.8%	90.8%	1.4%
Homeland Security, Law Enforcement, Firefighting, and Related Protective Services	2.5%	5.9%	1.7%	88.1%	1.7%
Legal Professions and Studies	*	*	*	*	*
Liberal Arts and Sciences, General Studies, and Humanities	5.7%	5.7%	1.9%	84.9%	1.9%
Library Science	*	*	*	*	*
Mathematics and Statistics	10.9%	3.8%	3.8%	80.3%	1.3%
Multi/Interdisciplinary Studies	4.7%	4.7%	4.7%	82.8%	3.1%
Natural Resources and Conservation	0.0%	0.0%	1.7%	98.3%	0.0%
Parks, Recreation, Leisure, and Fitness Studies	3.5%	1.7%	1.7%	90.8%	2.3%
Personal and Culinary Services	*	*	*	*	*
Philosophy and Religious Studies	1.8%	1.8%	2.9%	92.4%	1.1%
Physical Sciences	6.9%	1.6%	3.4%	86.6%	1.4%
Psychology	4.1%	3.6%	2.0%	88.1%	2.3%
Public Administration and Social Service Professions	4.7%	13.4%	2.0%	79.9%	0.0%
Science Technologies/Technicians	*	*	*	*	*
Social Sciences	6.6%	4.1%	2.7%	85.5%	1.1%
Theology and Religious Vocations	2.7%	5.3%	0.0%	90.7%	1.3%
Transport/Materials Moving	*	*	*	*	*
Visual and Performing Arts	2.1%	2.2%	4.3%	90.6%	0.8%

Source: Bichsel, Jacqueline, Jingyun Li, Jasper McChesney, and Adam Pritchard. 2019. *Faculty in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for Tenure-Track, Non-Tenure Teaching, and Non-Tenure Research Faculty: Academic Department Heads; and Adjunct Faculty for the 2018–19 Academic Year*. Knoxville, TN: CUPA-HR.
Notes: * Values omitted for rows where the total N of department heads is less than 50. | Totals may not add up to 100 percent due to rounding. | The CUPA-HR faculty survey utilizes two-digit classification of instructional programs (CIP) codes from IPEDS to classify faculty into discipline. The 2018–19 survey provided institutions a list of 34 CIP codes. Institutions were instructed to not report on faculty from disciplines outside of the provided CIP codes.

- About one-fifth of all academic department heads in computer and information sciences and support services (20.8 percent) and engineering (20.7 percent) were Asian.
- More than one-quarter of academic department heads in area, ethnic, cultural, gender, and group studies (25.5 percent) were Black or African American, as were 13.4 percent in public administration and social service professions. The share of Black or African American academic department heads in other disciplines was much lower.
- The proportion of Hispanic or Latino academic department heads was highest among foreign languages, literatures, and linguistics (15.9 percent) and area, ethnic, cultural, gender, and group studies (10.9 percent).
- Whites represented nearly all academic department heads in natural resources and conservation (98.3 percent), the least diverse of any field.

The representation of men of color academic department heads ranged from 3.3 percent in English language and literature/letters to 25.9 percent in engineering. The share of women of color academic department heads was higher in area, ethnic, cultural, gender, and group studies (25.5 percent) than in any other disciplines. Women of color held no department head positions in agriculture, agriculture operations, and related sciences; natural resources and conservation; and theology and religious vocations.

Table 6.4: Academic Department Heads, by Select Discipline, Gender, and Race and Ethnicity: 2018–19

	Women					Men				
	Asian	Black or African American	Hispanic or Latina	White	Other Race or Ethnicity	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Agriculture, Agriculture Operations, and Related Sciences	0.0%	0.0%	0.0%	23.8%	0.0%	8.8%	2.5%	1.3%	62.5%	1.3%
Architecture and Related Services	*	*	*	*	*	*	*	*	*	*
Area, Ethnic, Cultural, Gender, and Group Studies	1.8%	10.9%	7.3%	36.4%	5.5%	0.0%	14.5%	3.6%	14.5%	5.5%
Biological and Biomedical Sciences	2.1%	0.9%	0.2%	32.9%	0.5%	2.6%	0.9%	1.9%	57.6%	0.2%
Business, Management, Marketing, and Related Support Services	3.2%	1.5%	1.1%	27.5%	0.4%	12.1%	2.2%	1.5%	50.2%	0.2%
Communication, Journalism, and Related Programs	0.7%	2.3%	0.7%	35.8%	1.3%	1.0%	2.3%	1.3%	54.2%	0.3%
Communications Technologies/ Technicians and Support Services	*	*	*	*	*	*	*	*	*	*
Computer and Information Sciences and Support Services	3.5%	1.5%	1.0%	17.3%	0.5%	17.3%	3.0%	3.0%	51.5%	1.5%
Education	2.5%	5.6%	2.7%	50.1%	0.6%	1.3%	1.9%	2.1%	32.7%	0.4%
Engineering	1.4%	0.6%	0.6%	8.6%	0.3%	19.3%	4.0%	1.7%	62.6%	0.9%
Engineering Technologies and Engineering-Related Fields	0.0%	1.1%	0.0%	13.5%	0.0%	3.4%	4.5%	0.0%	76.4%	1.1%
English Language and Literature/ Letters	1.5%	1.3%	1.3%	46.7%	1.0%	1.0%	1.3%	1.0%	44.9%	0.0%
Family and Consumer Sciences/ Human Sciences	0.0%	0.0%	3.5%	64.9%	0.0%	1.8%	3.5%	1.8%	24.6%	0.0%
Foreign Languages, Literatures, and Linguistics	3.1%	0.3%	6.6%	41.9%	0.3%	2.1%	1.4%	9.3%	34.6%	0.3%
Health Professions and Related Clinical Sciences	2.3%	4.0%	1.7%	58.1%	1.4%	2.5%	0.9%	1.1%	27.5%	0.5%
History	2.1%	1.1%	0.7%	29.4%	0.4%	0.7%	1.1%	2.1%	61.3%	1.1%
Homeland Security, Law Enforcement, Firefighting, and Related Protective Services	0.8%	1.7%	0.8%	31.4%	0.8%	1.7%	4.2%	0.8%	56.8%	0.8%
Legal Professions and Studies	*	*	*	*	*	*	*	*	*	*
Liberal Arts and Sciences, General Studies, and Humanities	1.9%	1.9%	0.0%	35.8%	1.9%	3.8%	3.8%	1.9%	49.1%	0.0%
Library Science	*	*	*	*	*	*	*	*	*	*

	Women					Men				
	Asian	Black or African American	Hispanic or Latina	White	Other Race or Ethnicity	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Mathematics and Statistics	2.2%	0.3%	1.3%	25.3%	0.3%	8.8%	3.4%	2.5%	55.0%	0.9%
Multi/Interdisciplinary Studies	0.0%	3.1%	4.7%	42.2%	0.0%	4.7%	1.6%	0.0%	40.6%	3.1%
Natural Resources and Conservation	0.0%	0.0%	0.0%	22.4%	0.0%	0.0%	0.0%	1.7%	75.9%	0.0%
Parks, Recreation, Leisure, and Fitness Studies	1.7%	0.6%	1.7%	33.5%	0.6%	1.7%	1.2%	0.0%	57.2%	1.7%
Personal and Culinary Services	*	*	*	*	*	*	*	*	*	*
Philosophy and Religious Studies	1.1%	0.4%	0.7%	23.2%	0.0%	0.7%	1.4%	2.2%	69.2%	1.1%
Physical Sciences	2.2%	0.5%	1.3%	20.8%	0.2%	4.7%	1.1%	2.2%	65.8%	1.3%
Psychology	1.5%	3.0%	0.5%	39.8%	1.3%	2.5%	0.5%	1.5%	48.2%	1.0%
Public Administration and Social Service Professions	1.3%	7.4%	0.7%	51.0%	0.0%	3.4%	6.0%	1.3%	28.9%	0.0%
Science Technologies/Technicians	*	*	*	*	*	*	*	*	*	*
Social Sciences	2.6%	2.1%	1.1%	34.6%	0.5%	4.1%	2.0%	1.7%	50.9%	0.6%
Theology and Religious Vocations	0.0%	0.0%	0.0%	14.7%	0.0%	2.7%	5.3%	0.0%	76.0%	1.3%
Transport/Materials Moving	*	*	*	*	*	*	*	*	*	*
Visual and Performing Arts	1.3%	0.5%	2.5%	37.4%	0.3%	0.8%	1.7%	1.8%	53.2%	0.5%

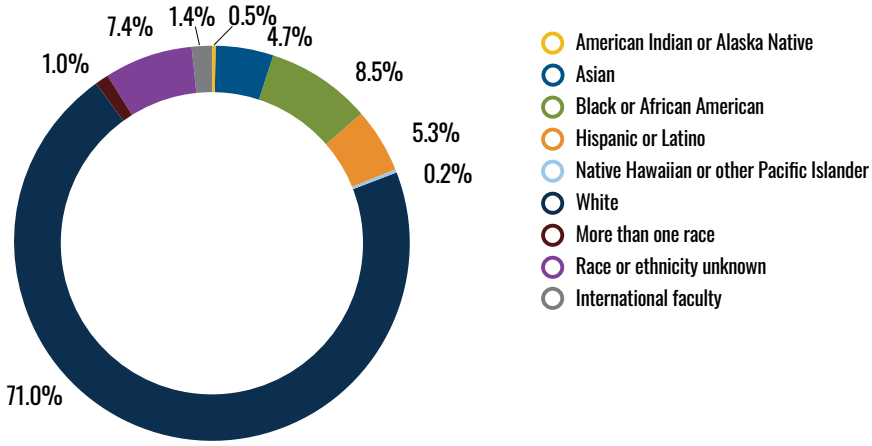
Source: Bichsel, Jacqueline, Jingyun Li, Jasper McChesney, and Adam Pritchard. 2019. *Faculty in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for Tenure-Track, Non-Tenure Teaching, and Non-Tenure Research Faculty: Academic Department Heads: and Adjunct Faculty for the 2018–19 Academic Year*. Knoxville, TN: CUPA-HR.
Notes: * Values omitted for rows where the total N of department heads is less than 50. | Totals may not add up to 100 percent due to rounding. | The CUPA-HR faculty survey utilizes two-digit classification of instructional programs (CIP) codes from IPEDS to classify faculty into discipline. The 2018–19 survey provided institutions a list of 34 CIP codes. Institutions were instructed to not report on faculty from disciplines outside of the provided CIP codes.

- The proportion of Black or African American women (10.9 percent) and Black or African American men (14.5 percent) academic department heads was highest in area, ethnic, cultural, gender, and group studies. Their representation in other disciplines was much lower.
- Asian men represented 19.3 percent of all academic department heads in engineering and 17.3 percent of computer and information sciences and support services faculty; in contrast, Asian women represented 1.4 percent and 3.5 percent of faculty in these fields, respectively.
- Hispanic or Latino men represented 9.3 percent of all academic department heads in foreign languages, literatures, and linguistics. This was the highest proportion of Hispanic or Latino men across all disciplines.
- Hispanic or Latina women represented 7.3 percent of all academic department heads in area, ethnic, cultural, gender, and group studies and 6.6 percent in foreign languages, literatures, and linguistics. The proportion of Hispanic or Latina women was lower in other disciplines.
- White women represented the majority of academic department heads in family and consumer sciences (64.9 percent); health professions and related clinical sciences (58.1 percent); public administration and social service professions (51.0 percent); and education (50.1 percent).

PART-TIME FACULTY

In fall 2017, the majority of the over 720,000 part-time faculty were White (71.0 percent), 20.2 percent were faculty of color, 7.4 percent were of unknown racial and ethnic backgrounds, and 1.4 percent were international.

Figure 6.14: Part-Time Faculty, by Race and Ethnicity: Fall 2017

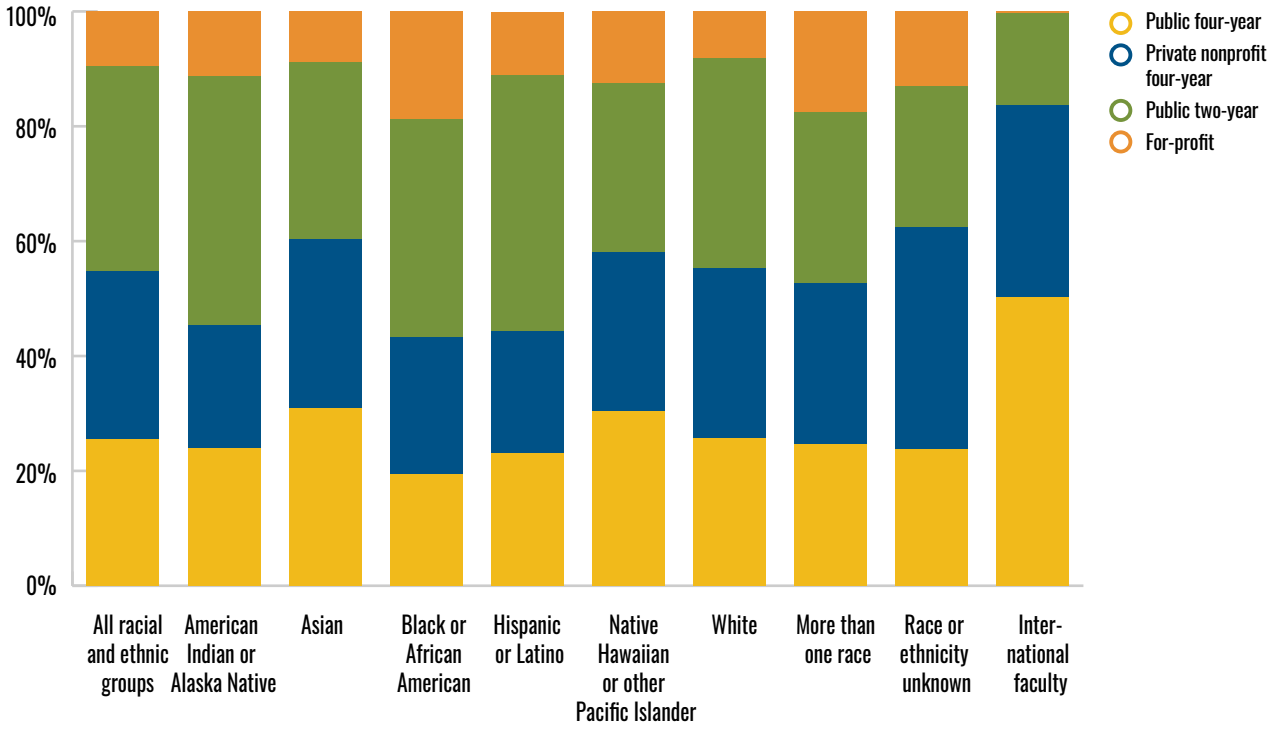


Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Note: Data reflect part-time instructional staff at all Title IV eligible, degree-granting institutions.

Part-Time Faculty, by Sector

Over one-third of all part-time faculty were at public two-year institutions (35.7 percent), followed by private nonprofit four-year (29.2 percent), public four-year (25.5 percent), and for-profit (9.6 percent) institutions. Asian, White, and international part-time faculty were less likely than all other groups to be at for-profit institutions.

Figure 6.15: Part-Time Faculty Across Sectors, by Race and Ethnicity: Fall 2017

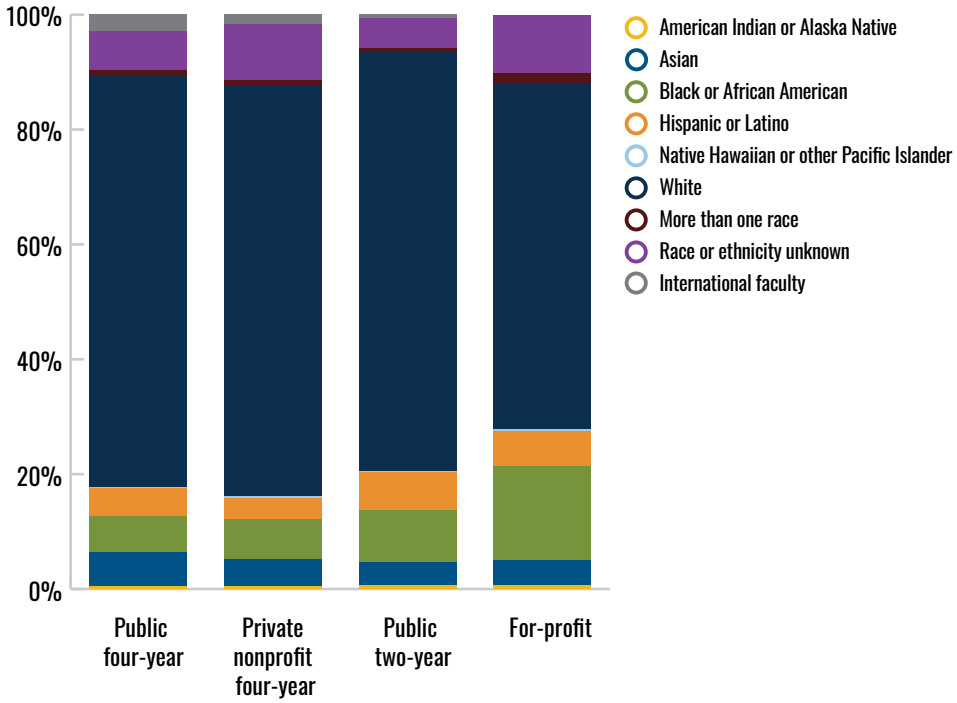


Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect part-time instructional staff at public four-year institutions, private nonprofit four-year institutions, public two-year institutions, and for-profit institutions. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- Half of all international part-time faculty were at public four-year institutions, compared with 19.4 percent of Black or African American part-time faculty. These were the highest and lowest shares across all groups.
- American Indian or Alaska Native (21.3 percent) and Hispanic or Latino (21.2 percent) part-time faculty were the least likely of all groups to be at private nonprofit four-year institutions. These groups were the most likely to be at public two-year institutions, with 44.6 percent of Hispanic or Latino and 43.4 percent of American Indian or Alaska Native part-time faculty at these institutions.
- Nearly one in five Black or African American part-time faculty were at for-profit institutions (18.7 percent), which was almost double that of all part-time faculty (9.6 percent). Individuals of more than one race were also much more likely to be at for-profit institutions (17.6 percent).

Within each sector, the majority of part-time faculty were White, with public two-year (72.9 percent) and public and private nonprofit four-year institutions (71.5 percent each) having the most White part-time faculty. For-profit institutions had a larger share of part-time faculty of color (29.6 percent).

Figure 6.16: Part-Time Faculty Within Sectors, by Race and Ethnicity: Fall 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect part-time instructional staff at public four-year institutions, private nonprofit four-year institutions, public two-year institutions, and for-profit institutions. | Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted.

- Black or African American faculty held 16.4 percent of all part-time faculty positions at for-profit institutions, more than double the share of part-time faculty positions they held at either public four-year (6.4 percent) or private nonprofit four-year (6.9 percent) institutions.
- Hispanic or Latino faculty held 6.6 percent of all part-time faculty positions at public two-year institutions and 6.1 percent of all part-time faculty positions at for-profit institutions, but only 3.8 percent of those same positions at private nonprofit four-year institutions and 4.8 percent at public four-year institutions.
- International faculty held 2.9 percent of all part-time faculty positions at public four-year institutions, more than quadruple the share of part-time faculty positions they held at public two-year institutions (0.7 percent).

HIGHER EDUCATION STAFF AND ADMINISTRATION

The Integrated Postsecondary Education Data System (IPEDS) allows for the examination of full-time and part-time staff by detailed occupation classifications. This section utilizes data from fall 2017 to provide an in-depth analysis of staff on college and university campuses.

Full-Time Staff Within Occupations

Of the over 1.7 million full-time staff[12] in fall 2017, the majority were White. The total share of people of color among full-time staff ranged from 19.8 percent of librarians, curators, and archivists and 22.1 percent of management staff to 37.9 percent of sales and related positions and 44.1 percent of service staff.

Table 6.5: Full-Time Staff Within Occupation Classifications, by Race and Ethnicity: Fall 2017

	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Staff
All Full-Time Staff	0.6%	5.3%	12.7%	9.5%	0.2%	66.0%	1.3%	3.0%	1.3%
Librarians, Curators, and Archivists	0.6%	5.1%	7.2%	5.5%	0.1%	76.9%	1.3%	2.5%	0.7%
Student and Academic Affairs and Other Education Services	0.9%	4.2%	13.4%	9.3%	0.4%	66.2%	1.7%	3.1%	1.0%
Management	0.5%	4.0%	10.3%	6.1%	0.2%	75.1%	1.1%	2.4%	0.5%
Business and Financial Operations	0.5%	6.8%	11.3%	8.9%	0.2%	67.0%	1.4%	3.1%	0.7%
Computer, Engineering, and Science	0.4%	11.0%	6.3%	6.6%	0.2%	65.5%	1.3%	3.1%	5.5%
Community Service, Legal, Arts, and Media	0.6%	3.3%	11.8%	8.2%	0.3%	70.3%	1.6%	3.3%	0.7%
Healthcare Practitioners and Technical	0.4%	10.0%	10.8%	7.5%	0.1%	62.2%	1.1%	5.3%	2.5%
Service	0.8%	3.7%	22.5%	15.9%	0.3%	51.8%	1.0%	3.3%	0.8%
Sales and Related Occupations	0.7%	3.2%	19.1%	12.7%	0.4%	58.6%	1.8%	3.3%	0.2%
Office and Administrative Support	0.7%	3.7%	15.3%	11.8%	0.2%	63.8%	1.4%	2.7%	0.4%
Natural Resources, Construction, and Maintenance	0.9%	1.9%	10.3%	9.6%	0.2%	73.2%	0.8%	2.8%	0.3%
Production, Transportation, and Material Moving	0.9%	3.0%	15.8%	12.0%	0.2%	64.1%	0.9%	2.8%	0.4%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect full-time staff at all Title IV eligible, degree-granting institutions. | Table does not include instructional, research, and public service staff.

12 Full-time staff does not include instructional, research, and public service staff.

- The share of Black or African American and Hispanic or Latino full-time staff was higher in service (22.5 and 15.9 percent, respectively) and sales and related positions (19.1 and 12.7 percent, respectively) than other occupations.
- The share of Asian full-time staff was highest in computer, engineering, and science occupations (11.0 percent) and lowest in natural resources, construction, and maintenance positions (1.9 percent).
- The range in the share of White staff was 51.8 percent of service occupations to more than 75 percent of all librarians, curators, and archivists, and management positions.

Part-Time Staff Within Occupations

Of the more than 288,000 part-time staff[13] in fall 2017, the majority across all occupation classifications were White. The share of part-time staff who identified as people of color was highest in service occupations (35.9 percent) and office and administrative support positions (35.4 percent). It was lowest among librarians, curators, and archivists (19.4 percent) and management (18.8 percent) part-time staff.

Table 6.6: Part-Time Staff Within Occupation Classifications, by Race and Ethnicity: Fall 2017

	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or Other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Staff
All Part-Time Staff	0.6%	4.9%	12.2%	10.1%	0.2%	63.5%	1.4%	5.0%	2.1%
Librarians, Curators, and Archivists	0.8%	4.3%	7.9%	5.2%	0.3%	75.0%	1.0%	4.8%	0.8%
Student and Academic Affairs and Other Education Services	0.7%	4.4%	11.7%	10.0%	0.3%	64.8%	1.3%	5.2%	1.7%
Management	0.4%	4.6%	8.0%	4.7%	0.2%	76.3%	0.9%	4.2%	0.7%
Business and Financial Operations	0.4%	5.8%	6.9%	7.1%	0.2%	72.3%	1.2%	4.9%	1.2%
Computer, Engineering, and Science	0.5%	9.8%	7.0%	8.6%	0.2%	61.9%	1.4%	4.6%	6.0%
Community Service, Legal, Arts, and Media	0.5%	2.6%	9.9%	6.8%	0.3%	70.7%	1.4%	6.9%	0.8%
Healthcare Practitioners and Technical	0.3%	10.6%	7.9%	5.5%	0.1%	66.2%	0.9%	4.1%	4.3%
Service Occupations	0.8%	2.9%	18.3%	12.4%	0.3%	57.1%	1.3%	5.9%	1.1%
Sales and Related Occupations	0.7%	4.7%	11.3%	8.2%	0.2%	66.2%	2.2%	5.7%	0.7%
Office and Administrative Support	0.6%	5.1%	14.1%	13.7%	0.2%	58.7%	1.7%	3.7%	2.3%
Natural Resources, Construction, and Maintenance	1.4%	2.4%	10.7%	7.2%	0.4%	63.0%	1.7%	10.3%	3.0%
Production, Transportation, and Material Moving	1.0%	2.0%	17.4%	6.0%	0.3%	63.7%	1.4%	7.9%	0.2%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect part-time staff at all Title IV eligible, degree-granting institutions. | Table does not include instructional, research, and public service staff.

13 Part-time staff do not include instructional, research, and public service staff.

- The share of Black or African American part-time staff was higher in service occupations (18.3 percent) and production, transportation, and material moving (17.4 percent) than other occupations.
- Hispanics or Latinos represented 13.7 percent of all part-time staff in office and administrative support positions and 12.4 percent of all part-time staff in service positions. These were the highest shares across all occupations.
- The share of White part-time staff was highest among management positions (76.3 percent) and librarians, curators, and archivists (75.0 percent), and lowest among service occupations (57.1 percent).

New Hires of Full-Time Staff Within Occupations

Among the over 193,000 new staff hires[14] of full-time staff, 58.2 percent were White. The share of new staff hires who identified as people of color ranged from 24.5 percent in natural resources, construction, and maintenance positions to almost half in sales and related occupations (49.8 percent).

Table 6.7: New Full-Time Staff Hires Within Occupation Classifications, by Race and Ethnicity: Fall 2017

	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or Other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Staff
All Full-Time New Hires	0.6%	5.6%	14.0%	10.3%	0.2%	58.2%	1.9%	6.4%	2.7%
Librarians, Curators, and Archivists and Student and Academic Affairs and Other Education Services	0.8%	3.9%	15.2%	9.7%	0.3%	60.5%	2.3%	5.6%	1.5%
Management Occupations	0.5%	4.3%	13.8%	6.6%	0.2%	66.5%	1.6%	5.7%	0.8%
Business and Financial Operations	0.5%	6.7%	12.8%	9.2%	0.2%	60.2%	2.0%	7.0%	1.4%
Computer, Engineering, and Science	0.4%	11.1%	6.5%	7.4%	0.1%	54.1%	1.8%	6.5%	12.0%
Community Service, Legal, Arts, and Media	0.4%	3.3%	13.5%	9.1%	0.3%	64.8%	2.1%	5.6%	1.0%
Healthcare Practitioners and Technical	0.3%	11.6%	9.1%	8.6%	0.2%	53.3%	1.6%	10.8%	4.4%
Service	0.8%	3.0%	22.5%	15.1%	0.3%	49.1%	1.7%	6.5%	1.0%
Sales and Related Occupations	0.8%	2.8%	29.6%	14.2%	0.2%	44.5%	2.1%	5.5%	0.2%
Office and Administrative Support	0.7%	4.5%	15.2%	13.0%	0.2%	57.5%	2.3%	5.7%	0.8%
Natural Resources, Construction, and Maintenance	1.1%	1.7%	9.8%	10.4%	0.3%	68.4%	1.1%	6.3%	0.8%
Production, Transportation and Material Moving	1.2%	2.2%	17.4%	14.9%	0.2%	56.1%	1.6%	6.2%	0.3%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2017
Notes: Data reflect new full-time staff hires at all Title IV eligible, degree-granting institutions. | Table does not include instructional, research, and public service staff. | Librarians, curators, and archivists and student and academic affairs and other education services are combined as one category in IPEDS data for new hires.

14 New staff hires do not include instructional, research, and public service staff.

- The share of Black or African American new staff hires was highest in sales and related occupations (29.6 percent) and lowest in computer, engineering, and science occupations (6.5 percent).
- Asians represented more than one in 10 new full-time staff hires in computer, engineering, and science (11.1 percent) and healthcare practitioners and technical occupations (11.6 percent).
- The representation of international new staff hires was higher in computer, engineering, and science (12.0 percent) and healthcare practitioners and technical occupations (4.4 percent) than in other occupations.
- The share of White new staff hires was lowest in sales and related occupations (44.5 percent), where Black or African American and Hispanic or Latino full-time staff together accounted for 43.8 percent of all new hires.

Senior Administrators

CUPA-HR conducts an annual survey of administrators in higher education. The data presented in this section come from CUPA-HR's 2018–19 *Administrators in Higher Education Annual Report*. The report reflects responses of nearly 51,000 individuals in approximately 200 senior-level administrator positions at more than 1,100 institutions. CUPA-HR defines administrative positions as top executive officers; senior institutional officers; academic deans; academic associate and assistant deans; institutional administrators; and heads of divisions, departments, and centers (Pritchard et al. 2019).

In 2018–19, the majority of all college and university administrators were White. The share of people of color among these positions ranged from 6.6 percent among chief development and advancement officers to 26.4 percent among chief student affairs and student life officers.

Table 6.8: Senior Administrators, by Race and Ethnicity: 2018–19

	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Chief Accounting Officer/Controller	3.2%	3.8%	4.2%	87.9%	0.9%
Chief Athletics Administrator	0.0%	7.2%	1.4%	90.8%	0.6%
Chief Development/Advancement Officer	0.7%	3.5%	2.0%	93.4%	0.4%
Chief Facilities Officer	1.4%	3.3%	3.6%	90.3%	1.4%
Chief Human Resources Officer	1.2%	12.0%	5.5%	79.7%	1.6%
Chief Information Officer	3.9%	4.4%	2.6%	87.7%	1.4%
Chief Student Affairs/Student Life Officer	1.8%	19.1%	4.3%	73.6%	1.2%
Chief Student Financial Aid Officer	1.4%	7.8%	5.9%	84.2%	0.6%
Police Chief/Chief Campus Security Administrator	0.7%	13.7%	5.0%	78.4%	2.1%
Provost/Chief Academic Affairs Officer	2.9%	5.2%	3.1%	87.7%	1.1%
Registrar/Chief Student Registration or Records Officer	1.7%	7.2%	4.9%	85.5%	0.7%

Source: Pritchard, Adam, Jingyun Li, Jasper McChesney, and Jacqueline Bichsel. 2019. *Administrators in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for the 2018–19 Academic Year*. Knoxville, TN: CUPA-HR.
Note: Totals may not add to 100 percent due to rounding.

- Nearly one-fifth of all chief student affairs and student life officers were Black or African American (19.1 percent). The proportion of senior administrators across all other roles who identified as Black or African American was much smaller.
- The proportion of Asians was highest among chief information officers (3.9 percent) and lowest among chief athletics administrators, where they held none of these positions.
- A higher share of chief student financial aid officers (5.9 percent) were Hispanic or Latino than any other senior administrative position.
- More than nine in 10 chief development and advancement officers (93.4 percent), chief athletics administrators (90.8 percent), and chief facilities officers (90.3 percent) identified as White.

The share of women of color among all senior administrators ranged from 1.2 percent of all chief athletics administrators and 1.3 percent of all chief facilities officers to 16.2 percent of all chief human resources officers. Among men of color, the range was 2.9 percent of all chief accounting officers and controllers and 3.1 percent of all chief development and advancement officers to 18.6 percent of all police chiefs and chief of campus security administrators. The largest percentage point gap between men of color and women of color was among police chiefs and chief of campus security administrators (15.6 percentage points).

Table 6.9: Senior Administrators, by Gender and Race and Ethnicity: 2018–19

	Women					Men				
	Asian	Black or African American	Hispanic or Latina	White	Other Race or Ethnicity	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Chief Accounting Officer/ Controller	2.5%	2.9%	3.1%	56.1%	0.7%	0.7%	0.9%	1.2%	31.8%	0.1%
Chief Athletics Administrator	0.0%	0.6%	0.6%	18.2%	0.0%	0.0%	6.6%	0.8%	72.6%	0.6%
Chief Development/ Advancement Officer	0.3%	1.9%	1.2%	41.5%	0.1%	0.4%	1.6%	0.8%	51.9%	0.3%
Chief Facilities Officer	0.3%	0.6%	0.1%	7.8%	0.3%	1.1%	2.8%	3.5%	82.5%	1.1%
Chief Human Resources Officer	1.1%	9.7%	4.3%	58.2%	1.1%	0.1%	2.3%	1.2%	21.5%	0.5%
Chief Information Officer	1.0%	0.6%	0.5%	17.4%	0.3%	2.8%	3.8%	2.1%	70.3%	1.2%
Chief Student Affairs/ Student Life Officer	0.9%	8.2%	2.2%	41.2%	0.7%	0.8%	10.8%	2.2%	32.4%	0.5%
Chief Student Financial Aid Officer	0.8%	5.2%	3.7%	56.2%	0.5%	0.6%	2.6%	2.3%	28.0%	0.1%
Police Chief/Chief Campus Security Administrator	0.1%	2.0%	0.1%	6.6%	0.7%	0.6%	11.7%	4.9%	71.9%	1.4%
Provost/Chief Academic Affairs Officer	1.1%	2.7%	1.3%	38.1%	0.3%	1.8%	2.5%	1.8%	49.6%	0.8%
Registrar/Chief Student Registration or Records Officer	1.1%	4.7%	3.9%	58.0%	0.6%	0.6%	2.4%	1.0%	27.6%	0.1%

Source: Pritchard, Adam, Jingyun Li, Jasper McChesney, and Jacqueline Bichsel. 2019. *Administrators in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for the 2018–19 Academic Year.* Knoxville, TN: CUPA-HR.
Note: Totals may not add to 100 percent due to rounding.

- The share of Asian women was highest among chief accounting officers and controllers (2.5 percent). The share of Asian men was highest among chief information officers (2.8 percent).
- Black or African American women represented 9.7 percent of all chief human resource officers and 8.2 percent of all chief student affairs and student life officers, but only 0.6 percent each of all chief athletics administrators, chief facilities officers, and chief information officers. Nearly 12 percent of police chiefs and chief campus security administrators and 10.8 percent of chief student affairs and student life officers were Black or African American men; the shares of Black or African American men among other senior administrative positions were much lower.
- Hispanic or Latina women represented 4.3 percent of all human resource officers and 3.9 percent of all registrars and chief student registration or records officers; these were the highest proportions across all positions. Nearly 5 percent of all police chiefs and chief campus security administrators were Hispanic or Latino men; this was the highest share across all positions.
- Over half of all chief human resource officers (58.2 percent), registrars or chief student registration or records officers (58.0 percent), chief student financial aid officers (56.2 percent), and chief accounting officer or controllers (56.1 percent) identified as White women.
- The great majority of chief facilities officers (82.5 percent), chief athletics officers (72.6 percent), police chiefs or chief campus security administrators (71.9 percent), and chief information officers (70.3 percent) identified as White men.

Mid-Level Professionals

CUPA-HR conducts an annual survey of professionals in higher education. The data presented in this section come from CUPA-HR's 2018–19 *Professionals in Higher Education Annual Report*. The report reflects responses of over 240,000 professionals in more than 380 mid-level professional positions at more than 1,100 institutions. CUPA-HR defines professional positions as institutional affairs, student affairs, fiscal affairs, external affairs, facilities, information technology, research professionals, athletic affairs, and safety professionals, among others (Bichsel, Pritchard, and McChesney 2019).

White professionals also represented the majority of individuals in mid-level positions on college and university campuses in 2018–19. The representation of people of color ranged from 13.7 percent of all external affairs positions to 31.2 percent of research professionals, among whom 19.6 percent identified as Asian, 4.6 percent as Hispanic or Latino, 4.1 percent as Black or African American, and 2.9 percent as another racial and ethnic group.

Table 6.10: Mid-Level Professionals, by Race and Ethnicity: 2018–19

	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Academic Affairs	3.5%	9.9%	6.1%	78.0%	2.5%
Athletic Affairs	1.1%	10.1%	2.7%	84.2%	1.9%
External Affairs	2.5%	5.0%	4.1%	86.3%	2.1%
Facilities	2.6%	5.7%	5.0%	84.4%	2.2%
Fiscal Affairs	5.5%	11.3%	6.5%	74.3%	2.4%
Health Science and Environmental Sustainability	11.6%	4.9%	3.8%	77.8%	1.9%
Information Technology	9.5%	6.0%	4.8%	77.4%	2.5%
Institutional Affairs	4.4%	13.0%	6.9%	73.2%	2.5%
Other	4.8%	10.2%	5.4%	77.0%	2.6%
Research	19.6%	4.1%	4.6%	68.7%	2.9%
Safety and Supervisors	1.8%	14.2%	6.7%	74.5%	2.7%
Student Affairs	3.2%	13.1%	7.8%	73.0%	2.9%

Source: Bichsel, Jacqueline, Adam Pritchard, and Jasper McChesney. 2019. *Professionals in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for the 2018–19 Academic Year.* Knoxville, TN: CUPA-HR.
Note: Totals may not add to 100 percent due to rounding.

- Asians represented 19.6 percent of research positions and 11.6 percent of health science and environmental sustainability positions, but only 1.1 percent of those in athletic affairs.
- Black or African American mid-level professionals were more than three times more represented in safety and supervisor positions (14.2 percent) than in research positions (4.1 percent).
- Hispanics or Latinos were nearly three times as likely to be in student affairs (7.8 percent) than in athletic affairs (2.7 percent) positions.
- More than eight in 10 professionals in external affairs (86.3 percent), facilities (84.4 percent), and athletic affairs (84.2 percent) identified as White.

The share of women of color in mid-level professional roles ranged from 4.3 percent of athletic affairs professionals to 21.5 percent of all institutional affairs professionals. Among men of color in mid-level professional roles, the range was 4.1 percent of all health science and environmental sustainability professionals to 15.1 percent of information technology and 15.3 percent of all safety and supervisor professionals. The largest percentage point gap between men of color and women of color was among institutional affairs professionals (16.2 percentage points), with women of color much more likely to be in these positions than men of color.

Table 6.11: Mid-Level Professionals, by Gender and Race and Ethnicity: 2018–19

	Women					Men				
	Asian	Black or African American	Hispanic or Latina	White	Other Race or Ethnicity	Asian	Black or African American	Hispanic or Latino	White	Other Race or Ethnicity
Academic Affairs	2.5%	7.1%	4.3%	55.5%	1.7%	1.0%	2.8%	1.8%	22.5%	0.7%
Athletic Affairs	0.4%	2.4%	0.8%	24.8%	0.7%	0.7%	7.6%	1.9%	59.3%	1.2%
External Affairs	1.7%	3.2%	2.7%	57.2%	1.3%	0.8%	1.8%	1.4%	29.1%	0.7%
Facilities	1.1%	2.6%	1.8%	29.5%	0.9%	1.5%	3.1%	3.2%	54.9%	1.3%
Fiscal Affairs	4.3%	9.1%	4.9%	55.0%	1.8%	1.2%	2.3%	1.6%	19.3%	0.6%
Health Science and Environmental Sustainability	9.1%	4.4%	3.1%	66.6%	1.5%	2.6%	0.5%	0.7%	11.2%	0.4%
Information Technology	3.6%	2.1%	1.2%	20.5%	0.6%	5.8%	3.8%	3.6%	56.9%	1.9%
Institutional Affairs	3.5%	10.7%	5.4%	55.4%	1.8%	0.9%	2.3%	1.5%	17.9%	0.6%
Other	3.4%	8.3%	4.5%	61.1%	2.0%	1.4%	1.9%	0.9%	15.9%	0.6%
Research	11.7%	2.8%	3.0%	39.8%	1.8%	8.0%	1.3%	1.6%	28.9%	1.1%
Safety and Supervisors	1.0%	5.7%	2.5%	33.1%	1.0%	0.9%	8.5%	4.2%	41.4%	1.8%
Student Affairs	2.1%	8.7%	5.3%	50.6%	2.0%	1.0%	4.3%	2.5%	22.4%	0.9%

Source: Bichsel, Jacqueline, Adam Pritchard, and Jasper McChesney. 2019. *Professionals in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for the 2018–19 Academic Year.* Knoxville, TN: CUPA-HR.
Note: Totals may not add to 100 percent due to rounding.

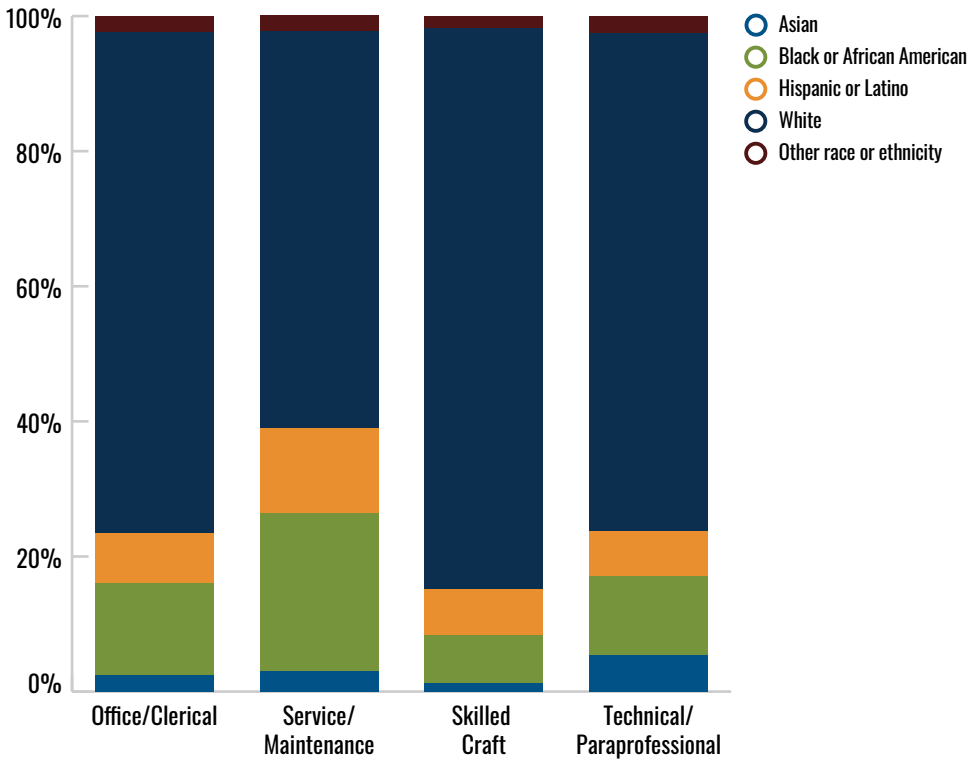
- Nearly 12 percent of all professionals in research positions were Asian women, the highest share across all mid-level professions. These positions also had the highest share of Asian men, at 8.0 percent.
- Black or African American women held 10.7 percent of all positions in institutional affairs, but only 2.1 percent of all information technology positions. Black or African American men constituted 8.5 percent of all safety and supervisor positions, the highest proportion across all mid-level professional positions.
- The highest share of individuals who identified as Hispanic or Latina women was in institutional affairs (5.4 percent), followed by student affairs (5.3 percent). Hispanic or Latino men represented less than 5 percent of all mid-level professionals.

Clerical, Technical, and Service Staff

CUPA-HR conducts an annual survey of staff in higher education. The data presented in this section come from CUPA-HR's 2018–19 *Staff in Higher Education Annual Report*. The report reflects responses of over 205,000 professionals in roughly 150 staff positions at more than 850 institutions. Staff positions in the CUPA-HR survey include office and clerical staff, service and maintenance staff, technical and paraprofessional staff, and skilled craft staff. These positions usually receive an hourly wage and are generally eligible for overtime pay (Pritchard, McChesney, and Bichsel 2019).

Although Whites represented the majority of staff at colleges and universities in 2018–19, these positions were much more diverse than administrator or professional positions. People of color represented 17.1 percent of all skilled craft staff (e.g., electricians and carpenters), 25.8 percent of office and clerical staff (e.g., administrative assistants and records clerks), 26.4 percent of technical and paraprofessional staff (e.g., paralegals and IT systems specialists), and 41.3 percent of service and maintenance staff (e.g., construction and facilities).

Figure 6.17: Clerical, Technical, and Service Staff, by Race and Ethnicity: 2018–19



Source: Pritchard, Adam, Jasper McChesney, and Jacqueline Bichsel. 2019. *Staff in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for the 2018–19 Academic Year.* Knoxville, TN: CUPA-HR.
Note: Totals may not add to 100 percent due to rounding.

- Over half of all service and maintenance staff identified as White (58.8 percent), followed by Black or African American (23.4 percent) and Hispanic or Latino (12.6 percent). In contrast, 3.0 percent identified as Asian and 2.3 percent identified as some other race or ethnicity.
- The share of technical and paraprofessional staff who identified as Black or African American was twice the share who identified as Asian (11.6 percent and 5.4 percent, respectively).
- Skilled craft had the largest share of all staff who identified as White (82.9 percent).

The share of staff who identified as women of color ranged from 0.8 percent among skilled craft staff to 22.1 percent of office and clerical staff. The share of staff who identified as men of color ranged from 3.7 percent of office and clerical staff to 22.8 percent of service and maintenance staff.

Table 6.12: Clerical, Technical, and Service Staff, by Gender and Race and Ethnicity: 2018–19

		Office/Clerical	Service/Maintenance	Skilled Craft	Technical/Paraprofessional
Women	Asian	2.1%	1.5%	0.1%	3.3%
	Black or African American	11.8%	10.0%	0.5%	7.7%
	Hispanic or Latina	6.2%	5.9%	0.1%	4.1%
	White	66.3%	20.0%	2.7%	44.2%
	Other Race or Ethnicity	2.0%	0.9%	0.1%	1.7%
Men	Asian	0.4%	1.5%	1.1%	2.1%
	Black or African American	1.7%	13.1%	6.6%	3.7%
	Hispanic or Latino	1.1%	6.8%	6.7%	2.7%
	White	7.9%	39.0%	80.2%	29.5%
	Other Race or Ethnicity	0.4%	1.4%	1.8%	0.9%

Source: Pritchard, Adam, Jasper McChesney, and Jacqueline Bichsel. 2019. *Staff in Higher Education Annual Report: Key Findings, Trends, and Comprehensive Tables for the 2018–19 Academic Year.* Knoxville, TN: CUPA-HR.
Note: Totals may not add to 100 percent due to rounding.

- The share of individuals who identified as Black or African American women was highest among office and clerical staff (11.8 percent). The share who identified as Black or African American men was highest among service and maintenance staff (13.1 percent).
- The share who identified as Hispanic or Latina women ranged from 0.1 percent of all skilled craft staff to 6.2 percent of all office and clerical staff. The share who identified as Hispanic or Latino men ranged from 1.1 percent of office and clerical staff to 6.8 percent of all service and maintenance staff.
- The share who identified as Asian women ranged from 0.1 percent of all skilled craft staff to 3.3 percent of all technical and paraprofessional staff. The share who identified as Asian men ranged from 0.4 percent of office and clerical staff to 2.1 percent of all technical and paraprofessional staff.
- The share who identified as White women was highest among office and clerical staff (66.3 percent). The share who identified as White men was highest among skilled craft staff (80.2 percent).

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INVITED ESSAY

Undoing Years of Affirmative Action: The Growth of Non-Tenure-Track Faculty

Adrianna Kezar

Undoing Years of Affirmative Action: The Growth of Non-Tenure-Track Faculty

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When thinking about equity gaps in faculty hiring and promotion, campus leaders tend to think exclusively about tenure-track faculty. Yet, tenured or tenure-track faculty make up only 30 percent of the faculty nationally. As a result, efforts at increasing faculty diversity are being directed at the smaller category of the professoriate. The other 70 percent are non-tenure-track or contingent faculty—those generally on semester-to-semester or one-year appointments—and their ranks are only increasing. But as non-tenure-track faculty have increased in number, virtually no one has researched their racial diversity.[1]

Efforts to diversify the faculty must expand beyond the tenure track, and research that supports this effort is needed. In 2002, the American Council on Education (ACE) was one of the first organizations to examine the racial composition of non-tenure-track faculty, finding less racial diversity among part-time faculty than among full-time faculty at all institution types (Anderson 2002). Only vocational fields, natural sciences, and engineering demonstrated more racial diversity among part-timers than among full-timers. In other words, even early data suggested a dearth of racial diversity among part-time faculty, but few studies were done in the next decade.

More recently, Finkelstein, Conley, and Schuster (2016) reported a "mushrooming" of hiring faculty of color on part-time lines compared with the past. Keep in mind that the numbers of faculty of color are still quite small: 9 percent in 1993 compared with only 14 percent in 2013 when they conducted their latest study. (During that same time period, White faculty went from 83 percent in 1993 to 72 percent of part-time faculty in 2013.[2])

While non-tenure-track positions are the new faculty majority, scholars of color are not being hired in these positions as often—thus, the professoriate will continue to be predominantly White. And since many non-tenure-track positions are hired outside traditional processes, they often undergo no affirmative-action oversight. Just as one example: department chairs often do much of the non-tenure-track hiring, and they are often White men who may unconsciously hire from their own peer groups and networks.

In her co-authored book *Off-Track Profs*, Edie Goldenberg (2011), a dean at the University of Michigan, traced how the faculty at her institution had become over 50 percent non-tenure track without her knowing it, exploring how this transformation within her colleagues occurred without notice or oversight. She realized that resource-strapped departments had moved to hiring non-tenure-track faculty, with no knowledge at higher levels. She also identified poor data systems both within institutional research offices and within schools and colleges, where data about hiring was not systematic for all employee types.

If the majority of faculty are being hired off the tenure track, then the implications of hiring few scholars of color into these positions signals additional concerns around underrepresentation.

How might this same dynamic play out across the country—not just with hiring more non-tenure-track faculty but, by extension, hiring more White non-tenure-track faculty? When previous data showed that faculty of color were not overrepresented or even equally represented in non-tenure-track positions, I began to wonder if subtle biases and lack of affirmative-action oversight might be creating a renewed "Whitening" of the faculty. If the majority of faculty are being hired off the tenure track, then the implications of hiring few scholars of color into these positions signals additional concerns around underrepresentation.

1 It is important to point out that over the last few decades, the overall number of faculty nationally has risen. While tenure-track faculty make up a smaller percentage of total faculty, they are still a significant number. The hiring of racially diverse individuals into the tenure-track ranks—given the prestige and long-term nature of these positions—should continue to be a focus (National Center for Education Statistics 2016).

2 Unknown race increased from 2 to 7 percent.

So what do the latest data about non-tenure-track faculty show us? First, the majority remain White, accounting for about 70 percent of non-tenure-track faculty. Of part-time, non-tenure-track faculty, only 8.5 percent are African American, 5.3 percent are Hispanic, and American Indians and Pacific Islanders represent less than 1 percent.[3] Full-time, non-tenure-track faculty have similar numbers: African Americans and Hispanics are at 6.4 percent and 4.8 percent, respectively, and American Indians and Pacific Islanders are at less than 1 percent. Indeed, when we compare between part-time and full-time faculty (whether tenure track or non-tenure track), for most racial groups the percentages in full-time positions are relatively close to the percentages in part-time ones, with two exceptions. Black faculty are underrepresented in both categories (full time and part time), but find themselves more often in part-time positions. Conversely, Asian American faculty are less likely to be in part-time positions compared with full time.

In addition to underrepresentation, faculty of color tend to be located at lower-resourced or two-year institutions. For part-time, non-tenure-track faculty, American Indian and Hispanic faculty are slightly more likely to be at two-year institutions than other racial groups. Faculty of color are much more likely than White faculty to be at for-profit institutions. This tendency could be because of bias in hiring at four-year schools, and it could also be that faculty of color are opting to be at diverse institutions in order to mentor and support students from their own background. Some qualitative data suggests that faculty sometimes chose to help their communities and return to particular types of institutions (Baez 2000; Stanley 2006).

In short, while more scholars of color gained their PhDs in higher education than any other time, the number of faculty of color remains low—especially when you consider that students of color make up 45.2 percent of undergraduates and 32 percent of graduate students. And the few scholars who attain faculty positions tend to be in the least resourced and most precarious institutions—two-year and for-profit institutions. Both of these trends suggest a problem in terms of racial diversity in the professoriate for the future.

Why these patterns exist has been explained by two major phenomena: bias in hiring and, with regards to non-tenure track, lack of attractiveness of positions. Bias in hiring has been discussed extensively in other research, so I will focus on the current jobs being unattractive to candidates of color. Studies have shown that scholars of color are abandoning higher education, especially those in STEM, for more stable jobs in industry (Griffin 2019; York and Griffin 2017). This same trend can be seen among other professional areas where scholars of color are opting out of higher education given the poor job security and low wages. The trend to hire contingent positions is likely scaring off scholars of color who feel they can ill afford to take these positions, especially if they come from low-income families where that type of risk is challenging to take on.

Implications for Campus Leaders

This national data about faculty racial composition suggests that campus leaders need to diversify their faculty among all groups—tenure track and non-tenure track, part time and full time. No matter the category, the current faculty is largely White. The data also suggest some disturbing trends that need added attention, such as the larger number of African Americans compared with other racial and ethnic groups within part-time positions and the concentration of various racial groups in the two-year and for-profit sectors.

3 In this essay, Black and African American are used interchangeably.

In addition, the lack of systematic hiring of non-tenure-track faculty should be examined. Any strategies developed for diversifying the non-tenure-track faculty will need to look different from those for the tenure track, as strategies like cluster hiring are not possible for non-tenure track. Some possible approaches that would be more appropriate for non-tenure-track hiring include:

- Develop a task force to examine hiring processes for non-tenure-track positions, evaluating the processes for bias and alignment with affirmative-action policies and goals.
- Take more of a pipeline approach to faculty hiring. The large number of African American faculty on part-time faculty lines could be converted to full-time tenure or non-tenure-track lines.
- Be vigilant to identify the common practices that override well-intended policies, consciously or unconsciously. Administrators may want to craft accountability mechanisms for part-time hiring since the majority of faculty are hired into part-time positions.

In addition to efforts at the campus level, we need more research to understand how institutions are hiring faculty for non-tenure-track positions. Studies need to look at different sectors and explore promising practices from those who have had success hiring diverse faculty, such as community colleges. Virtually no studies exist on hiring processes on non-tenure-track lines, especially compared with tenure-track roles where hundreds of studies exist.

What is important is that groups such as ACE and projects like Race and Ethnicity in Higher Education are beginning to track the growth of contingent faculty to better understand the many implications of this trend. If we only concentrate on the shrinking pool of tenure-track faculty, we miss a significant and growing area of importance in faculty diversity and inclusion. This stubborn challenge deserves more research and attention.

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METHODS

METHODS

The Race and Ethnicity in Higher Education project aims to provide a data-informed foundation from which the higher education community and its many stakeholders can examine racial disparities in educational opportunities and outcomes, draw insights, raise new questions, and make the case for why we must talk about racial equity gaps present in American higher education. This 2020 supplement dives into specific topic areas and includes new indicators on the academic experiences of students prior to college, graduate and professional education, student loan debt and repayment, and postsecondary faculty and staff. It also seeks to address the dearth of data available for Native populations by highlighting the role that Tribal Colleges and Universities play in serving Native students and communities. To tell these stories, this report presents over 150 indicators drawn from 16 principal data sources. Many of the report's indicators present a snapshot of data, drawn from the most current data source.

The purpose of this section is threefold: first, to familiarize the reader with the various data sources used throughout the report; second, to clarify how key concepts were defined; and finally, to provide guidance on how to interpret the findings contained in this report. Additionally, helpful methodological notes are included throughout the report both in the text and in table and figure notes.

Principal Data Sources

Data for this report were drawn from 16 principal sources. Many of these data were collected as part of studies managed by the U.S. Department of Education. When federally collected data were insufficient to address a particular indicator, non-federally collected data were sought and included. Each of the principal data sources used in this report is described below with notes indicating the chapters where data were presented.

ACT

The ACT, administered by the organization of the same name, is an exam designed for 10th, 11th, and 12th graders, measuring what students have learned in high school and the skills that are important indicators for college and career readiness. The ACT includes four components: English, reading, math, and science. The ACT is used by many colleges and universities as a criteria of undergraduate admission. Data from the 2019 edition of the *Condition of College and Career Readiness* report and ACT's U.S. High School Graduating Class Trends data visualization tool are presented in Chapter 1.

High School Longitudinal Study of 2009 (HSLS)

The High School Longitudinal Study of 2009 (HSLS) is a nationally representative longitudinal study of 23,000 ninth-grade students in 2009. Designed to examine the pathways of students through secondary education into postsecondary education and the workforce, the study utilizes surveys of students, their families, and school staff during students' ninth-grade, 11th-grade, and 12th-grade years, a follow-up survey three years following high school completion, and high school transcripts. Once completed, HSLS will also include data from postsecondary transcripts and a final follow-up survey of participants scheduled for 2025. Data from HSLS are presented in Chapter 1.

National Assessment of Educational Progress (NAEP)

Also known as the Nation's Report Card, the National Assessment of Educational Progress (NAEP) is the only nationally representative assessment that measures fourth-grade, eighth-grade, and 12th-grade students' knowledge, educational achievement, and progress in a range of subjects. A congressionally mandated project administered through the U.S. Department of Education, NAEP has been used to measure students' progress in subjects since 1969. Unlike the various assessments offered

by each state, NAEP assessments are the same across states, allowing a common measure of student achievement and performance across the nation. Data from the 2015 NAEP Mathematics Assessment and the 2015 NAEP Reading Assessment are presented in Chapter 1.

SAT

The *SAT Suite of Assessments Annual Report*, produced by the College Board, reports information on the graduating cohort of high school seniors who took the new SAT (as of March 2016) during their high school career, as well as the number of students who took related PSAT assessments (PSAT/NMSQT, PSAT 10, and PSAT 8/9) in a given school year. Used by many colleges and universities as a criteria of undergraduate admission, the SAT suite of assessments includes exams for students in eighth grade through 12th grade, and can help identify readiness for AP courses, as well as college and career readiness. Data from the *2019 SAT Suite of Assessments Annual Report* are presented in Chapter 1.

American Indian Higher Education Consortium American Indian Measures of Success (AIHEC AIMS)

The American Indian Higher Education Consortium launched the American Indian Measures of Success (AIHEC AIMS) in 2004 to define measures for success that are relevant to Tribal Colleges and Universities (TCUs) and the communities they serve. AIHEC AIMS seeks to build data collection capacity and accountability of TCUs to measure success and increase participation and success of American Indian students in postsecondary education. Qualitative data provide stories and narratives around the many types of quantitative data collected through AIHEC AIMS, such as enrollment, cost of attendance, TCU funding, and curricular programs. AIHEC AIMS data were provided upon request for this report and are presented in Chapter 2.

American Dental Association (ADA)

The Survey of Dental Education, administered by the Health Policy Institute of the American Dental Association (ADA), is an annual survey of all U.S. dental schools and 10 dental schools in Canada. Survey data collection includes information on demographic characteristics of dentists, dental fees, dentists' earnings, and pre-doctoral, advanced, and allied dental education programs in U.S. dental schools. Data from the ADA are presented in Chapter 3.

American Dental Education Association (ADEA)

The American Dental Education Association (ADEA), the membership organization for all U.S. and Canadian dental schools, conducts annual surveys and research reports on trends in dental education. ADEA's annual surveys capture information on applicants, enrollees, graduates, and employment characteristics of faculty in dental education. Data from the ADEA are presented in Chapter 3.

Analytix by AccessLex

The AccessLex Institute works with nearly 200 American Bar Association-approved nonprofit and state-affiliated law schools throughout the United States. AccessLex provides data on law schools, law school applicants, enrollees, and graduates through Analytix by AccessLex, which allows law school leaders and those who research the landscape of law school education to access the crucial data they need to make informed decisions. Data from the Analytix by AccessLex 2018 Enrollment Database and 2018 Degrees Dataset are presented in Chapter 3.

Association of American Medical Colleges

The Association of American Medical Colleges (AAMC), the membership association for U.S. and Canadian medical schools, collects data on students applying to, enrolling in, and graduating from U.S. medical schools. The collection of surveys focuses on the demographic characteristics, test scores, and grade point averages of medical school applicants, matriculants, and graduates, as well as MD-PhD students and residency applicants. These data provide a base from which AAMC produces research related to gender and racial and ethnic diversity among individuals who practice medicine. Data from the AAMC *Diversity in Medicine: Facts and Figures 2019* report are presented in Chapter 3.

Integrated Postsecondary Education Data System (IPEDS)

The Integrated Postsecondary Education Data System (IPEDS) is the primary source for information on U.S. colleges, universities, and technical and vocational institutions. IPEDS is a system of interrelated surveys conducted annually by the U.S. Department of Education's National Center for Education Statistics (NCES). IPEDS gathers information from more than 7,500 colleges, universities, and technical and vocational institutions that participate in the federal student aid programs in fundamental areas such as enrollment, program completion and graduation rates, institutional costs, student financial aid, and human resources. Data collected through IPEDS are publicly released and can be accessed through the IPEDS Data Center. Data from IPEDS are presented in Chapters 3, 4, and 6.

Law School Admission Council (LSAC)

The Law School Admission Council (LSAC), the nonprofit organization that administers the Law School Admission Test (LSAT), promotes quality, access, and equity in law school admissions. LSAC collects data from LSAT test takers, law school applicants, and law schools to produce reports on applicant trends and demographic characteristics. The data LSAC produces are available to member law schools, who can use the data to better inform their admissions processes. LSAC data were provided upon request for this report and are presented in Chapter 3.

Survey of Earned Doctorates (SED)

The Survey of Earned Doctorates (SED) is an annual census of all individuals who received a research doctorate from accredited U.S. institutions in a given year. The SED identifies characteristics and trends in doctoral education through the collection of doctoral degree recipients' demographic information, educational history, and post-graduation plans and outcomes. It also includes a follow-up survey designed to identify characteristics and trends of the population of doctoral recipients. A joint product of the National Center for Science and Engineering Statistics, National Institutes of Health, U.S. Department of Education, and National Endowment for the Humanities, the SED has been administered annually since 1957. Data from the 2017 SED are presented in Chapter 3.

Adult Training and Education Survey (ATES)

The Adult Training and Education Survey (ATES) collects information on work experience programs, non-degree work certifications and licenses, and postsecondary educational certificates of adults ages 16 to 65 who are not enrolled in high school. The ATES survey also collects information on respondents' demographic characteristics, educational attainment, labor force participation, earnings, and occupational field. Data from ATES are presented in Chapter 4.

Beginning Postsecondary Students Longitudinal Study (BPS)

The Beginning Postsecondary Students Longitudinal Study (BPS) currently surveys cohorts of first-time, beginning students at three points in time: at the end of their first year, and then three and six years after first starting in postsecondary education. The study draws its cohorts from NPSAS and collects data on a variety of topics, including student demographic characteristics, school and work experiences, financial aid, persistence, transfer, and degree attainment. The BPS tracks students' paths through postsecondary education to allow for a more in-depth exploration of what academic fields students pursue, how financial aid influences their persistence and completion, and in some cases, why students leave higher education without an award. Data on student loan repayment outcomes were collected as part of the 2015 Federal Student Aid Supplement and appended to the BPS: 04/09 data. Data from the BPS: 12/17 study are presented in Chapter 1 and Chapter 5. Data from the BPS: 04/09 study are presented in Chapter 5.

National Postsecondary Student Aid Study (NPSAS)

The National Postsecondary Student Aid Study (NPSAS) examines the characteristics of students in postsecondary education, with special focus on how they finance their education. NPSAS sample surveys provide access to nationally representative data for undergraduate and graduate students. NPSAS is a comprehensive research dataset, based on student-level records and financial aid provided by the federal government, the states, postsecondary institutions, employers, and private agencies, along with student demographic and enrollment data. NPSAS is the primary source of information used by the federal government (and others, such as researchers and higher education associations) to analyze student financial aid and to inform public policy on such programs as the Pell Grants and Direct/Stafford loans. Data from NPSAS: 16 are presented in Chapter 5.

College and University Professional Association for Human Resources (CUPA-HR)

With the most reliable and comprehensive higher education salary and benefits data available, CUPA-HR collects data on salaries for administrators, faculty, professionals, and staff, as well as on healthcare and other benefits. Additionally, benchmarking data on voluntary and involuntary turnover rates; student, staff, faculty ratios; collective bargaining for faculty, staff, and graduate students; the chief human resource officer reporting relationship; diversity data and comparison groups are available to assist leaders in planning for budgets; salary increases; and creating equity in the hiring and human resources processes. Data from the 2019 *Faculty in Higher Education Annual Report*, the 2019 *Administrators in Higher Education Annual Report*, and the 2019 *Professionals in Higher Education Annual Report* are presented in Chapter 6.

Key Definitions

With various data sources, it is important to be clear about how key terms were defined throughout the report. The following section provides an overview as well as definitions of some of the key terms used throughout the report.

Race and Ethnicity

Race and ethnicity are complex social constructions. As the United States has grown more diverse, the language and methods used to identify groups of people have changed substantially. This is perhaps most evident in the changes made over time in the collection of race, ethnicity, and origin data by the U.S. Census Bureau.[1] These changes include new racial categories, the collection of information on ethnicity (defined as whether an individual is of Hispanic origin or not), and allowing individuals to self-identify their race and ethnicity, as well as to identify as being of more than one race. These changes made by Census have informed the data collection efforts of other federal agencies, including the U.S. Department of Education.

1 http://www.pewsocialtrends.org/wp-content/uploads/sites/3/2015/06/ST_15.06.11_MultiRacial-Timeline.pdf

While the language used to identify race and ethnicity varies by data source, this report primarily uses the race and ethnicity categories as currently defined by IPEDS. In doing so, the report identifies individuals as "Hispanic or Latino" if they reported being of Hispanic or Latino origin, regardless of race. We also refer to students identified as nonresident aliens as "international students and faculty." The racial and ethnic categories used throughout the report are defined below:

American Indian or Alaska Native: A person having origins in any of the original peoples of North and South America (including Central America) who maintains cultural identification through tribal affiliation or community attachment.

Asian: A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian Subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Black or African American: A person having origins in any of the Black racial groups of Africa.

Hispanic or Latino: A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

Native Hawaiian or other Pacific Islander: A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

White: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Two or more races: Category used by institutions to report persons who selected more than one race.

International students and faculty: A person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely. This is the IPEDS category "nonresident alien."

Gender

Throughout this report data are disaggregated by gender. This report uses the gender terms of "men" and "women" rather than the sex terms of "male" and "female." While the authors recognize gender to be a complex construct with psychological, social, and behavioral dimensions, the analysis presented in this report is bound by the limitations in the data collected by federal agencies such as the U.S. Census Bureau and the U.S. Department of Education. As a result, many other identities associated with gender, including transgender and gender non-conforming, could not be addressed in this report.

Higher Education Institutions

In this report, higher education was broadly defined as any formal education beyond high school offered at public and private, nonprofit and for-profit colleges and universities. Higher education institutions were defined exclusively as colleges and universities that are degree-granting, located in the 50 states, the District of Columbia, or Puerto Rico, and eligible to receive Title IV federal funds. The term sector is used throughout the report to describe both the control of an institution and the most common type of award it confers.[2] Throughout this report, institutions were classified into one of four sectors based on their control and the length of the predominant credential awarded. Those categories are defined below:

Public Four-Year Institutions: Colleges or universities whose programs and activities are operated by publicly elected or appointed school officials and which are supported primarily by public funds. More than 50 percent of the total number of degrees and certificates awarded by these institutions are at or above the bachelor's level. Institutions that confer only graduate degrees with no undergraduate programs were also included here.

2 The choice to classify institutions this way, rather than by the length of the longest program offered, was made in order to more accurately classify community colleges that award a small number of bachelor's degrees. Because these institutions award predominantly associate degrees and certificates, in this report, they are classified as two-year institutions and not four-year institutions.

Private Nonprofit Four-Year Institutions: Colleges or universities in which the individual(s) or agency in control receives no compensation, other than wages, rent, or other expenses for the assumption of risk. More than 50 percent of the total number of degrees and certificates awarded by these institutions are at or above the bachelor's level. Institutions that confer only graduate degrees with no undergraduate programs were also included here.

Public Two-Year Institutions: Colleges or universities whose programs and activities are operated by publicly elected or appointed school officials and which are supported primarily by public funds. A college or university was classified as being a two-year institution if it (1) offers only associate degrees and other postsecondary certificates, awards, or diplomas of less than four academic years or (2) less than 50 percent of the total number of degrees and certificates awarded by the institution are at or above the bachelor's level.

For-Profit Institutions: Colleges or universities in which the individual(s) or agency in control receives compensation other than wages, rent, or other expenses for the assumption of risk. These institutions are degree-granting and may offer both undergraduate and graduate credentials.

In addition to the categories above, Chapter 4's examination of sub-baccalaureate certificate completions also included non-degree-granting institutions. For inclusion in the analyses, the institutions had to also be located in the 50 states, the District of Columbia, or Puerto Rico, and be eligible to receive Title IV federal funds.

Postsecondary Credentials

This report examined completion and related outcomes for students who earned one of six different postsecondary awards. Drawing from the U.S. Department of Education's definitions, the six postsecondary credentials are:

Sub-baccalaureate Certificate: An award that requires completion of an organized program of study at the postsecondary level, below the bachelor's degree. Program lengths vary but can range from those that are typically less than one year; those that are more than one year, but less than two years; and those that are more than two years, but less than four years.

Associate Degree: An award that normally requires at least two but less than four years of full-time equivalent college work.

Bachelor's Degree: An award that normally requires at least four but not more than five years of full-time equivalent college-level work.

Master's Degree: An award that requires the successful completion of a program of study of at least the full-time equivalent of one but not more than two academic years beyond the bachelor's degree.

Professional Degree: A doctor's degree that is conferred upon completion of a program providing the knowledge and skills for the recognition, credential, or license required for professional practice. Some examples include law (JD), medicine (MD), veterinary medicine (DVM), pharmacy (PharmD), and others, as designated by the awarding institution.

Doctoral Degree: A PhD or other doctor's degree that requires advanced work beyond the master's level, including the preparation and defense of a dissertation based on original research, or the planning and execution of an original project demonstrating substantial artistic or scholarly achievement. Some examples include doctor of education (EdD), doctor of business administration (DBA), doctor of science (DSc) and others, as designated by the awarding institution.

Fields of Study

The Classification of Instructional Programs (CIP) provides a taxonomic scheme that supports the accurate tracking and reporting of fields of study and program completions activity. CIP was originally developed by the U.S. Department of Education's NCES in 1980, with revisions occurring in 1985, 1990, 2000, and 2010. In this report, the 2010 CIP was used in two principal ways. First, CIP codes were used to organize the academic program completions data from IPEDS into fields of study. In Chapter 4, CIP codes were also used to organize sub-baccalaureate completions into one of 16 different career clusters using the National Career Clusters Framework and crosswalk. Additional details about fields of study can be found in Chapters 3 and 4.

Notes on Interpreting the Data

This study presents a descriptive analysis of key data to provide readers with an in-depth picture of the educational journeys of students disaggregated by race and ethnicity. Descriptive analysis is used to describe or summarize data and to identify meaningful patterns. While descriptive analysis can provide important insights into data, it cannot be used to explain why a pattern may or may not exist. It is important to note that this study **does not discuss causality and readers should not interpret our findings as being causal.**

Furthermore, much of the data analyzed in this study come from complex surveys that rely on complex survey weights to make the data representative of the populations of interest (e.g., the United States, all students enrolled in undergraduate education). Data derived and presented from ATES, BPS, HSLS, NAEP, and NPSAS are weighted estimates. As a result, some estimates in the report were flagged as "unstable" and others could not be reported at all due to small sample sizes.[3] Data were flagged or suppressed most frequently when multiple levels of disaggregation were presented, particularly among American Indian or Alaska Native and Native Hawaiian or other Pacific Islander groups.

3 Throughout the report, NCES data reporting guidelines were followed to suppress cases with too few respondents and to flag estimates as unstable when the standard error represented more than 30 percent of a given estimate.

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