

LINDSAY DAUGHERTY

The Credentials Students Earn Beyond a High School Diploma

For many Americans, the term *postsecondary education* conjures up images of a bachelor's degree, often earned by a student who enrolls in college right after high school, with experiences that might include dorms, football games, and fraternity parties. But, in fact, there is a much wider variety of postsecondary education and training experiences in the United States that are helping prepare individuals for the workforce and provide pathways to the middle class. Many training and education experiences result in postsecondary credentials, and these credentials range from industry certifications and apprenticeship certificates to graduate degrees. The population of individuals receiving these postsecondary credentials is also diverse, though demographic differences in who earns these credentials persist.

What types of postsecondary education and training credentials are individuals in the United States earning? And who is earning these postsecondary credentials? This Perspective describes the different types of postsecondary credentials being earned and the demographic characteristics of individuals earning them.

What Types of Postsecondary Credentials Can Individuals Earn?

Each year, millions of postsecondary credentials are awarded to individuals in the United States who complete education and training beyond a high school diploma (or equivalent). These credentials often signify completion of some type of education or training program and provide information to employers about the knowledge, skills, and abilities that individuals hold.

Next, we provide an overview of four common types of postsecondary credentials.

Degrees

Degrees are awarded by accredited colleges and universities. *Bachelor's degrees* are the most commonly awarded; requirements include coursework that typically requires full-time enrollment of four years and completion of both general education coursework and specialized coursework in a major field of study. *Associate degrees* are awarded for the completion of two years of coursework, with some requiring general education coursework (e.g., transfer degrees) and others focused on more applied coursework. Finally, individuals are awarded *graduate degrees* for more advanced coursework that is completed after a bachelor's degree, typically requiring one to four additional years of coursework. Degrees at all levels are awarded in a wide range of fields, including science, liberal arts, and business. Many colleges award applied degrees (e.g., Associate or Bachelor of Applied Science) for technical fields in addition to the more traditional degree fields (e.g., Bachelor of Arts, Bachelor of Science).

Educational Certificates

Many two-year colleges and some universities offer credit-bearing *educational certificates*, which require somewhat less coursework than a degree. Educational certificates are more narrowly focused on education and training to prepare an individual for a specific occupation or profession and are also categorized according to classification of instructional program codes. Certificates are commonly classified in three ways, according to length of study: *short-term* (requiring less than one year of undergraduate coursework), *long-term* (requiring one to two years of undergraduate coursework), and *graduate* (varying in length from weeks to two years).

Many education and training institutions also offer *noncredit certificates* that identify individuals who have completed coursework that does not award college credit toward the certificates and degree programs. These programs are often funded and provided separately. Noncredit certificate programs can range in length from a few weeks (e.g., coding bootcamps) to a year for programs that look similar to short-term credit-bearing certificates. Noncredit educational certificates are provided by a wide variety of organizations that include technical and community colleges and training and employment centers. There is also a wide variety of noncredit training opportunities that do not result in a credential.

Industry Certifications and Licenses

Industry certifications and *licenses* provide recognition that an individual has met certain standardized criteria for work in a particular industry or occupation. To earn *industry-recognized credentials*, applicants are often

assessed against specified criteria. Assessments include exams, portfolios of work products, and other means that can help determine an individual's relevant knowledge, skills, and abilities. Holders of industry certifications and licenses often must continue to demonstrate that they meet these criteria periodically to maintain the credential.

Industry credentials are developed and awarded by third-party standard-setting organizations (e.g., professional associations) rather than educational institutions, and state licensing agencies are typically responsible for setting licensing requirements. However, credit and non-credit educational programs are often designed to prepare students for industry certifications and licenses, so there may be overlap in the information that different credentials provide about an individual's preparation for a job. Some industry certifications and licenses require individuals to have completed educational coursework (e.g., a certified public accountant (CPA) must have a bachelor's degree).

Apprenticeships

Apprenticeships combine classroom instruction with on-the-job training and typically result in an industry-recognized credential. Employers are the lead organizations responsible for identifying and hiring apprentices, but they often partner with postsecondary education and training institutions to deliver college coursework and award college credit for this coursework. The U.S. Department of Labor (DOL) sets standards for and funds many of the apprenticeships in the United States through the Registered Apprenticeship program. The program typically requires a minimum of one year of on-the-job learning and recommends 144 hours of classroom learning,

though the length of apprenticeship and the specific course and on-the-job training requirements vary across different opportunities.¹ Apprenticeships are offered in a wide range of fields, including health care, information technology, and advanced manufacturing. In 2019, there were more than 25,000 active Registered Apprenticeship programs across the country.²

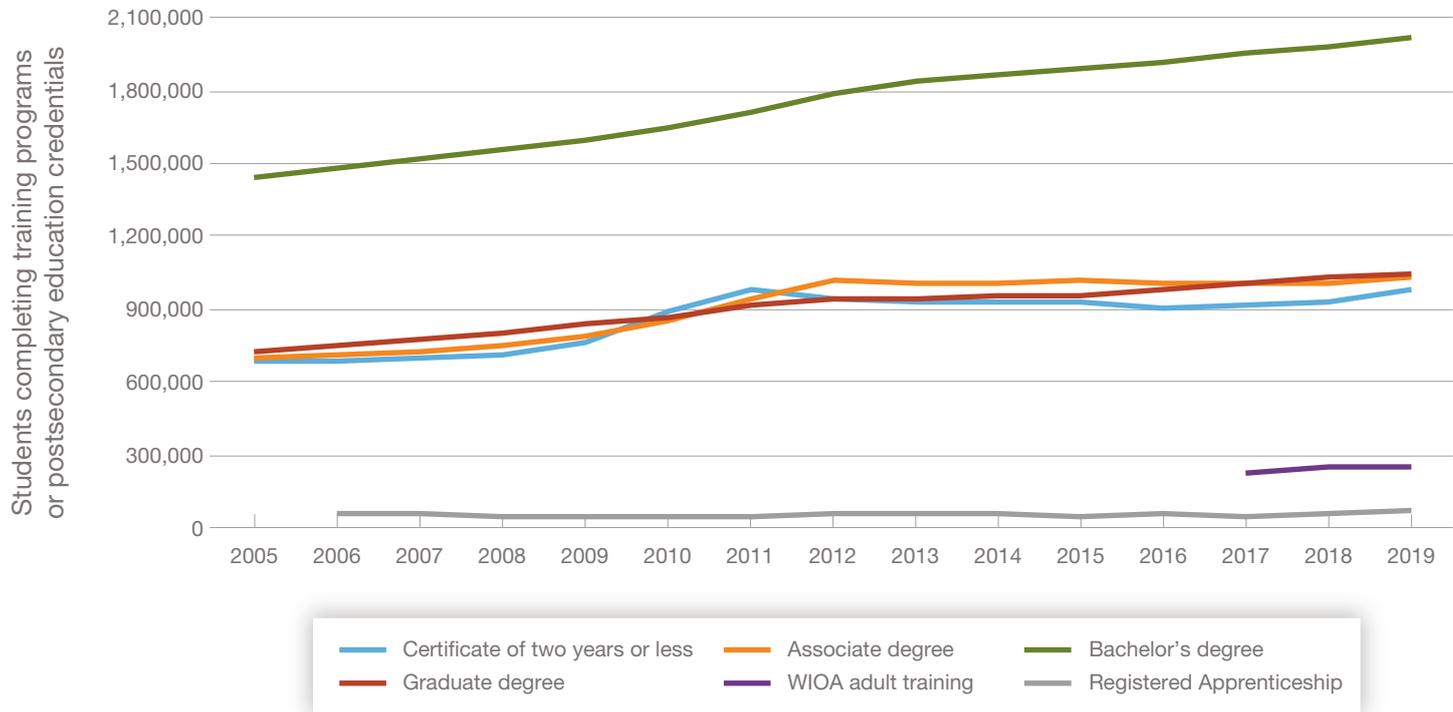
How Frequently Are Different Types of Postsecondary Credentials Earned by Individuals in the United States?

There are several ways to characterize the role of postsecondary credentials in U.S. education and training. We look first at the number of credentials awarded and then turn to the educational attainment of adults in the population. Additional detail on recent trends in postsecondary attainment is provided in a companion RAND Corporation Perspective, *Trends in Postsecondary Education*.³

Education and training institutions in the United States award millions of postsecondary credentials each year. Figure 1 presents data on postsecondary education credentials awarded from the U.S. Department of Education and participants in common training programs overseen by the DOL. According to the National Center for Education Statistics (NCES), bachelor's degrees were the most commonly awarded postsecondary education credentials (more than two million in 2018–2019). Approximately one million credentials were awarded each at the graduate degree, associate degree, and certificate levels.⁴ Growth in bachelor's and graduate degrees has been relatively contin-

FIGURE 1

Individuals Completing Postsecondary Education Credentials and Completing Common Training Programs



SOURCES: Data on educational credentials are compiled by the author from NCES, undated; data on apprenticeships are from DOL, undated; and data on Workforce Investment and Opportunity Act (WIOA) adult training are from DOL, 2020; DOL, 2019a; and DOL, 2018.

NOTES: Years represent the year associated with the end of the reporting period (i.e., 2019 indicates academic or program years that run 2018–2019). Lines represent the number of individuals completing education and training and receiving a credential, with the exception of the WIOA line. WIOA data include all training participants for both the adult and dislocated workers programs, which only a portion completed and from which only some may have earned a credential. Comparable data on WIOA training prior to 2017 were not available.

uous over the past 15 years, while growth in shorter-term educational credentials accelerated during the period of the Great Recession and has since plateaued.

The WIOA is the most prominent federal workforce training initiative in the United States. Figure 1 indicates

that in recent years, WIOA provided training to approximately 250,000 adults annually through its adult training and dislocated workers programs.⁵ Not all of the individuals receiving WIOA training complete it. Further, only 63 percent of those who complete the program earn a cre-

dential; recent data suggest that approximately 50,000 individuals received credentials from WIOA training annually.⁶ The credentials earned through WIOA training are typically industry certifications and licenses or noncredit educational certificates. While comparable data prior to 2017 were not available, a 2019 DOL report suggests that the size of the initiative peaked in 2009 at nearly 600,000 individuals trained after climbing from fewer than 200,000 participants in the years prior to 2008.⁷

The Registered Apprenticeship program reported approximately 80,000 completers annually.⁸ Apprenticeship completers receive a nationally recognized Certificate of Completion from the DOL.

There are no comparable federal data collected on the number of industry certifications and licenses that are awarded each year. However, to get a sense of how many individuals earn these certifications, we can examine two of the most commonly required certifications and licenses in U.S. job postings: CPA and Automotive Service Excellence (ASE) Certificate.⁹ According to available data, there were nearly 660,000 actively licensed CPAs in the United States, while there were just over 57,000 individuals with active entry-level ASE certification.¹⁰

Nationally representative surveys offer another source of information on the role of postsecondary credentials in U.S. education and training, documenting the percentage of adults over the age of 25 holding different types of credentials. Nearly two-thirds of adults earned some sort of postsecondary education. Specifically, 10 percent of adults had earned an associate degree, 23 percent had earned a bachelor's degree, and 14 percent had earned a graduate degree. The remaining 16 percent reported some college but no degree, a group that may have included individu-

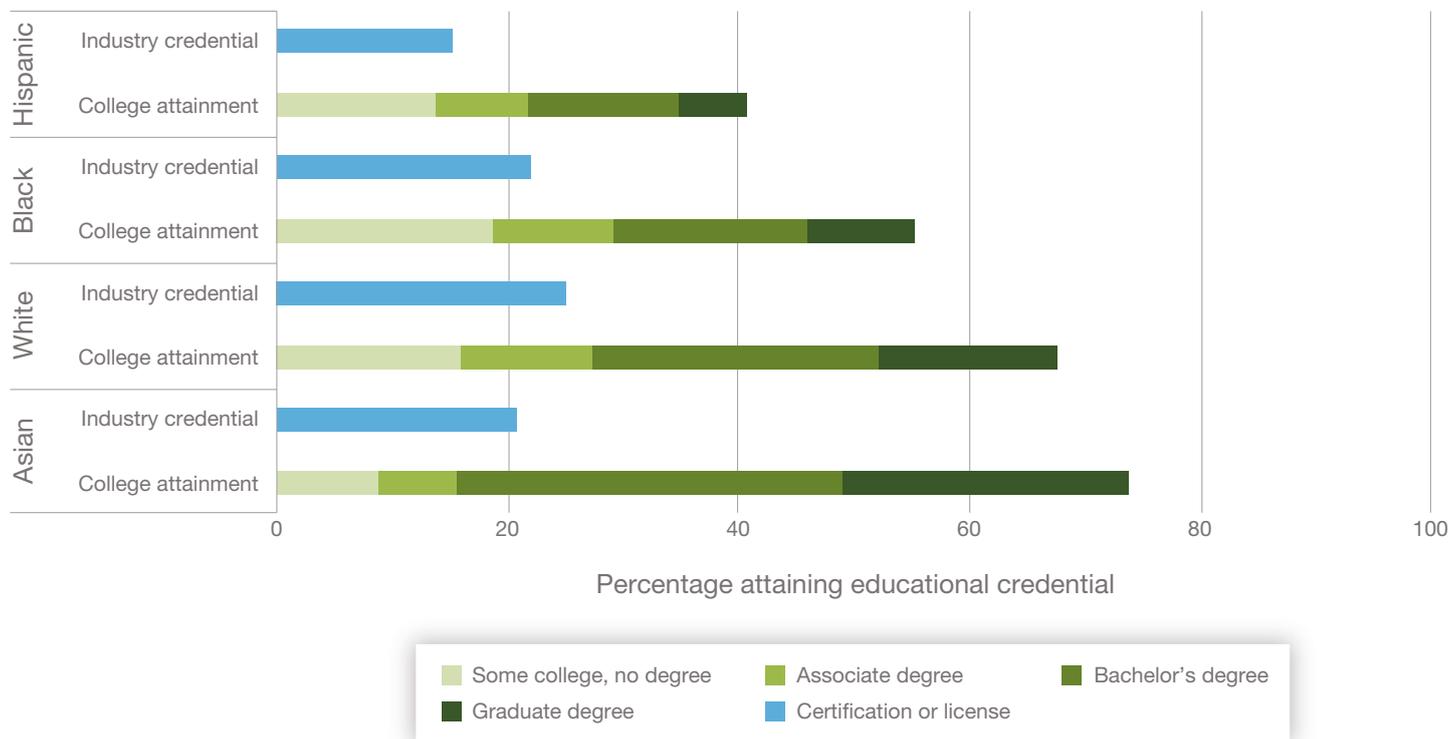
als with an educational certificate, those with industry credentials, and those who completed some coursework without earning a credential.¹¹ National data indicate that 17 percent of adults reported holding a license, and an additional 2 percent hold a certification without a license.¹² Individuals with at least a bachelor's degree were more likely to hold a license or certification than those without a bachelor's degree.¹³

Who Is Earning Postsecondary Credentials?

The population of individuals who seek postsecondary education and training in the United States is diverse. Consider the population of students who enrolled in degree-granting postsecondary institutions in 2017: Twenty-seven percent of enrollees were over the age of 25,¹⁴ and 45 percent of enrollees came from racial and ethnic minority groups.¹⁵ Approximately 5 percent of all enrollees in degree-granting institutions were foreign students.¹⁶

Yet significant disparities exist in U.S. postsecondary attainment by race and ethnicity. Figure 2 indicates that approximately 67 percent of White adults and 74 percent of Asian adults reported having some type of postsecondary education, compared with 55 percent of Black adults and about 40 percent of Hispanic adults.¹⁷ Disparities were most prominent at the bachelor's and graduate degree levels, with 40 percent of White adults and 58 percent of Asian adults earning at least a four-year degree, compared with 26 percent of Black adults and 18 percent of Hispanic adults. White adults in the United States were also more likely to earn licenses and certifications (26 percent) rela-

FIGURE 2
Percentage Earning Postsecondary Credentials, by Race and Ethnicity



SOURCES: Data on educational attainment were obtained from U.S. Census Bureau, 2020a. Data on certifications and licenses were obtained from U.S. Bureau of Labor Statistics, undated.

NOTES: College attainment bars indicate the percentage of adults ages 25 and older reporting that they received some postsecondary education, with shading to indicate highest level of education received. Industry credential bars represent the percentage of adults ages 16 and older reporting that they currently hold a certification or license. Many individuals are represented in both bars; they hold postsecondary degrees *and* industry certifications or licenses.

tive to Asian, Black, and Hispanic adults (21 percent, 22 percent, and 16 percent, respectively).¹⁸

The data in Figure 2 do not allow us to examine the racial and ethnic characteristics of individuals who earned educational certificates of two years or less, as these indi-

viduals are grouped into the “some college” category with individuals who dropped out of college without a credential. We can turn to data from the U.S. Department of Education to examine who is completing short-term educational certificates of two years or less. As of 2019, 53 per-

cent of individuals residing in the United States between the ages of 18 and 24 reported their race and ethnicity as White, non-Hispanic.¹⁹ White individuals were overrepresented among those earning bachelor's degrees (65 percent) but were not overrepresented among those earning a certificate of two years or less (53 percent).²⁰

Data on educational attainment by sex indicate that women now outpace men at every level of postsecondary education. Nearly 37 percent of women reported earning at least a bachelor's degree, compared with 35 percent of men.²¹ Women were also more likely to report an associate degree (11.2 percent versus 9.5 percent) and slightly more likely to report some college, no degree (15.8 percent versus 15.5 percent).²² Approximately 30 percent of women over the age of 24 reported holding a certification or license, compared with just 23 percent of men.²³

Implications for Further Data Collection and Research

This Perspective highlights the wide range of education and training credentials that individuals in the United States can earn beyond a high school diploma. We documented the numbers and characteristics of individuals completing these different types of credentials. These analyses highlighted several takeaways regarding public data on postsecondary credentials and future areas for research.

1. *More consistent and robust data collection across different types of education and training credentials would be valuable.* Data on credential awarding from the U.S. Department of Education and DOL were not consistent. We faced particular challenges accessing high-quality public data on credentials earned through DOL programs,

White individuals were overrepresented among those earning bachelor's degrees (65 percent) but were not overrepresented among those earning a certificate of two years or less (53 percent).

including broken links to historical data reports, webpage data sources that may lack permanence, inconsistencies in reporting across years and programs, and a lack of information on the demographic characteristics of credential-earners. Federal data on industry certifications and licenses awarded annually were not available. National surveys about educational credentials are also limited in that they do not ask about educational certificates (instead grouping these certificate-earners with college dropouts under the "some college" category), despite one million of these credentials being awarded in the United States each year.

2. *Additional research on whether and how individuals combine different types of credentials could be valuable.* Some individuals may be earning multiple credentials throughout their careers, and it would be valuable to understand more about how individuals earn and combine

credentials (e.g., what types and fields, when in careers, where earned).

3. *Additional work is needed around issues of racial and ethnic equity.* More research is needed to understand why Black and Hispanic students are underrepresented among

Notes

- ¹ Apprenticeship.gov, undated.
- ² DOL, undated.
- ³ Mulhern and Zaber, 2021.
- ⁴ NCES, undated.
- ⁵ DOL, 2020; DOL, 2019a; DOL, 2018.
- ⁶ DOL, 2020.
- ⁷ DOL, 2019b.
- ⁸ DOL, undated.
- ⁹ Burning Glass Technologies, 2017.
- ¹⁰ National Association of State Boards of Accountancy, 2020; National Institute for Automotive Service Excellence, undated.
- ¹¹ U.S. Census Bureau, 2020a.
- ¹² U.S. Bureau of Labor Statistics, undated.
- ¹³ U.S. Bureau of Labor Statistics, undated.
- ¹⁴ NCES, 2019a.
- ¹⁵ NCES, 2019b.
- ¹⁶ NCES, 2018.
- ¹⁷ U.S. Census Bureau, 2020b.
- ¹⁸ U.S. Bureau of Labor Statistics, undated.
- ¹⁹ U.S. Census Bureau, 2020b.
- ²⁰ NCES, 2017a; NCES, 2017b.

those earning degrees and industry licenses and certifications, what aspects of the education and training system may be driving inequity, and what policies and programs are effective in achieving equity.

²¹ U.S. Census Bureau, 2020a.

²² U.S. Census Bureau, 2020a.

²³ U.S. Bureau of Labor Statistics, undated.

References

Apprenticeship.gov, “Program Comparison: Design Your Apprenticeship Program,” webpage, U.S. Department of Labor, undated. As of March 18, 2021:
<https://www.apprenticeship.gov/employers/program-comparison>

Burning Glass Technologies, *The Narrow Ladder: The Value of Industry Certifications in the Job Market*, Boston, Mass., October 2017. As of February 9, 2021:
https://www.burning-glass.com/wp-content/uploads/BurningGlass_certifications_2017.pdf

DOL—See U.S. Department of Labor.

Mulhern, Christine, and Melanie A. Zaber, *Trends in Postsecondary Education*, Santa Monica, Calif.: RAND Corporation, PE-A1141-2, 2021. As of March 18, 2021:
<https://www.rand.org/pubs/perspectives/PEA1141-2.html>

National Association of State Boards of Accountancy, *NASBA 2020 Annual Report: Resilience*, Nashville, Tenn., October 2020. As of February 9, 2021:
<https://nasba.org/app/uploads/2020/10/NASBAAnnualReport2020WEB-1.pdf>

National Center for Education Statistics, “Completions Component Final Data (2001-02–2017-18) and Provisional Data (2018-19),” Integrated Postsecondary Education Data System, webpage, undated. As of February 8, 2021:
<https://nces.ed.gov/ipeds/TrendGenerator/app/trend-table/4/24?trending=row&cid=33>

———, “Table 322.20. Bachelor’s Degrees Conferred by Postsecondary Institutions, by Race/Ethnicity and Sex of Student: Selected Years, 1976–77 Through 2015–16,” 2017 Digest of Education Statistics, webpage, August 2017a. As of February 11, 2021: https://nces.ed.gov/programs/digest/d17/tables/dt17_322.20.asp?referer=raceindicators

———, “Table 320.20. Certificates Below the Associate’s Degree Level Conferred by Postsecondary Institutions, by Race/Ethnicity and Sex of Student: 1998–99 Through 2015–16,” 2017 Digest of Education Statistics, webpage, August 2017b. As of February 11, 2021: https://nces.ed.gov/programs/digest/d17/tables/dt17_320.20.asp?referer=raceindicators

———, “Table 310.20. Foreign Students Enrolled in Institutions of Higher Education in the United States, by Continent, Region, and Selected Countries of Origin: Selected Years, 1980–81 Through 2017–18,” 2019 Digest of Education Statistics, webpage, December 2018. As of February 4, 2021: https://nces.ed.gov/programs/digest/d18/tables/dt18_310.20.asp

———, “Table 303.50. Total Fall Enrollment in Degree-Granting Postsecondary Institutions, by Level of Enrollment, Control and Level of Institution, Attendance Status, and Age of Student: 2017,” 2019 Digest of Education Statistics, webpage, September 2019a. As of February 4, 2021: https://nces.ed.gov/programs/digest/d19/tables/dt19_303.50.asp

———, “Table 306.60. Total Fall Enrollment in Degree-Granting Postsecondary Institutions, by Race/Ethnicity or Nonresident Alien Status of Student and State or Jurisdiction: 2018,” 2019 Digest of Education Statistics, webpage, September 2019b. As of February 4, 2021: https://nces.ed.gov/programs/digest/d19/tables/dt19_306.60.asp?current=yes

National Institute for Automotive Service Excellence, “Statistics: Take a Closer Look at ASE Certified Professionals and Their Specialties,” webpage, undated. As of February 9, 2021: <https://www.ase.com/statistics>

NCES—See National Center for Education Statistics.

U.S. Bureau of Labor Statistics, “Household Data Annual Averages: Certification and Licensing Status of Employed Persons 16 Years and over by Selected Characteristics, 2020, Annual Averages,” database, undated. As of February 9, 2021: <https://www.bls.gov/cps/cpsaat51.pdf>

U.S. Census Bureau, “Educational Attainment in the United States: 2019. Table 3. Detailed Years of School Completed by People 25 Years and over by Sex, Age Groups, Race and Hispanic Origin: 2019,” Current Population Survey, database, March 30, 2020a. As of February 18, 2021: <https://www.census.gov/data/tables/2019/demo/educational-attainment/cps-detailed-tables.html>

———, 2019 Population Estimates by Age, Sex, Race, and Hispanic Origin: “Table NC-EST2019-ASR6H. Annual Estimates of the Resident Population by Sex, Age, Race, and Hispanic Origin for the United States: April 1, 2010 to July 1, 2019,” Current Population Survey, webpage, June 25, 2020b. As of February 18, 2021: <https://www.census.gov/newsroom/press-kits/2020/population-estimates-detailed.html>

U.S. Department of Labor, “Registered Apprenticeship National Results Fiscal Year 2019: 10/01/2018 to 9/30/2019,” webpage, undated. As of February 8, 2021: <https://www.dol.gov/agencies/eta/apprenticeship/about/statistics>

———, *PY 2016 WIOA National Performance Summary*, Washington, D.C., April 17, 2018. As of February 19, 2021: <https://www.dol.gov/agencies/eta/performance/results/annual-results>

———, *PY 2017 WIOA National Performance Summary*, Washington, D.C., April 24, 2019a. As of February 19, 2021: https://www.doleta.gov/Performance/Results/AnnualReports/PY2019/WIOA-PY-2017-National-Summary-ETA-9169v4-REVISED-4_24_19.pdf

———, *WIOA Title I and III National Performance Summary Program Year 2017 (July 1, 2017 through June 30, 2018)*, Washington, D.C., May 1, 2019b. As of February 8, 2021: https://www.doleta.gov/Performance/Results/AnnualReports/PY2019/WIOA-PY2017-Performance-Narrative-3_15_19-REVISED-3_25_19.pdf

———, *PY 2018 WIOA National Performance Summary*, Washington, D.C., March 27, 2020. As of February 19, 2021: <https://www.doleta.gov/Performance/Results/AnnualReports/PY2018/PY-2018-WIOA-National-Performance-Summary-3.27.2020.pdf>

About This Perspective

Individuals in the United States can pursue a variety of different types of postsecondary education credentials. This Perspective describes four common types: degrees, certificates, industry certifications and licenses, and apprenticeships. Bachelor's degrees are the most commonly awarded postsecondary credential in the United States (approximately two million each year), though at least one million each of associate degrees, graduate degrees, and certificates are also awarded annually. Programs such as apprenticeships and dislocated worker programs also provide training to hundreds of thousands of adults each year, and these programs often result in industry-recognized credentials. In national surveys, 47 percent of Americans report holding some type of degree, and approximately 20 percent report holding a license or certification. While those earning postsecondary credentials are diverse, disparities by race and ethnicity remain. White individuals are more likely to have earned bachelor's and graduate degrees and more likely to hold licenses and certifications relative to Black and Hispanic individuals. Women are slightly more likely to earn postsecondary education credentials of all types relative to men.

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RAND Lowy Family Middle-Class Pathways Center

This research was conducted within the RAND Lowy Family Middle-Class Pathways Center. The center aims to identify ways to create and sustain middle-class employment in the face of rapidly changing labor-market conditions. The center is part of RAND Education and Labor, a division of the RAND Corporation that conducts research on early childhood through postsecondary education programs, workforce development, and programs and policies affecting workers, entrepreneurship, and financial literacy and decisionmaking.

For more information about the RAND Lowy Family Middle-Class Pathways Center, visit www.rand.org/mcpc. For more information on RAND Education and Labor, visit www.rand.org/education-and-labor.

About the Author

Lindsay Daugherty is a senior policy researcher at the RAND Corporation. Her work focuses on building effective education and training pathways to support student academic success and improve employment outcomes. For example, she is leading research in partnership with the Ohio Department of Higher Education that examines how students are progressing through “stackable credential” programs in health care, manufacturing, and information technology and the employment outcomes they experience.

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