

Teacher Openings in Elementary and Secondary Schools

Generally, among public and private schools with open teaching positions in particular subject-matter fields, higher percentages of schools reported having difficulties filling these openings in 2020–21 than in 2011–12. For instance, 40 percent of public schools hiring for open teaching positions in special education in 2020–21 reported having difficulties filling the opening, compared with 17 percent in 2011–12.

This indicator presents data related to the supply of teachers in U.S. elementary and secondary schools. First, using data from the School Pulse Panel (SPP) and the National Teacher and Principal Survey (NTPS), this indicator examines the extent to which elementary and secondary schools experience challenges in filling open teaching positions. Then, this indicator uses data reported through *Title II of the Higher Education Act of 1965* to lend context to current staffing-related challenges—providing information on changes over time in the number of individuals enrolling in and completing teacher preparation programs.

This indicator shows that in 2020–21, in general, higher percentages of public and private schools reported difficulties filling open teaching positions than in 2011–12. Between 2012–13 and 2019–20, the number of persons enrolled in and completing traditional teacher preparation programs decreased.

Current Staffing Challenges in Public Schools

In the SPP August 2022 survey,¹ 53 percent of public schools reported feeling that their school was understaffed entering the 2022–23 school year. Among these schools,

- 65 percent reported being understaffed in special education teachers;
- 45 percent reported being understaffed in general elementary teachers; and
- 15 to 34 percent reported being understaffed in other subject areas.

Forty-nine percent of public schools reported that not being able to fill vacant teaching positions since the start of the coronavirus pandemic was a contributing factor to

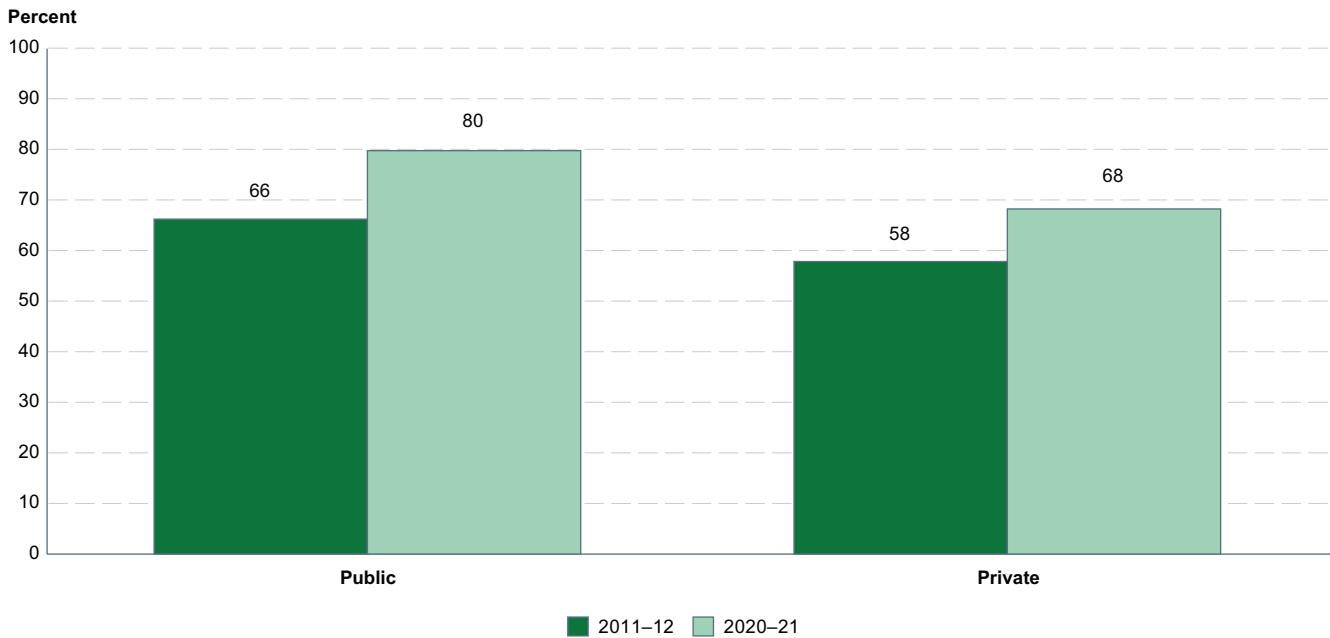
being understaffed. Two of the most commonly reported challenges in filling vacancies were too few candidates applying for open teaching positions (70 percent) and a lack of qualified candidates applying for open teaching positions (64 percent). In October 2022, after the 2022–23 school year started, 44 percent of public schools reported having one or more vacant teaching positions.²

While these data show real and/or perceived struggles with school staffing for the 2022–23 school year, they do not allow for prepandemic comparisons. Data from the Current Population Survey (CPS) show that the unemployment rate for those with education, training, and library occupations³ was 2.7 percent in 2022 and 2.9 percent in 2019.⁴ These unemployment rates indicate a tight labor market, or limited supply of workers, in education, training, and library occupations that predates the start of the coronavirus pandemic. In the following sections, this indicator examines teacher supply over time.

Public and Private Schools Hiring for Open Teaching Positions

Data from the 2020–21 NTPS, when examined together with data from the 2011–12 Schools and Staffing Survey (SASS), allow for comparisons over time in the percentage of elementary and secondary schools that had open teaching positions. Schools in these studies were surveyed after the start of the school year⁵ and were asked to report all teaching positions for which they hired or were hiring for the current school year, regardless of whether they were able to fill the position or not. An open teaching position in a school may or may not have been filled before the start of the school year.

Figure 1. Percentage of public and private elementary and secondary schools hiring for at least one open teaching position schoolwide: School years 2011–12 and 2020–21



NOTE: Schools were surveyed after the start of the school year and were asked to report all teaching positions for which they hired or were hiring for the current school year, regardless of whether they were able to fill the position or not. An open teaching position in a school may or may not have been filled before the start of the school year.

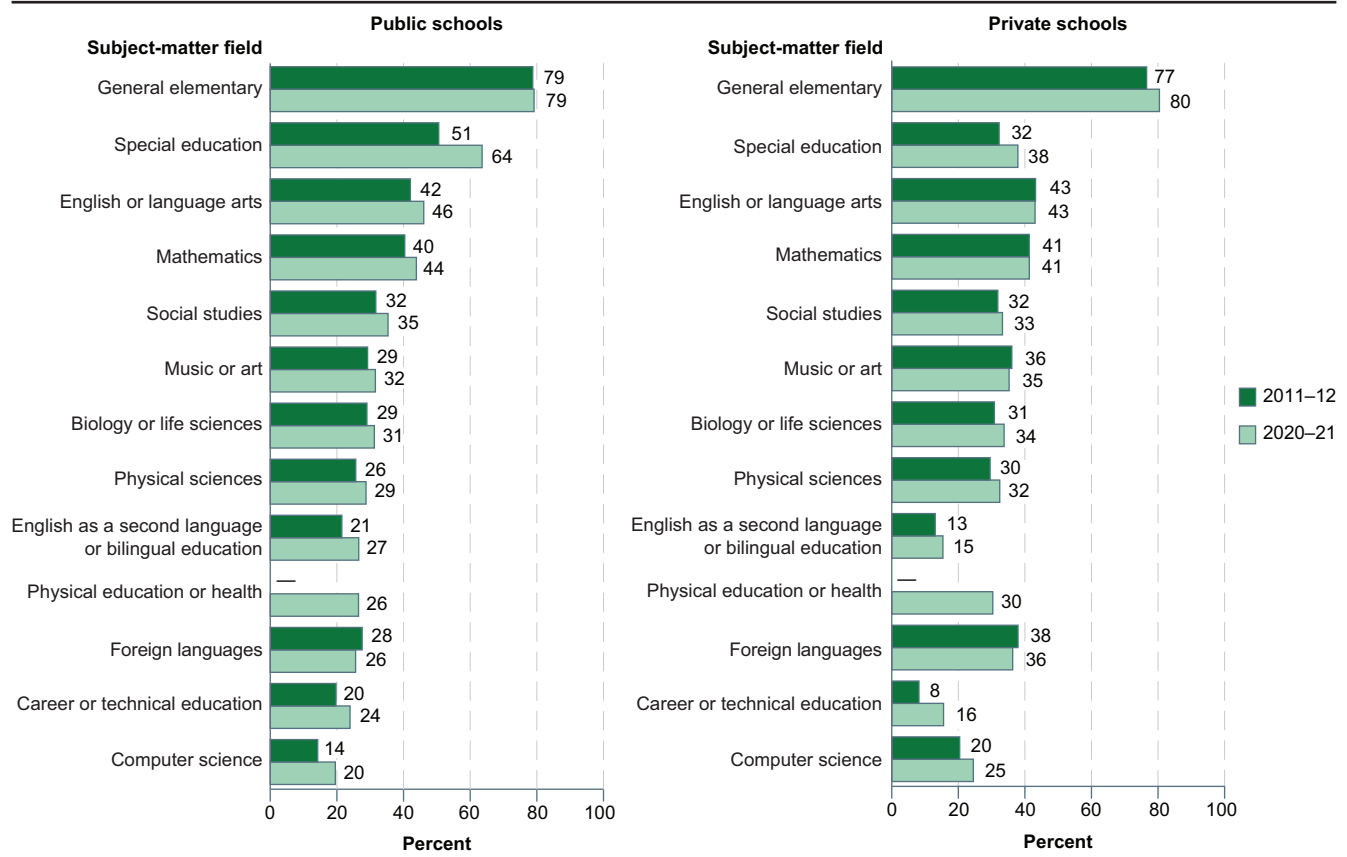
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), “Public School Data File” and “Private School Data File,” 2011–12; and National Teacher and Principal Survey (NTPS), “Public School Data File” and “Private School Data File,” 2020–21. See *Digest of Education Statistics 2022*, table 210.50.

Higher percentages of public and private schools reported hiring for at least one open teaching position schoolwide in 2020-21 than in 2011-12. Specifically, these percentages were

- 80 vs. 66 percent of public schools; and
- 68 vs. 58 percent of private schools.

A higher percentage of public schools than of private schools reported hiring for at least one open teaching position schoolwide in both years.

Figure 2. Among public and private elementary and secondary schools with at least one open teaching position schoolwide, percentage hiring in various subject-matter fields: School years 2011–12 and 2020–21



— Not available.

NOTE: Data refer to the percentage of schools that were hiring for at least one open teaching position in a particular subject-matter field, among schools with at least one opening schoolwide and offering that particular subject. Schools were surveyed after the start of the school year and were asked to report all teaching positions for which they hired or were hiring for the current school year, regardless of whether they were able to fill the position or not. An open teaching position in a school may or may not have been filled before the start of the school year. Although rounded numbers are displayed, the figures are based on unrounded data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), “Public School Data File” and “Private School Data File,” 2011–12; and National Teacher and Principal Survey (NTPS), “Public School Data File” and “Private School Data File,” 2020–21. See *Digest of Education Statistics 2022*, table 210.50.

Among schools hiring for at least one open position schoolwide, it is possible to examine for which subjects these schools were hiring. These data show that the subject-matter fields with the highest level of hiring were similar across public and private schools in 2020-21.

Among public schools with at least one opening schoolwide in 2020-21, more than one-third of schools offering the following subjects reported hiring teachers in the subject-matter field:

- general elementary (79 percent);
- special education (64 percent);
- English or language arts (46 percent);
- mathematics (44 percent); and
- social studies (35 percent).

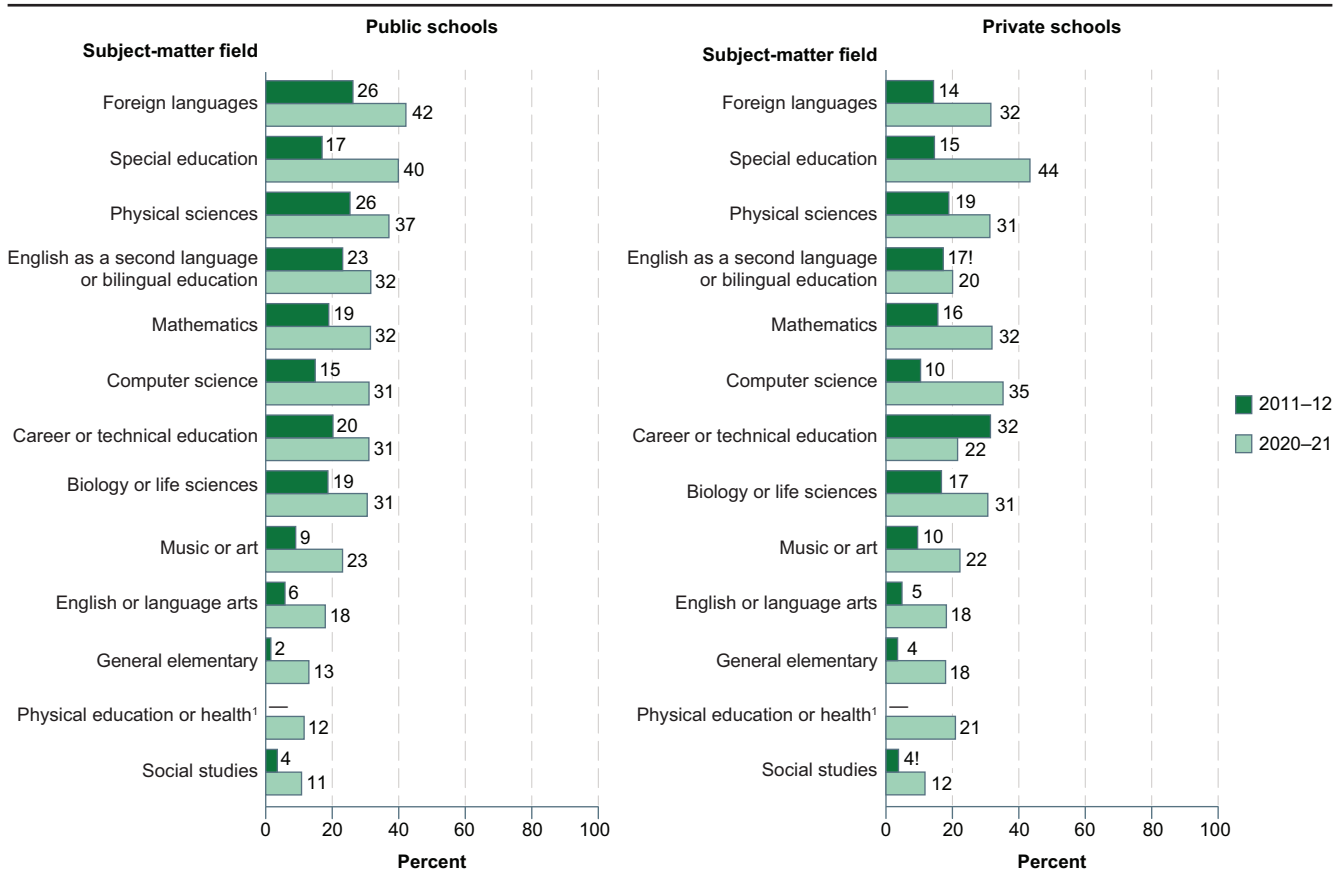
Among private schools with at least one opening schoolwide in 2020-21, more than one-third of schools

offering the following subjects reported hiring teachers in the subject-matter field:

- general elementary (80 percent);
- English or language arts (43 percent);
- mathematics (41 percent); and
- special education (38 percent).

For most subject-matter fields, these percentages reflect higher levels of hiring in 2020-21 than in 2011-12 at public schools, but not at private schools. Among public schools with at least one opening across subject-matter fields schoolwide, higher percentages were hiring for 9 of 12 reported subject-matter fields⁶ in 2020-21 than in 2011-12. For instance, a higher percentage of public schools reported hiring in special education in 2020-21 than in 2011-12 (64 vs. 51 percent). In comparison, among private schools with at least one opening across subject-matter fields schoolwide, there were no measurable differences in 2020-21 compared to 2011-12 for any subject-matter field except career or technical education (16 vs. 8 percent).

Figure 3. Among public and private elementary and secondary schools that were hiring for at least one open teaching position in a specific field, percentage that found it very difficult or were not able to fill the opening, by subject-matter field of opening: School years 2011–12 and 2020–21



— Not available.

¹ Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 and 50 percent.

NOTE: Schools were surveyed after the start of the school year and were asked to report all teaching positions for which they hired or were hiring for the current school year, regardless of whether they were able to fill the position or not. An open teaching position in a school may or may not have been filled before the start of the school year. Although rounded numbers are displayed, the figures are based on unrounded data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), “Public School Data File” and “Private School Data File,” 2011–12; and National Teacher and Principal Survey (NTPS), “Public School Data File” and “Private School Data File,” 2020–21. See *Digest of Education Statistics 2022*, table 210.60.

Public and Private Schools Having Difficulties Filling Open Teaching Positions

Some schools may find it difficult or be unable to fill their open teaching positions (referred to as “having difficulties filling the opening” in this indicator). Among public schools hiring for open teaching positions in each of the 12 reported fields, higher percentages in 2020-21 than in 2011-12 reported having difficulties filling the opening. For instance, 40 percent of public schools hiring for open teaching positions in special education in 2020-21 reported having difficulties filling the opening, compared with 17 percent in 2011-12. Similarly, for 10 of the 12 fields, a higher percentage of private schools in 2020-21 than in 2011-12 reported having difficulties filling the opening in the field.

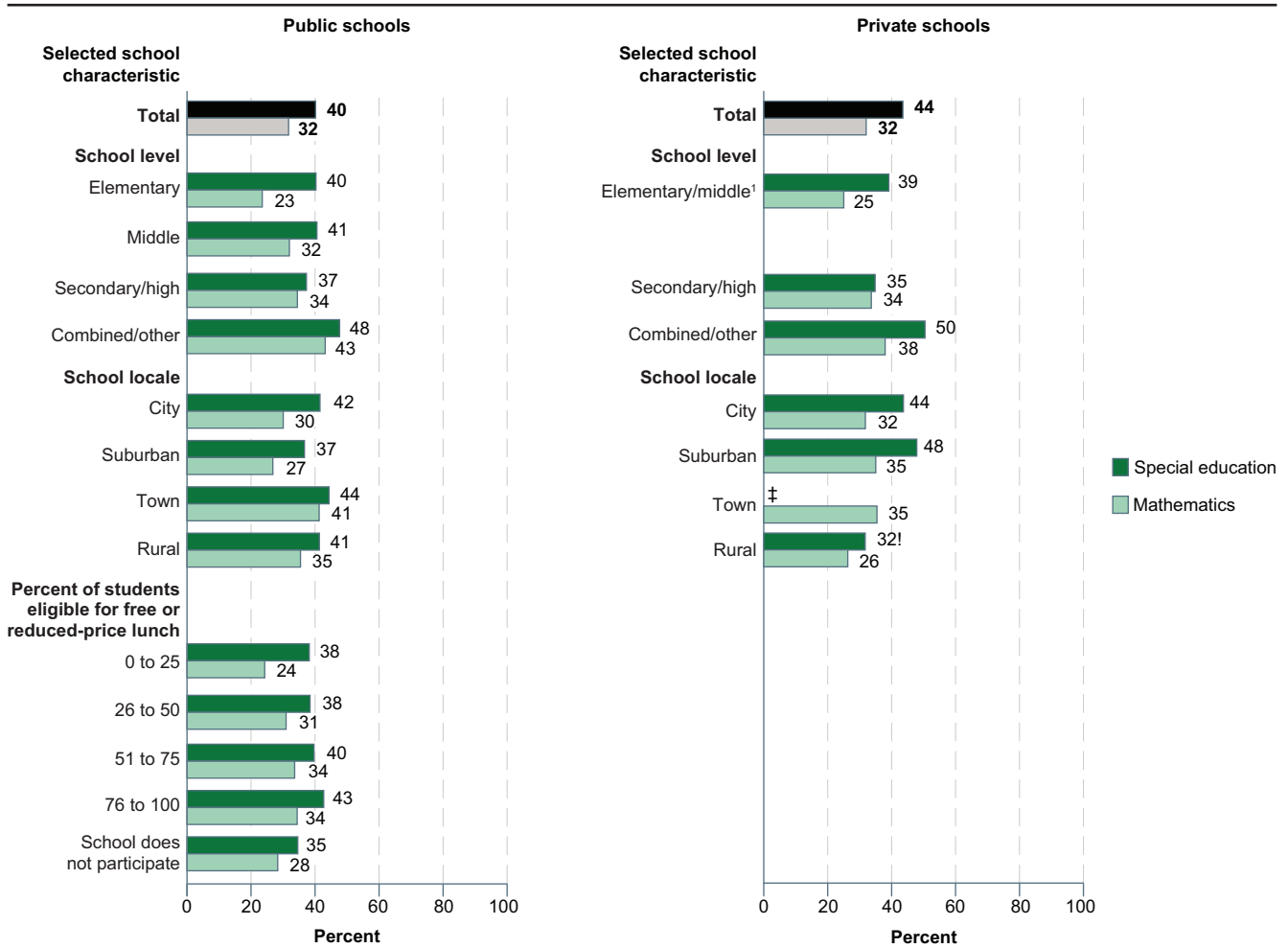
In 2020-21, among schools hiring for open teaching positions in a specific field, more than one-quarter each

of public and private schools reported having difficulties filling the opening in the following fields:

- foreign languages (42 percent of public schools and 32 percent of private schools);
- special education (40 percent of public schools and 44 percent of private schools);
- physical sciences (37 percent of public schools and 31 percent of private schools);
- mathematics (32 percent each of public and private schools); and
- computer science (31 percent of public schools and 35 percent of private schools).

More than one-quarter of public schools with an opening in the subject-matter also reported difficulties filling openings in English as a second language or bilingual education (32 percent), career or technical education (31 percent), and biology or life sciences (31 percent).

Figure 4. Among public and private elementary and secondary schools that were hiring for at least one open teaching position in special education and mathematics, percentage that found it very difficult or were not able to fill the opening, by selected school characteristics: School year 2020–21



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

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

¹ For private schools only, elementary is combined with middle schools for reporting purposes.

NOTE: Schools were surveyed after the start of the school year and were asked to report all teaching positions for which they hired or were hiring for the current school year, regardless of whether they were able to fill the position or not. An open teaching position in a school may or may not have been filled before the start of the school year. Data on the percentage of students eligible for free or reduced-price lunch are not available for private schools. Although rounded numbers are displayed, the figures are based on unrounded data. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), “Public School Data File” and “Private School Data File,” 2020–21. See *Digest of Education Statistics 2022*, table 210.60.

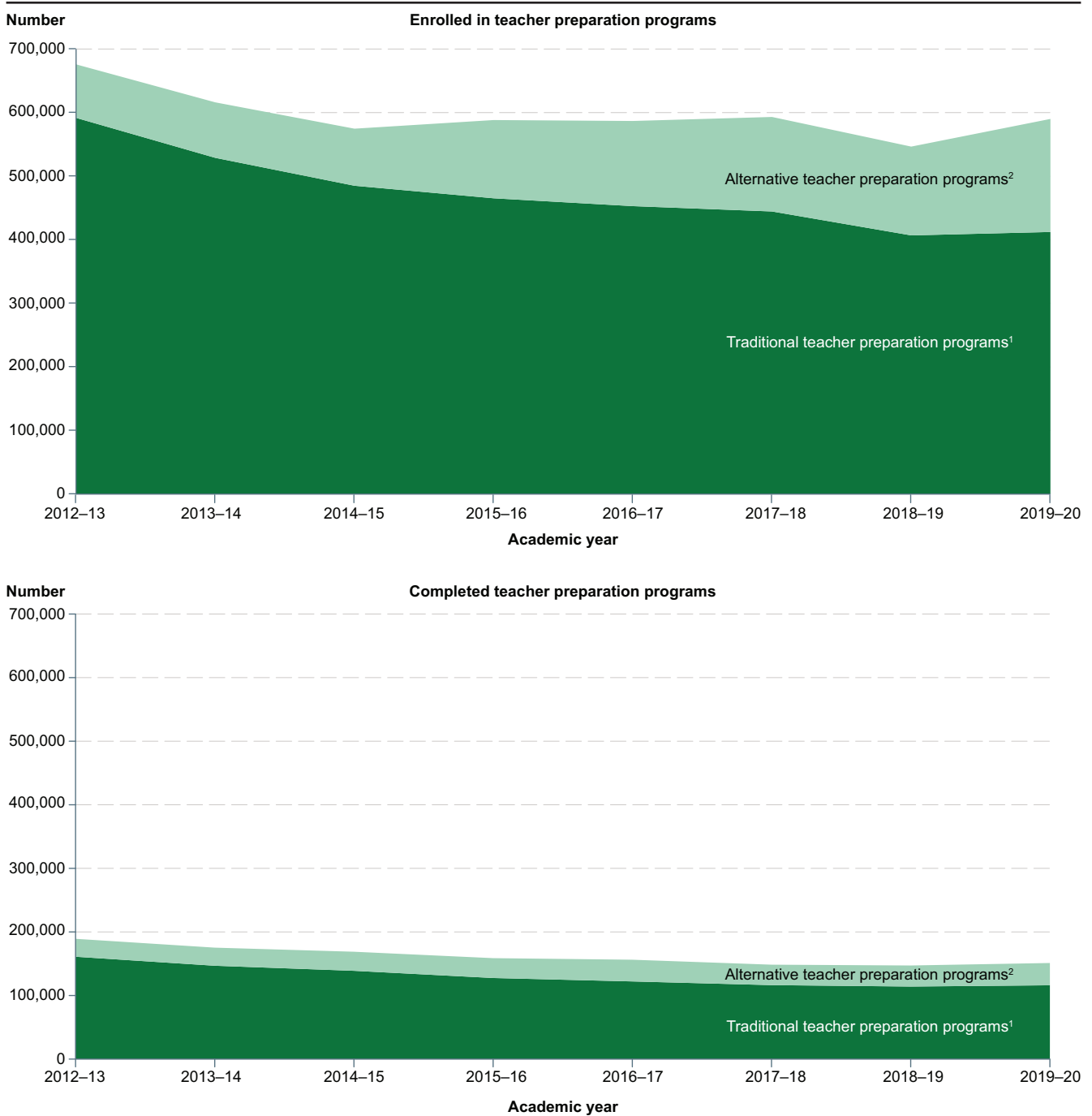
In 2020-21, for certain subject-matter fields, the percentage of public and private schools that reported having difficulties filling open teaching positions in these fields varied by school characteristics.⁷ However, different patterns were observed for different fields, with some fields showing few differences. Special education and mathematics are presented as examples. For instance, there were generally no measurable differences by school characteristics in the percentages of public and private schools that reported having difficulties filling special education openings. However, among schools with an opening in mathematics, the percentage having difficulties filling the opening was

- lower for public elementary schools (23 percent) than for public schools of all other levels (32 percent of middle schools, 34 percent of secondary/high schools, and 43 percent of combined/other schools);
- lower for public schools in suburban areas (27 percent) than for public schools in rural areas (35 percent) and towns (41 percent);
- lower for public schools in cities (30 percent) than for public schools in towns;
- lower for low-poverty public schools (24 percent) than for public schools at higher poverty levels (ranging from 31 to 34 percent);⁸ and
- lower for private elementary/middle schools (25 percent) than for private combined/other schools (38 percent).

Changes in the Teacher Pipeline

Data over time on the number of persons enrolled in and completing teacher preparation programs can shed light on the supply of prospective teachers and provide important context for understanding the staffing challenges experienced by schools. Such data are reported by states and jurisdictions to the U.S. Department of Education through *Title II of the Higher Education Act of 1965*.⁹

Figure 5. Number of persons who were enrolled in and who completed a teacher preparation program, by program type: Academic years 2012–13 through 2019–20



¹ Traditional teacher preparation programs typically offer undergraduate programs and often attract individuals who enter college with the goal of becoming a teacher.

² Alternative teacher preparation programs often serve candidates who are the teacher of record in a classroom while participating in the program, frequently attracting candidates who already hold a bachelor’s degree in a specific content area and may have prior work experience but are seeking to switch careers. Alternative routes to a teaching credential are defined as such by the state and vary by state.

NOTE: Data represent the 50 states and the District of Columbia. For all years of data in this figure, individuals who were enrolled and completed the program during the academic year are counted in the total count of enrolled students as well as in the subset of program completers. The definition of enrolled student changed beginning with the 2018–19 data. Starting in 2018–19, an enrolled student is defined as an individual who has been admitted, enrolled, and registered in a teacher preparation program and participated in the program during the academic year. Participation may include taking a course, participating in clinical experience, or participating in other program activities. For 2017–18 and all years prior, an enrolled student was defined as an individual admitted into a teacher preparation program.

SOURCE: U.S. Department of Education, Title II, Higher Education Act, National Teacher Preparation Data, retrieved December 5, 2022, from <https://title2.ed.gov/Public/DataTools/Tables.aspx>. See *Digest of Education Statistics 2022*, table 209.02.

The total number of persons enrolled in teacher preparation programs decreased by 19 percent from 2012-13 to 2018-19 (675,900 to 546,500); it then increased by 8 percent to 590,000 in 2019-20, though the number remained 13 percent lower than in 2012-13.¹⁰ These changes were primarily driven by the decrease in the number of persons enrolled in traditional teacher preparation programs between 2012-13 and 2019-20 (from 591,700 to 412,200, or a decrease of 30 percent). Traditional teacher preparation programs typically offer undergraduate programs and often attract individuals who enter college with the goal of becoming a teacher. In contrast, the number of persons enrolled in alternative teacher preparation programs increased by 111 percent between 2012-13 and 2019-20 (from 84,100 to 177,800). Alternative teacher preparation programs often serve candidates who are the teacher of record in a classroom while participating in the program, frequently attracting candidates who already hold a bachelor's degree in a specific content area and may have prior work experience but are seeking to switch careers.

Compared with the total number of persons enrolled in teacher preparation programs, the number completing these programs¹¹ has a more direct relationship to the immediate supply of newly qualified teachers. Changes in the number of persons completing teacher preparation programs were similar to changes observed for the number of enrolled persons overall:

- Between 2012-13 and 2019-20, the total number of persons completing teacher preparation programs decreased by 20 percent (from 189,200 to 151,100).
- During the same period, the number of persons completing traditional teacher preparation programs also decreased (from 161,000 to 116,100, or 28 percent).
- In contrast, the number of persons completing alternative teacher preparation programs increased by 24 percent during this period (from 28,200 to 35,100).

As noted above, individuals who participate in alternative programs may already be the teacher of record in a classroom and therefore would not be “new” teachers entering the profession upon their completion. The percentage of completers who attended alternative programs increased from 15 percent in 2012-13 to 23 percent in 2019-20.

Endnotes:

¹ As part of a post-release quality evaluation of School Pulse Panel (SPP) data, an error was uncovered in the survey weighting procedure. This required a reweighting of the data and a recalculation of estimates released from the January 2022 through December 2022 SPP collections. Estimates in this indicator have been revised as of September, 2023, based on a reweighting of the data. For a description of the reweighting and its effect on the estimates, see this memo at <https://ies.ed.gov/schoolsurvey/spp/RewightingMemo.pdf>. While the results presented in this indicator have been weighted and adjusted for nonresponse, these experimental data should be interpreted with caution. Experimental data may not meet all NCES quality standards. See <https://ies.ed.gov/schoolsurvey/spp/> for additional data on staffing in public elementary and secondary schools. Data from the School Pulse Panel (SPP) are experimental, and results should be interpreted with caution. Experimental data may not meet all NCES quality standards.

² The August SPP survey asked respondents to report whether they felt that their schools were understaffed entering the school year, while the October SPP survey asked respondents to report the number of vacancies at their school.

³ Occupations include elementary and secondary teachers and postsecondary teachers, as well as tutors, teaching assistants, librarians, and other related occupations. See <https://www.census.gov/programs-surveys/cps/technical-documentation/methodology/industry-and-occupation-classification.html> for more detail on the Education Instruction and Library Occupation Classification Code from the Current Population Survey (CPS).

⁴ Unemployment rates are for the population age 16 years and over. For context, the overall unemployment rates were 3.6 percent in 2022 and 3.7 percent in 2019. See <https://www.bls.gov/cps/tables.htm> for CPS tabulations of Unemployed persons by occupation and sex (table 25).

⁵ For example, the National Teacher and Principal Survey (NTPS) 2020–21 school data were collected between October 2020 and July 2021.

⁶ The field of physical education or health was excluded from comparisons over time, as the 2011–12 Schools and Staffing Survey (SASS) did not include this field on its questionnaire.

⁷ Some data in this paragraph have been revised from previously published figures, due to corrections made to the school level variable in NTPS.

⁸ High-poverty schools are defined here as schools where 76 to 100 percent of the students are eligible for free or reduced-price lunch (FRPL); mid-high poverty schools are schools where 51 to 75 percent of the students are eligible for FRPL; mid-low poverty schools are schools where 26 to 50 percent of the students are eligible for FRPL; and low-poverty schools are schools where 25 percent or less of the students are eligible for FRPL. For more information on eligibility for FRPL and its relationship to poverty, see the NCES blog post “[Free or reduced price lunch: A proxy for poverty?](#)”

⁹ Data on the number of persons enrolled in and completing teacher preparation programs represent the 50 states and the District of Columbia.

¹⁰ Enrollment counts include students who completed their program in the same academic year. The definition of enrolled student changed beginning with the 2018–19 data. Starting in 2018–19, an enrolled student is defined as an individual who has been admitted, enrolled, and registered in a teacher preparation program and participated in the program during the academic year. Participation may include taking a course, participating in clinical experience, or participating in other program activities. For 2017–18 and earlier years, an enrolled student was defined as an individual admitted into a teacher preparation program.

¹¹ Completers of teacher preparation programs are a subset of the individuals who were enrolled in a particular academic year.

Reference tables: *Digest of Education Statistics 2022*, tables 209.02, 210.50, and 210.60

Related indicators and resources: [Characteristics of Public School Teachers](#); [Characteristics of Public School Teachers Who Completed Alternative Route to Certification Programs](#) [*The Condition of Education 2018 Spotlight*]; [Public School Enrollment: Spotlight A: Characteristics of Public School Teachers by Race/Ethnicity](#) [*Status and Trends in the Education of Racial and Ethnic Groups*]; [Teacher Turnover: Stayers, Movers, and Leavers](#) [*web-only*]

Glossary: Combined/other school; Elementary school; Free or reduced-price lunch; Locale codes; Middle school; Private school; Public school or institution; Secondary/high school