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SREB

Teacher Labor Markets Trends Before and After the COVID-19 Pandemic

A Literature Review

Introduction

The COVID-19 pandemic disrupted many aspects of the education system, including teacher recruitment, retention and hiring. More than three years since schools first closed their doors, newly available data and research are beginning to provide insights into the ways that the pandemic changed the landscape of the teacher workforce.

Understanding the impacts of the pandemic on teacher labor markets can help school and district leaders make informed decisions about hiring, supports and compensation to meet the needs of their staff, students and communities. Prior to the pandemic, education leaders were already expressing concerns about teacher shortages stemming from a lack of interest in the teaching profession and greater opportunities in other careers. The pandemic heightened the need for policy and practice solutions to infuse the workforce with new, highly qualified teachers and to stem the flow of those exiting the profession.

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In this brief, we review the findings of published surveys and research studies exploring teacher labor market trends right before, during and after the COVID-19 pandemic. Specifically, we examine the following topics:

- Teacher vacancies
- Teacher hiring trends
- Teacher retention
- Teacher job satisfaction and morale

Measuring teacher shortages is challenging as schools have different ways of defining needs. Measures of shortages are derived from a variety of data sources including reported vacancies by school and district leaders, listings of open positions, and analysis of staffing data compared to student enrollments. However, if teaching positions are filled by unqualified candidates or substitutes, or eliminated due to inability to fill roles or due to budget cuts, this can alter vacancy data accuracy and the effect on student learning.

Teacher Vacancies

The overall number of K-12 education workers decreased at the start of the pandemic and has remained low. Reports of teacher vacancies have increased in recent years.

- Research using [data](#) from the Bureau of Labor Statistics revealed that overall employment in the K–12 teacher labor market decreased by 9% at the start of the pandemic and that the number of employees in the sector is still much lower than it was before the pandemic.
- According to [data](#) from the National Center for Education Statistics School Pulse Panel, of 990 schools in October 2022, the average public school had two vacant teaching positions, or 4% of all public school teaching positions. Over one-quarter (27%) of public schools had multiple teaching vacancies.
- An [examination](#) of news reports, state department of education data and publicly-available information on teacher shortages for every state in the U.S. from 2020 through 2022 found that there were at least 36,000 vacant positions, likely conservative estimates of teacher shortages nationally. Southern states account for the majority of the nationwide teacher shortage, with an estimated 22,600 vacancies. An [analysis](#) done by the Southern Regional Education Board estimated the vacancy count in the South in 2023 to be at least 39,700.

- On the Tennessee Educator [Survey](#), school leaders reported going into the 2022-23 school year with greater hiring needs than in previous years. School leaders reported an average of six open teaching positions at their schools before the start of the 2022-23 school year, up from five open positions in 2022 and four open positions in 2021.
- The Kentucky Department of Education [reported](#) that job postings for teachers have increased every year between 2015 and 2022, with an estimated 83% of those postings filled. Since 2015, the number of emergency certifications issues has increased.
- The North Carolina Department of Public Instruction [reported](#) that for the 2022-23 school year, there were 5,540 (6%) instructional vacancies on the first day of the school year and 5,091 (5.4%) vacancies on the 40th instructional day.

Teacher shortages remain highly localized with schools serving more students of color, more economically disadvantaged students, and students in highly rural and urban locations facing greater teacher shortages.

- Research using Tennessee administrative [data](#) from 2019 found that teacher staffing challenges are highly localized with vacancies concentrated in a quarter of Tennessee schools. Additionally, 80% of the variation in the percent of unfilled teaching positions exists between schools within the same district. Schools with fewer local early-career teachers, smaller district salary increases, worse working conditions, and higher historical attrition rates had higher vacancy rates. The severity of subject-specific staffing challenges also varied within regions and districts.
- NCES [data](#) from the School Pulse Panel in October 2022 revealed that more than half of public schools in high-poverty neighborhoods (57%) had at least one teaching vacancy, compared to 41% of public schools in low-poverty neighborhoods. About 60% of public schools serving more than 75% students of color had at least one teaching vacancy, compared to 32% of schools serving less than 25% students of color.
- [Research](#) from the Oklahoma State Department of Education in 2021 shows teacher turnover increased as the poverty level of the student population in the school increased.
- An [analysis](#) of South Carolina teacher retention of the 2020-21 school year reported teacher turnover increasing with school poverty level increases and in instances of principal turnover.
- A [study](#) of school district hiring websites in Washington during the 2021-22 school year found job postings per full-time teacher to be much higher in districts with more students of color, more students eligible for free and reduced lunch and lower-performing districts. Compared to city districts, rural districts had nearly twice as many total postings per student for teachers.

- [Research using NCES survey data](#) from nationally representative samples of schools found that staffing challenges in rural schools are driven by high preretirement teacher turnover. However, [research in Montana](#) finds that rural teacher shortages were not primarily due to educators leaving their profession, but instead were due to a lack of qualified applicants for open positions.

Both pre- and post-pandemic, teacher vacancies were more prominent in certain subject areas, including special education, world languages, math and science.

- Prior to the pandemic, the majority of states consistently [reported](#) science, math, special education and world languages as critical shortage areas in national data on teacher shortage areas submitted by states and territories to the U.S. Department of Education. For the 2023-24 school year, 39 states reported shortages in special education, 33 in science, 31 in math and 21 in world languages.
- The NCES School Pulse Panel [data](#) from 2022 showed that among public K-12 schools that had teaching vacancies in a specific field, 42% found it very difficult or were not able to fill the vacancies for foreign languages, 40% for special education, and 37% for physical sciences.
- An [analysis](#) of Boston Public Schools data from 2014-15 through 2018-19 found that English, early childhood education and social studies have more than twice as many qualified job candidates per open position, on average, as special education and science.
- Research using [Tennessee administrative and survey data](#) from 2019 found that nearly two-thirds of districts reported not having enough applications for math, science, foreign language and special education positions. After the pandemic, these trends remained with school leaders reporting on the 2023 Tennessee Educator Survey that the highest numbers of unfilled positions were in special education and math. They also reported high numbers of elementary vacancies.
- A [study](#) using web scraping of 226 of the 295 school district hiring websites in Washington during the 2021-2022 school year found staffing challenges were greater for special education positions.

Teacher shortages hinder schools' ability to deliver key services.

- [Survey data](#) from a nationally representative panel of school district and charter management organization leaders showed that staffing shortages posed a key challenge to implementing COVID-19 learning recovery programs, including tutoring, extended learning time, summer school and the adoption of new curricula.

- In a [2023 survey](#), over 300 high school counselors in Tennessee reported feeling increasingly burdened by a shortage of teachers for the courses their students want or need for graduation. Almost half reported that there are “limited credentialed teachers to teach courses aligned to students’ interests,” up from 38% in 2020, and one-third noted the same limitation for courses students need to meet graduation and/or program of study requirements (up from 26% in 2020).
- The [2022 Survey of America’s Educators](#) by Educators for Excellence found that 64% of teachers were asked to cover someone else’s class at least once a week during the school year.

Teacher Hiring Trends

Applicant pools to fill open teaching positions have decreased.

- [NCES data in 2022-23](#) school year showed 69% of K-12 public schools reporting too few candidates applying for open teaching positions as their primary challenge for filling vacancies, and 63% saying too few candidates applying for non-teaching staff positions as well.
- [RAND’s 2022 Learn Together Survey](#) reported 77% of principals said teaching positions are harder to fill and 71% of principals said there are not enough applicants for open positions.
- On the [2022 Survey of America’s Educators](#) by Educators for Excellence, 87% of respondents said teacher staffing shortages were a serious problem.
- A [TNTP survey](#) of chief talent officers in 21 school systems across 12 states in 2022 found:
 - 100% of respondents found it harder to hire substitute teachers than in prior years and 86% said it was harder to hire classroom teachers
 - 76% reported fewer applications for their vacancies than in previous years and the same percent reporting increased teacher resignations.
 - 89% of respondents anticipate that hiring challenges are due to current fundamentals of the teaching profession that don’t work in the current economy, not to pandemic trends.
- American Association of Colleges for Teacher Education found that enrollment in education programs declined. [AACTE member surveys](#) in 2021 and 2022 found that about 20% of institutions reported a decline in new undergraduate enrollment of 11% or more; 19% of undergraduate-level and 11% of graduate-level teaching programs saw a significant drop in enrollment this year.

In the wake of increased shortages, districts increasingly hired less qualified candidates to fill positions.

- An [SREB analysis](#) of 16 Southern states showed an increase in hiring uncertified teachers, from 4.5% of teachers employed on an emergency, limited or provisional license in 2019-20 to 5.1% in 2020-21. The percentage of inexperienced teachers also rose from 16.4% to 17.6% in the respective school years.
- The [RAND Learn Together Survey in 2022](#) found 29% of principals said unqualified candidates who apply for open teaching positions are a major barrier. Principals reported valuing a teacher's mindset (82%) over whether the certification aligns with their areas of need (54%), suggesting principals are "willing to make do with teachers who are aligned on mindset but lack traditional qualifications."
- An [examination](#) of news reports, state department of education data and publicly-available information on teacher shortages in the U.S. reported that schools are employing at least 163,395 underqualified educators, a conservative estimate as of 2021, compared to at least 109,000 in 2017.

Teacher Retention

Teachers were more likely to stay in their positions during the height of the pandemic, but teacher retention declined post-pandemic.

- In a [study](#) of six large, urban districts from across the United States, teacher turnover declined from an average of 17.3% in 2017-2019 to 12.6% in 2020, which the authors attribute to higher unemployment. During this time, early-career teachers in schools serving more low-income students were the least likely to leave their positions. In the districts studied, unemployment rates were two to three times higher during summer 2020 than in prior months.
- An [SREB analysis](#) of state data showed teacher turnover in 16 Southern states averaged 11.4% in 2019-20 and 11.6% in 2020-21.
- A [study](#) conducted in 2022 using education employment data from the Bureau of Labor Statistics and state education agencies found that teacher turnover declined by 1.04 percentage points in the summer of 2020 for 16 states that publicly report data, likely due to economic insecurity caused by the pandemic and then increased in the summer of 2021 by 1.2 percentage points, returning to pre-pandemic levels.
- [Analysis](#) of teacher mobility and retention in Washington using statewide longitudinal staffing data found that teacher turnover in 2022 was 8.9%, over a percentage point higher than turnover rates for any of the prior 37 school years.

- [Research](#) using statewide data from Massachusetts found that average turnover rates in the 2019-20 were similar to past years, and then during the 2021-22 school year, newly hired teachers' turnover levels were much higher. About 28.1% of first-year teachers left the state teacher workforce in their second year.

Teachers are less certain they plan to remain in teaching and are unlikely to advise their “younger selves” to enter teaching.

- In the 2023 [State of the American Teacher Survey](#), 23% percent of teachers said that they were likely to leave their job at their school by the end of the 2022–23 school year. Teachers who intended to leave were most likely to cite the stresses and disappointments of the job not being worth it (70%), their salary (60%), and the number of working hours (54%) as top reasons behind their decision.
- In the statewide [Tennessee Educator Survey](#) of over 37,000 teachers in 2023, about 8 in 10 teachers reported they plan to continue teaching in their schools in the following year, but fewer teachers reported plans to remain in education long-term, going from 73% in 2018 to 65%.
- Survey data from teachers in [Michigan](#) in 2023 and [Tennessee](#) in 2022 finds that teacher-reported intentions to leave teaching are predictive of actually leaving.
- A nationwide [survey](#) of over 800 U.S teachers from fall 2020 found that one-third of teachers say working during the pandemic has made them more likely to leave teaching or retire early. The percentage was greater for teachers over 50 (45%) and those teaching in the South (42%).
- In the [Merrimack College Teacher Survey](#) of over 1,300 K-12 teachers across the U.S., the percentage of teachers who are very or fairly likely to leave the profession to pursue a different occupation hit highs of over 35% in 2022 and 2023. Almost half (44%) of these teachers said they are very or fairly likely to leave the profession in the next two years, up from 29% in a similar 2011 survey. Less than half (45%) of the teachers said they would advise their “younger self to pursue a career in teaching,” and the remainder said they would not.

Black teachers, teachers working in Southern states, younger teachers and those with less experience, and teachers in low-income schools were significantly more likely to express plans to leave teaching.

- In the [Merrimack College Teacher Survey](#), women, Black teachers, teachers working in Southern states, and those with three to nine years of teaching experience were significantly more likely to say they plan to leave education.
- A [McKinsey survey](#) in 2022 of over 1,800 educators reported more teachers 25 to 34 years of age plan to leave (38%) over older educators (30%) and 40% of teachers from low-income districts planned to leave compared to 25% of those in affluent districts.
- In the 2023 [State of the American Teacher Survey](#), Black teachers were significantly more likely to intend to leave than their peers (35% compared to 22% for white teachers).

Teacher Job Satisfaction and Morale

The pandemic elevated teacher stress and dissatisfaction levels that were already on the rise. However, teaching-related stress appears to have returned to pre-pandemic levels. Black and female teachers report higher stress.

- Combined nationally representative [survey data](#) showed that teachers' job satisfaction is at the lowest level in five decades. In the last 15 years, the percentage of teachers who feel the stress of their job is worth it dropped from 81% to 42%.
- [Surveys](#) of 8,000 teachers in spring 2020 across nine geographically diverse states found that teachers' job satisfaction is at the lowest level in five decades. The pandemic and the pivot to remote teaching resulted in a sudden and steep drop in teachers' sense of success.
- In the annual [Merrimack College Teacher Survey](#) found that the percentage of teachers who are "very satisfied" with their jobs has hit record lows of less than 20% in 2022 and 2023.
- In the 2023 [State of the American Teacher Survey](#), teachers reported better well-being in January 2023 than in 2021 and 2022, and rates of reported job-related stress have returned to pre-pandemic levels. For example, frequent job-related stress declined from 78% in 2021 to 58% in 2023. However, teachers continue to report worse well-being than the general population of working adults (33% of working adults reported frequent-job-related stress in 2023). In the same survey, female teachers reported significantly higher rates of frequent job-related stress and burnout and were less likely to report feeling resilient to stressful events than male teachers, and Black teachers reported higher rates of burnout than white teachers.

- A December 2020 [survey](#) of nearly 1,000 former public school teachers who left teaching after March 2020 revealed that stress was the most common reason for leaving public school teaching early—almost twice as common as insufficient pay. A majority of early leavers went on to take jobs with either less or around equal pay, and 3 in 10 went on to work at a job with no health insurance or retirement benefits.

Teachers cite lower self-efficacy, lack of respect, low salaries, long work hours and stress, mental health and wellness, and political interference as reasons for why they are dissatisfied with their jobs.

- In the 2023 [State of the American Teacher Survey](#), teachers reported managing student behavior (46%), supporting students' academic learning because of lost instructional time during the COVID-19 pandemic (34%), and administrative work (29%) as top sources of job-related stress.
- In the 2022 and 2023 annual [Merrimack College Teacher Survey](#), only 26% of teachers in 2022 said they are paid fairly for the work they do, down from 35% on a 2011 comparable survey. Just over half of 2023 survey respondents say the general public respects them and views them as professionals, down from 77% in 2011. Additionally, 42% in 2023 say their mental health and wellness is impacting their work.
- A 2023 [survey](#) of traditional public and charter school teachers released by the National Alliance for Public Charter Schools indicated that teachers feel caught in the midst of a culture war, and they want fewer government mandates.
- In a 2022 [EducationWeek Research Center survey](#) on whether the government should restrict how teachers talk about certain issues — including slavery, religion, politics, and gender and sexual orientation — 68 to 77% of educators said no on every topic.
- In the [2023 State of the American Teacher Survey](#), 25% of teachers reported that their school or district directed them to limit discussions about political and social issues in class, while 65% decided on their own to limit such discussions. Half of the teachers who decided on their own to limit such discussions reported that they did so because they were unsure whether school and district leaders would support them if parents expressed concerns.
- Also on the [2023 State of the American Teacher Survey](#), more teachers reported access to at least one type of well-being or mental health support in 2023 than in 2022. Three-quarters of teachers reported that they had access to at least one well-being or mental health support in 2023, but only slightly more than half of all teachers indicated that these supports were adequate. Lack of class coverage and paid leave to access supports during the day were the top reasons teachers said that their supports were inadequate.

Implications

Teacher shortages are a serious problem that is growing worse. Turnover is rising and vacancies are increasingly harder to fill, while the incoming pipeline of new professionals also declines. Addressing turnover has a high cost burden to schools and districts, averaging \$21,000 per teacher, according to an Economic Policy Institute estimate prior to the post-pandemic rise in inflation.

Teacher turnover is highest among new teachers, teachers of color, schools in rural and high-poverty areas, and in certain subjects like special education and STEM disciplines. Shortages lead to classrooms needing to be covered by other staff or long-term substitutes, higher rates of emergency, uncertified or under-certified teachers being hired, or positions being altogether eliminated.

The result of these labor market issues is an overworked and overly stressed educator workforce. And worse, it leads to negative learning potential for students, especially students from economically disadvantaged backgrounds — a problem that is contributing to the current alarming decline in student growth according to research and data from NCES.

While the data captured in the literature to date is useful, it is incomplete. To better understand why turnover and vacancies are higher in certain areas, under certain conditions or within certain disciplines, we need to examine these trends more thoroughly inside a set of states and examine qualitative sources of information like teacher surveys. A more in-depth look at the shortage issues we have and why we have them can also help to answer the effect these shortages have on learning outcomes.

The Southern Regional Education Board and researchers at the Vanderbilt University Peabody School of Education have formed a research partnership to further study the teacher labor market trends of the last several years. We are studying select state and other sources of data to deepen our understanding of teacher shortages, vacancies, retention and quality in order for education leaders and policymakers to make better evidence-based decisions as to the targeted solutions. This research will seek to help improve the teaching profession and more effectively and efficiently restore the pipeline of quality educators for every classroom in the nation.

References

- Addressing teacher and healthcare workforce shortages among 2023 legislative priorities for higher education.* (2022, November 22). Kentucky Council on Postsecondary Education. <https://cpe.ky.gov/news/stories/addressing-teacher-healthcare-workforce.html#:~:text=According%20to%20the%20Kentucky%20Department%20of%20Education%2C%2072%25,an%20estimated%2083%25%20of%20those%20postings%20are%20filled>
- Bacher-Hicks, A., Chi, O.L., & Orellana, A. (2022). *Two years later: How COVID-19 has shaped the teacher workforce.* EdWorkingPaper: 22-572. <https://doi.org/10.26300/t5h7-y366>
- Bleiberg, J. & Kraft, M. (2022). *What happened to the K-12 education labor market during COVID? The acute need for better data systems.* EdWorkingPaper: 22-544. <https://doi.org/10.26300/2xw0-v642>
- Diliberti, M.K., Schwartz, H.L., & Grant, D. (2021). *Stress topped the reasons why public school teachers quit, even before COVID-19.* RAND Corporation. https://www.rand.org/pubs/research_reports/RR1121-2.html
- Doan, S., Steiner, E. D., Pandey, R., & Woo, A. (2023, June). *Teacher well-being and intentions to leave: Findings from the 2023 state of the American teacher survey.* RAND Corporation. https://www.rand.org/content/dam/rand/pubs/research_reports/RR1100/RR1108-8/RAND_RRA1108-8.pdf
- Edwards, D., Kraft, M., Christian, A., & Candelaria, C. (2022). *Teacher shortages: A unifying framework for understanding and predicting vacancies.* EdWorkingPaper: 22-684. <https://doi.org/10.26300/8t5b-2302>
- Forty-five percent of public schools operating without a full teaching staff in October, new NCES data show.* (2022, December 6). NCES. https://nces.ed.gov/whatsnew/press_releases/12_6_2022.asp?utm_content=&utm_medium=email&utm_name=&utm_source=govdelivery&utm_term=
- Goldhaber, D., Brown, N., Marcuson, N., & Theobald, R. (2022). *School district job postings and staffing challenges throughout the second school year during the COVID-19 pandemic.* CEDR Working Paper No. 10112022-1. University of Washington.
- Goldhaber, D. & Theobald, R. (2023). *Teacher turnover three years into the pandemic era: Evidence from Washington state.* CALDER Policy Brief No. 32-0223. Center for Analysis of Longitudinal Data in Education Research.
- James, J., Kraft, M., & Papay, J. (2022). *Local supply, temporal dynamics, and unrealized potential in teacher hiring.* EdWorkingPaper: 22-518. <https://doi.org/10.26300/1yfe-gs84>
- Kraft, M. & Lyon, M.A. (2022). *The rise and fall of the teaching profession: Prestige, interest, preparation, and satisfaction over the last half century.* EdWorkingPaper: 22-679. <https://doi.org/10.26300/7b1a-vk92>

- Kraft, M, Simon, N., & Lyon, M.A., (2021). *Sustaining a sense of success: The protective role of teacher working conditions during the COVID-19 pandemic*. EdWorkingPaper: 20-279.
<https://doi.org/10.26300/35nj-v890>
- McVey, K., & Trinidad, J. (2019). Nuance in the Noise: The Complex Reality of Teacher Shortages. *Bellwether Education Partners*. <https://files.eric.ed.gov/fulltext/ED596444.pdf>
- Merrimack College. (2023). *The Merrimack College/Winston School American teacher survey* [Data set]. <https://www.merrimack.edu/academics/education-and-social-policy/about/merrimack-college-teacher-survey/>
- Nguyen, T.D., Lam, C.B., & Bruno, P. (2022). *Is there a national teacher shortage? A systematic examination of reports of teacher shortages in the United States*. EdWorkingPaper: 22-631.
<https://doi.org/10.26300/76eq-hj32>
- Parents' and teachers' views on reopening schools* [Powerpoint slides]. (2020, August/September). Hart Research Associates. https://www.aft.org/sites/default/files/media/2020/survey_school-reopening_augsept2020.pdf
- Rainey, L., Hill, P., & Lake, R. (2023, July). *Teaching recovery? Three years in, school system leaders report that the pandemic weakened instruction*. CPRE.
https://crpe.org/wp-content/uploads/ASDP_Wave4_final.pdf
- Rosenberg, D. & Anderson, T. (2021, April). *Teacher turnover rate before, during, & after COVID*. Education Resource Strategies. <https://files.eric.ed.gov/fulltext/ED614496.pdf>
- Stanford, L. (2022, October 19). *How issues like race, sex, politics resonate with educators, in charts*. Education Week. <https://www.edweek.org/policy-politics/how-cultural-and-political-issues-resonate-with-k-12-educators-in-charts/2022/10>
- Veney, D. et al. (August 2023). *Listen To Your Teacher! An Analysis of Teacher Sentiment on the State of Public Education*. National Alliance for Public Charter Schools. <https://publiccharters.org/wp-content/uploads/2023/08/Listen-To-Your-Teacher-An-Analysis-of-Teacher-Sentiment-on-the-State-of-Public-Education.pdf>

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